Australian
Competition &
Consumer
Commission

Productivity Commission
Review of the National Access Regime

ACCC Submission to Issues Paper

February 2013

Contents

Executive summary

The National Access Regime, embodied in Part IIIA of the *Competition & Consumer Act* 2010 (Cth) (CCA), is an important part of Australia's regulatory framework. The ACCC considers that Part IIIA of the CCA should be retained with some changes to enhance its effectiveness.

The importance of a National Access Regime to Australian competitiveness (domestically and internationally) was highlighted by the inquiry into a National Competition Policy for Australia chaired by Professor Fred Hilmer in the early 1990s. The inquiry's report considered that the National Access Regime would promote competition in markets that needed access to certain infrastructure which had the potential to create bottlenecks, such as electricity networks, communication wires, pipelines, railways and ports.

The report into National Competition Policy proposed an economy-wide approach to access regulation rather than industry-specific regimes. While each industry has its own characteristics, there are also important similarities between access and related issues across the key infrastructure industries. The report considered that a common legal framework would promote consistency (including consistency of investment incentives).

The ACCC considers that Part IIIA has been, and continues to be, successful in promoting a consistent approach to access issues across the economy. This is the case even though Governments have legislated for industry-specific access regimes in a range of industries such as electricity, gas, telecommunications and post. While there are clearly differences between the specifics of each of these access regimes, Part IIIA is the umbrella or template. The principles in these industry-specific regimes are drawn from the more general access provisions of Part IIIA. Part IIIA therefore promotes a level of consistency in economic regulation across sectors. It follows that the ACCC and the AER apply a broadly consistent approach to regulatory issues across the economy.

The rationale behind Part IIIA and, indeed, behind regulating access to infrastructure more generally, is a key issue explored in this submission.

The ACCC considers that third party access regulation is likely to be appropriate in industries with natural monopoly characteristics where an infrastructure facility forms a bottleneck for firms operating in upstream or downstream markets. The ACCC considers that such natural monopoly characteristics are typically a key reason for the economic regulation of industries such as energy and telecommunications. Economic regulation of natural monopolies aims to achieve the productive efficiency benefits of a single infrastructure operator while preventing the allocative and dynamic efficiency losses that would result from the monopolist's use of its market position.

Eliminating or reducing the economic inefficiencies generated by monopoly pricing in the bottleneck industry is not, of course, the whole rationale for access regulation. As foreshadowed by the Hilmer report into National Competition Policy, access regulation is intended to promote competition in markets that need access to bottleneck infrastructure. Accordingly, there will be a broad range of economic efficiency benefits in related upstream and downstream markets which, in turn, enhances the welfare of Australians.

In terms of the various processes under Part IIIA, specifically – declaration, access undertakings and arbitrations – it is the ACCC's position that some procedures have been more effective than others.

The ACCC's experience has been that the access undertakings provisions of Part IIIA are effective in facilitating efficient use of, and investment in, infrastructure (such as ports and railways) and competition in related markets (such as those for coal and grain exports). The access undertaking provisions in Part IIIA enable the ACCC to take a tailored approach that addresses particular characteristics of an industry while maintaining high-level consistency across the regulatory principles applying to different industries.

For example, the access undertakings accepted in recent years covering access to certain wheat port terminals and railway networks each establish (in a similar manner) a legal right to negotiate, backed up by the availability of arbitration by the ACCC if commercial negotiations are unsuccessful. Beyond this, the various undertakings are tailored to suit the specific characteristics of the relevant industry. For example, the wheat access undertakings contain obligations prohibiting discriminatory conduct, given that the vertical integration of port terminal operators with grain exporters is a concern in that industry. In contrast, in the case of the Australian Rail Track Corporation's (ARTC) structurally separated railway networks, a major focus of the regulatory arrangements has been on the financial model and pricing principles applicable to relevant networks.

The availability of a built-in consultation process has been another effective feature of the access undertakings provisions in Part IIIA, often leading to a level of industry consensus on controversial issues. For example, the consultation processes involved in the assessment of ARTC's proposed access undertaking for the Hunter Valley coal railway facilitated collaboration between ARTC and users of its network, which ultimately led to an industry-wide agreement on the controversial issue of ARTC's rate of return.

The arbitration provisions under Part IIIA have been used less frequently, but where they have been used, they have also been effective. This submission draws on the ACCC's practical experience in the arbitration of an access dispute between Services Sydney Pty Ltd and Sydney Water Corporation Ltd as well as its involvement in the dispute between Virgin Blue and Sydney Airport Corporation Limited. While this latter dispute did not progress to arbitration by the ACCC, the ACCC considers that it was the prospect of this arbitration that was the key driver in facilitating a commercial settlement between the parties.

Indeed, one of the advantages of the negotiate-arbitrate framework is that the threat of regulatory intervention can support the primacy of commercial negotiations and avoid the need for the regulator to set regulated access terms and conditions. For this reason, the limited amount of actual arbitration activity under Part IIIA ought not lead to the conclusion that the negotiate-arbitrate framework has been unsuccessful under Part IIIA.

In contrast to the access undertakings and arbitrations provisions of Part IIIA, the ACCC considers that the declaration provisions of Part IIIA have been less successful. Declaration is potentially a costly, complex and time-consuming path to access – certainly there is no evidence that infrastructure owners have voluntarily submitted access undertakings to the ACCC as insurance against the risk of declaration under Part IIIA.

Instead, in practice, the Part IIIA framework and guiding principles have tended to be invoked by Governments in a variety of ways other than via declaration, such as, for example:

- requiring service providers to submit Part IIIA access undertakings through specific legislation (e.g. the *Wheat Export Marketing Act 2008* (Cth) (WEMA) which requires port terminal service providers who also export wheat to pass an "access test", which can be met by having a Part IIIA undertaking in operation)

- deeming certain services to be declared under Part IIIA (e.g. the regime that initially applied to airports following their privatisation)

- negotiating access arrangements as part of the planning process for new infrastructure proposals (e.g. Hancock Prospecting's proposed railway line in the Galilee Basin) and

- including access requirements as a condition in leases of Government assets (e.g. ARTC's interstate and Hunter Valley railways).

These types of regulatory options for determining what services should be subject to regulation can be appropriate where robust checks and balances are brought to bear in the development and decision process. Declaration need not be the exclusive path to resolving which services should be subject to access regulation.

That said, it is clearly important that the declaration process works effectively given its primacy in the Part IIIA framework. In this respect, the ACCC considers that there are a number of amendments of substance and process that could be considered by Government.

In terms of substance the ACCC is concerned about the present interpretation of criterion (b) of section 44G(2) of the CCA ("that it would be uneconomical for anyone to develop another facility to provide the service"). The ACCC considers that the "privately profitable" test recently enunciated by the High Court in *The Pilbara Infrastructure Pty Ltd & Ors v Australian Competition Tribunal & Ors* [2012] HCA 36 has the potential to lead to adverse impacts on economy-wide efficiency and productivity. Examples of possible adverse outcomes could include the restriction or foreclosure of competition in markets reliant on access to bottleneck infrastructure or, on the other hand, socially wasteful duplication of infrastructure facilities.

The ACCC's position is that the interpretation of criterion (b) should revert to the interpretation applied by the Australian Competition Tribunal prior to the recent High Court decision in the Pilbara matter. The ACCC considers that a robust enunciation of the proper test was made by the Competition Tribunal in the gas coverage case *Re Duke Eastern Gas Pipeline Pty Ltd* [2001] A CompT 2 [137]. There, the Competition Tribunal said "[the] test is whether for a likely range of reasonably foreseeable demand for the services provided by means of the pipeline, it would be more efficient, in terms of costs and benefits to the community as a whole, for one pipeline to provide those services rather than more than one".

Further, the ACCC considers that the term "anyone" in criterion (b) should not include the incumbent monopoly infrastructure operator. This is particularly important in the event that the "privately profitable" test discussed above were to remain in place. This is because it may be

possible for a natural monopoly infrastructure operator to demonstrate that, on the basis of certain assumptions about future demand and costs, it would be privately possible for it to duplicate its facility (although it would not be required to do so) in order to avoid declaration and entrench its monopoly power. The ACCC appreciates that such an amendment could be less important were the "privately profitable" test to revert to the test enunciated in *Duke*, discussed above.

In terms of the processes associated with declaration, the ACCC notes that declaration is potentially a 13 step process for an access seeker, can take a long time (ie. five years or more) and often can only be successfully pursued by an applicant with substantial financial resources.

However, the ACCC notes that the amendments made in 2010 to streamline the declaration process are, to date, largely untested. It may be that these amendments, combined with the comments by the High Court in the recent *Pilbara* decision regarding the appropriate role of the Competition Tribunal, could serve to resolve some of the more significant concerns about the process.

The ACCC welcomes the opportunity to provide this submission and intends to provide further information and submissions during the course of the inquiry.

Chapter 1: The ACCC's interest in the inquiry

The National Access Regime is established by Part IIIA of the *Competition and Consumer Act 2010* (the CCA), Australia's national competition and consumer law. The Australian Competition and Consumer Commission (ACCC) is the independent Australian Government agency responsible for taking enforcement action under various provisions of the CCA.

The ACCC has two major roles in relation to Part IIIA:

- assessing and monitoring compliance with access undertakings provided pursuant to Division 6 of Part IIIA and
- arbitrating access disputes notified to the ACCC pursuant to Division 3 of Part IIIA.

The majority of the views set out in this submission reflect the practical experience and expertise that the ACCC has developed in carrying out these two roles in relation to Part IIIA and under other regimes (including energy and telecommunications).

The ACCC has no formal role in relation to the process of declaration pursuant to Division 2 of Part IIIA. The recommendation regarding declaration is made by the National Competition Council (NCC) and the decision made by the relevant Minister. Given this, the ACCC's insights into the practical operation of the declaration provisions of Part IIIA are necessarily limited.

That said, given that the ACCC has a role arbitrating access disputes for declared services, the ACCC has a clear interest in seeing that the declaration provisions operate as effectively as possible. Accordingly, the ACCC does make some comments in this submission regarding the declaration process but notes that they are based on observation rather than direct involvement.

Chapter 2: The ACCC's views on the design and operation of the National Access Regime

This chapter sets out the ACCC's views on the main provisions in the National Access Regime established by Part IIIA of the CCA and on issues identified in relation to the operation of the regime. Further detailed reasoning, evidence and information are provided in chapters 3-6 and the two appendices to this submission.

In developing this submission, the ACCC has drawn on its expertise in regulating infrastructure access, both under Part IIIA and other access regimes.

2.1 Role, objectives and benefits and costs of infrastructure access regimes

2.1.1 Key points

The National Access Regime is established by Part IIIA of the CCA. The object of the CCA (section 2) is "to enhance the welfare of Australians through the promotion of competition and fair trading and provision for consumer protection". This object reflects the well accepted proposition that competition is generally the best way to enhance community welfare by promoting economic efficiency (see chapter 3).

The object of the CCA reflects the view, shared by the ACCC, that, absent market failure, open and competitive (unregulated) markets will generally promote efficiency in all its dimensions—allocative, productive and dynamic. In particular, competitive markets will generally ensure that society's scarce resources are directed to produce the goods and services that consumers want (allocative efficiency) at the lowest possible cost (cost or productive efficiency). Similarly, competitive markets generally promote timely investment in new technologies, products and services (dynamic efficiency) (see chapter 3 for a fuller discussion of economic efficiency).

However, real world markets are often characterised by imperfections or 'market failures' such as those caused by the existence of public goods, externalities and economies of scale (natural monopoly). The presence of such imperfections means that unregulated markets sometimes fail to achieve the most efficient outcomes and to maximise welfare. Where there are net benefits, market intervention may be an appropriate way to address the source of the market failure and thus seek to improve efficiency and welfare.

This section explains the reasoning for the ACCC's position that:

- Third party access regulation is likely to be appropriate in industries with natural monopoly characteristics where an infrastructure facility forms a bottleneck for firms operating in upstream or downstream markets. The ACCC considers that such natural monopoly characteristics are typically a key reason for the economic regulation of industries such as energy and telecommunications. Economic regulation of natural monopolies aims to achieve the productive efficiency benefits of a single infrastructure operator while preventing the allocative and dynamic efficiency losses that would result from the monopolist's use of its market power.

- Eliminating or reducing the economic inefficiencies generated by monopoly pricing in the bottleneck industry is not the whole rationale for access regulation. Access regulation is intended to promote competition in markets that need access to bottleneck infrastructure. Accordingly, there will be a broad range of efficiency benefits in related upstream and downstream markets which, in turn, enhances the welfare of Australians.

- Criterion (b) in section 44G of Part IIIA should revert to the interpretation applied by the Competition Tribunal prior to the recent High Court decision in the Pilbara matter.

- The term "anyone" in criterion (b) should not include the incumbent monopoly infrastructure operator.

- A generic access regime should be retained.

In the issues paper for this inquiry, the PC asked a number of questions related to these issues. The relevant questions are listed below.

Related questions in the PC's Issues Paper

Q *What is the problem that the National Access Regime should address? How is this different to the problem being addressed by the state and territory access regimes? Can you give examples? (p. 5)*

Q *Have any disadvantages emerged from having an objects clause? (p. 8)*

Q *Should economic efficiency remain the primary objective of Part IIIA? Should there be other objectives? What is gained or lost by having multiple objectives, and what guidance, if any, should be given to the weightings of multiple objectives if they arise? How would this work in practice? (p. 8)*

Q *Is the distinction between economic efficiency and the long-term interests of consumers important? If so, should Part IIIA and industry-specific regimes focus on economic efficiency or on the long-term interests of consumers? (p. 8)*

Q *What would be gained or lost from greater consistency between the object clauses of Acts for different access regimes? (p. 8)*

Q *When taken together, how effective are the declaration criteria in reflecting the economic problem that the National Access Regime is seeking to address? (p. 10)*

Q *How effectively are the criteria drafted in ensuring the economic efficiency objective of the Regime is met? (p. 10)*

Q *What are the implications of the incumbent operator of the facility being included or excluded in the definition of 'anyone' in criterion (b)? What are the implications of considering that the alternative facility could be developed as part of a larger project?(pp. 13-14)*

Q *How difficult is it to draft and implement a natural monopoly or net social benefit test in 'black letter' law? Is a private profitability test easier to apply in practice? (p. 14)*

Q *Is the National Access Regime an efficient means of promoting effective competition where access to infrastructure facilities is required to participate in dependent markets? (p. 20)*

Q *What are the benefits and costs of the National Access Regime relative to other regulatory options, including the risk of regulatory failure? (p. 20)*

Q *Has the Regime supplanted less effective access regimes? (p. 20)*

Q *Can you quantify any of the costs and benefits? What are the relative magnitudes of each of the identified costs and benefits of the National Access Regime relative to the alternative of not*

having an overarching National Access Regime? (p. 22)

Q *What is the overall impact of the Regime on Australia's economic growth and productivity? (p. 22)*

Q *Is there an ongoing need for a National Access Regime? If so, what role should it play? (p. 29)*

2.1.2 Rationale for infrastructure access regulation

The ACCC considers that third party access regulation is likely to be appropriate in industries with natural monopoly characteristics where an infrastructure facility forms a bottleneck for firms operating in upstream or downstream markets. The ACCC considers that such natural monopoly characteristics are typically a key reason for the economic regulation of industries such as energy and telecommunications. Economic regulation of natural monopolies aims to achieve the productive efficiency benefits of a single infrastructure operator while preventing the allocative and dynamic efficiency losses that would result from the monopolist's use of its market position.

Eliminating or reducing the economic inefficiencies generated by monopoly pricing in the bottleneck industry is not, of course, the whole rationale for access regulation. As foreshadowed by the Hilmer report into National Competition Policy, access regulation is intended to promote competition in markets that need access to bottleneck infrastructure. Accordingly, there will be a broad range of economic efficiency benefits in related upstream and downstream markets which, in turn, enhances the welfare of Australians. In regulating natural monopoly infrastructure, the ACCC aims to achieve the productive efficiency benefits of a single infrastructure operator while preventing or minimising the efficiency and welfare losses that result from the use of monopoly power. In support of this aim, the ACCC is also concerned to:

- ensure effective competition can occur in markets upstream and downstream of the natural monopoly infrastructure
- promote efficient investment in natural monopoly infrastructure and related sunk investments upstream and downstream of the natural monopoly infrastructure and
- align incentives for efficient operations and investments across supply chains characterised by natural monopoly elements.

2.1.3 Objectives of infrastructure access regimes

The ACCC considers that the primary objective of access regulation is the promotion of economic efficiency (defined in terms of productive, allocative and dynamic efficiency—see section 3.2 of this submission) and competition in related markets, that is, markets upstream and downstream of natural monopoly (or 'bottleneck') infrastructure. This view is consistent with the object of the CCA, which, as previously noted, is to 'enhance the welfare of Australians through the promotion of competition and fair trading and provision for consumer protection' (s. 2).

As discussed in chapter 3, greater economic efficiency increases the productivity of the Australian economy and thereby enhances the total welfare of Australians. While competition is generally the best way to promote economic efficiency, the presence of market failure may, in some circumstances, justify regulatory or other government intervention to promote economic efficiency. In deciding whether to address a market failure, it is essential to weigh up the costs and benefits of

intervention, and ensure that, where intervention is justified, the form of regulatory and other intervention chosen produces the greatest net benefits for Australians (see chapter 3 for a fuller discussion).

The legislative objects of the National Access Regime emphasise efficiency and competition, which, as discussed above, the ACCC considers are the primary objectives of access regulation. The objectives of Part IIIA are to:

> *(a) promote the economically efficient operation, use of and investment in the infrastructure by which services are provided, thereby promoting effective competition in upstream and downstream markets; and*
>
> *(b) provide a framework and guiding principles to encourage a consistent approach to access regulation in each industry' (s. 44AA).*

Given that that the ACCC considers that economic efficiency and competition in related markets are the primary objectives of access regulation, the ACCC considers that the objectives of Part IIIA are appropriate and should not be subject to amendment.

It is noted that economic efficiency is also a core objective of the telecommunications access regime (under Part XIC of the CCA) and the National Gas and Electricity Laws (see chapter 3). The objects of these regimes differ from the Part IIIA objects in relating the promotion of efficiency to the long-term interest of consumers (of energy services or, in the case of telecommunications, the end-users of carriage services).

Some commentators have raised the issue of whether "economic efficiency" is always consistent with "the long-term interests of consumers".[1]

However, the ACCC's view is that as long as the primary regulatory focus is on economic efficiency, requiring the regulator to pursue the long-term interests of consumers is unlikely to result in different regulatory decisions—that is, there is significant overlap between the pursuit of economic efficiency and the promotion of the long-term interests of consumers. This is because, in general, the effect of implementing the regulatory efficiency objective is to promote the long-term interests of consumers. As noted in chapter 3, increasing economic efficiency leads to higher productivity, economic prosperity and community welfare. Consequently, economic efficiency improvements directly promote the long-term interests of consumers.

Further, in regard to the telecommunications access regime, Part XIC defines the long-term interests of end-users in terms of efficiency and competition. The objects of Part XIC state that, in determining whether something promotes the long-term interests of end-users, regard must be had to whether it will achieve the following (s. 152AB (2)):

> *(c) the objective of promoting competition in markets for listed services;*

[1] For example, the CEO of the Essential Services Commission of South Australia (ESCOSA) has raised a number of concerns about expressing the primary objective of economic regulation in terms of the long-term interests of consumers, as it has been defined in state and territory legislation (Kerin 2012).

(d) the objective of achieving any-to-any connectivity in relation to carriage services that involve communication between end-users;

(e) the objective of encouraging the economically efficient use of, and the economically efficient investment in:

(i) the infrastructure by which listed services are supplied; and

(ii) any other infrastructure by which listed services are, or are likely to become, capable of being supplied.

The National Electricity Objective in the National Electricity Law also highlights efficiency, stating:

The objective of this Law is to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to –

(a) price, quality, safety, reliability and security of supply of electricity; and

(b) the reliability, safety and security of the national electricity system.

In setting prices for telecommunications and energy access services, the ACCC and AER typically take into account intergenerational effects on consumers and end-users. For example, efficient investment over time will theoretically result in a smooth price path with no intergenerational transfers between consumers/end-users. However, when infrastructure is lumpy, or infrastructure operators choose to under- or over-invest at different times, efficiency, intergenerational equity and the long-terms interest of consumers/end-users may be promoted by smoothing regulated prices over time.

Problems can arise, however, from supplementing the regulator's economic efficiency objective with other, potentially conflicting objectives (such as equity, environmental[2] or economic development objectives) without placing clear primacy on the economic efficiency goal. In addition to highlighting the potential for direct conflicts between competing objectives, Pearson (2012, p. 3) has noted that "other bodies may be better suited to pursue these types of objectives". Two additional considerations have been identified in work undertaken by ACCC staff for the Infrastructure Consultative Committee (ICC 2009). First, the need to balance competing objectives may be costly in terms of time and resources. Second, competing statutory objectives could potentially leave regulatory decisions more open to appeal.

2.1.4 Declaration criterion (b)

High Court Pilbara decision

The High Court's judgment in the most recent Fortescue rail access case, *The Pilbara Infrastructure Pty Ltd & Ors v Australian Competition Tribunal & Ors* [2012] HCA 36 (the High Court Fortescue decision) set out the majority's view on the interpretation of declaration criterion (b) in section 44G(2) of Division 2 of Part IIIA. Criterion (b) as currently drafted asks whether "it would be uneconomical for anyone to develop another facility to provide the service".

[2] The ACCC recognises that the pursuit of environmental objectives will—where the overarching purpose of intervention is to address an externality—coincide with the pursuit of economic efficiency. In such cases, there will be no conflict between economic efficiency and environmental objectives.

The majority of the High Court found that criterion (b) will not be satisfied if it can be shown that there is someone in the market who might profitably build another facility to provide the relevant service. That is, it will only be satisfied if it would be unprofitable for anyone to develop another facility to provide the service.

Prior to this decision, the criterion (b) inquiry was generally interpreted as a broad natural monopoly test, directed at assessing whether the facility in question could meet demand for the relevant service at a lower total cost to society than if it were to be met by two or more facilities.

A related issue is whether the reference to 'anyone' in criterion (b) should include the owner of the facility providing the service to which access is sought.

In the High Court Fortescue decision, the majority found "[n]o reason is shown to read 'anyone' in criterion (b) as limited in its application". Rather, the law as it currently stands is that "anyone" includes all "existing and possible future market participants." [3]

Prior to this decision "anyone" was interpreted as anyone other than the incumbent owner of the facility to which access was sought.[4] The Tribunal observed in *Review of Declaration of Freight Handling Services at Sydney International Airport* (2000) ATPR 41-754 that under a privately profitable test the interpretation of "uneconomical" would be "closely connected to the question of whether "anyone" should include the owner of the facility providing the service to which access is sought."[5] The Tribunal was concerned that:

> *economies of scope may allow an incumbent, seeking to deny access to a potential entrant, to develop another facility while raising an insuperable barrier to entry to new players (a defining feature of a bottleneck).*[6]

As noted in sections 2.1.1 and 2.1.3 above, the ACCC considers that the primary objective of access regulation is the promotion of economic efficiency and competition in related markets and that natural monopoly is the source of the "market failure" that is addressed by infrastructure access regulation.

ACCC view on criterion (b)

The ACCC preferred the test for criterion (b) that was applied by the Competition Tribunal prior to the High Court Fortescue decision.

This test was clearly enunciated by the Competition Tribunal in the gas coverage case *Re Duke Eastern Gas Pipeline Pty Ltd*. There, the Competition Tribunal said "[the] test is whether for a likely range of reasonably foreseeable demand for the services provided by means of the pipeline, it would be more efficient, in terms of costs and benefits to the community as a whole, for one pipeline to provide those services rather than more than one".[7] This is often termed a 'net social benefit' test.

---

3 *The Pilbara Infrastructure Pty Ltd & Ors v Australian Competition Tribunal & Ors* [2012] HCA 36 [104-105].

4 *Pilbara Infrastructure Pty Ltd v Australian Competition Tribunal* (2011) 193 FCR 57 [83].

5 *Re: Review of Declaration of Freight Handling Services at Sydney International Airport* (2000) ATPR ¶41-754 [205].

6 *Re: Review of Declaration of Freight Handling Services at Sydney International Airport* (2000) ATPR ¶41-754 [205].

7 *Re Duke Eastern Gas Pipeline Pty Ltd* [2001] A CompT 2 [137].

It is sometimes argued that prior to the High Court Fortescue decision there were two slightly different tests for criterion (b) – the net social benefit test outlined above and a narrower test examining only the costs of production with and without duplication. The ACCC does not consider that there would be a significant practical difference between the two tests in the majority of cases. Both tests assess the natural monopoly characteristics of the facility in question from society's perspective: a narrow natural monopoly test, such as that used by the Competition Tribunal in Fortescue, taking into account only productive efficiency; and a net social benefit test, assessing costs and benefits of duplication more broadly. Matters that are not concerned with duplication of natural monopoly facilities (covered by criterion (b)), or with competition in related markets (covered by criterion (a)), can be assessed under criterion (f) of section 44G(2) which provides "that access (or increased access) to the service would not be contrary to the public interest."

However, for the avoidance of doubt, the ACCC notes that it prefers a broader test for criterion (b) – taking into account of the costs and benefits to the community as a whole rather than just production costs.

The test preferred by the ACCC defines criterion (b) in terms of natural monopoly, using a broad economic definition of efficiency—that is, taking into account the implications of natural monopoly for productive, allocative and dynamic efficiency (discussed in detail in chapter 3).[8]

Applying the criterion (b) test in this way would promote economic efficiency and the welfare of the whole Australian community. In contrast, a privately profitable test may result in a range of possible outcomes with adverse impacts on economy-wide efficiency and productivity. These impacts may include:

- socially wasteful duplication of infrastructure facilities
- under-investment in infrastructure in related markets
- monopoly pricing for the use of the incumbent's infrastructure and/or
- an inability to obtain access to the essential input provided by the natural monopoly infrastructure by potential competitors in related markets that may have offered innovative products more highly valued by consumers than the existing products in the market.

Duplication of natural monopoly facilities, despite being privately profitable in some cases (for example, where economic rents are earned in downstream markets), would waste resources that could have improved the total welfare of Australians in alternative uses. Economic efficiency is improved by preventing wasteful duplication of infrastructure.

In addition, a privately profitable test may not provide sufficient certainty to an infrastructure operator about whether its facility will be subject to regulated access. This is because private profitability will depend, in large part, on the prices obtained for, and costs of producing, the potential access seeker's products. For example, it may be profitable for an iron ore miner to duplicate a railway track to transport its ore to port when global iron ore prices are high but no

[8] It is noted that other concerns, such as those regarding the environmental or health, can be taken into account where appropriate pursuant to criterion (f) of section 44G(2) which provides "that access (or increased access) to the service would not be contrary to the public interest."

longer profitable if global prices were to fall on a sustained basis. Uncertainty about whether the railway would be privately profitable to duplicate, and thus whether regulated access would be required, could have adverse impacts on the railway operator's operations and investment.

A net social benefit test provides greater certainty and predictability than a private profitability test. This is because the factors that alter natural monopoly characteristics, such as technological changes and sustained demand growth, are typically less volatile than changes in market prices and short-term variations in market demand.

Further, a privately profitable test could have unintended perverse consequences. The private test has been considered as making declaration more difficult.[9] However, a facility that is not a natural monopoly could be unprofitable to duplicate. For example, it is arguable that the privately profitable test opens the door for declaration to be sought for certain facilities, such as football stadiums, that are not privately profitable to duplicate.[10] It is unlikely that declaration and the provision of regulated access to such facilities could be justified by significant economic efficiency improvements or net benefits to society.

In this respect the privately profitable test could arguably have the unintended consequence of altering Part IIIA towards being a regime that is focused on conduct rather than industry structure. As noted by the Full Court of the Federal Court in *Sydney Airport Corporation Limited v Australian Competition Tribunal* [2006] FCAFC 146 at [77] and [78] in relation to Part IIIA:

> *Part IIIA is not, and was never intended to be, a regime to set right what might be said to be unacceptable conduct. To require the Tribunal (and before it the NCC and the Minister) to conduct a factual investigation of this kind to identify and determine a denial or restriction of access is to intrude into s 44H(4)(a) an enquiry not justified by the text or structure of Part IIIA.*
>
> *The context and background and evident purpose of the legislation make clear that the regime is not only engaged when some denial, or restriction of supply of the service can be demonstrated. Such a construction would limit the operation of this Part and impede it by an anterior and collateral factual enquiry. Further, to the extent that the found denial or restriction acts as a focal point or governor of the enquiry as to the promotion of competition contemplated by s 44H(4)(a) the section would be acting more like a remedy for a wrong, rather than as a public instrument for the more efficient working of essential facilities in the economy.*

For each of the reasons above the ACCC considers, therefore, that the Government should take appropriate action to ensure that the interpretation of declaration criterion (b) is defined in terms of natural monopoly, using a net social benefit test. To ensure that infrastructure access regulation promotes the welfare of all Australians, the ACCC considers that the costs and benefits to the

---

9 *Pilbara Infrastructure Pty Ltd v Australian Competition Tribunal* [2011] FCAFC 58, [87] – the Court considered that the 'granting of access to override the otherwise legitimate interests of incumbent owners [should be] a distinctly exceptional occurrence'.

10 It is noted that pursuant to the essential facilities doctrine in the US, facilities such as sports stadiums have been declared essential facilities: *Hecht v ProFootball, Inc* [1977] 2 Trade Cases 61, 773.

community as a whole should be considered in determining whether one facility can provide the relevant services more efficiently than more than one.

Further, the ACCC considers that the term 'anyone' in criterion (b) should not include the incumbent monopoly infrastructure operator. This is particularly important under the current interpretation of criterion (b). As foreshadowed by the Competition Tribunal in *Re: Sydney International Airport* (discussed above), a natural monopoly infrastructure operator may be able to demonstrate that it could duplicate its facility and that such duplication would be privately profitable over time, based on certain assumptions about demand and costs. However, having satisfied the privately profitable test (and succeeded in avoiding declaration), there would be no legal requirement for it to duplicate its facility—or to provide access to its existing facility.

Thus, if a privately profitable test were to be retained, the inclusion of 'anyone' in criterion (b) could conceivably create scope for an incumbent natural monopoly infrastructure operator to deny access to its infrastructure on reasonable terms and conditions. A potentially profitable strategy for an incumbent monopolist to adopt in response to a request for access would be to demonstrate that it would be privately profitable for it to duplicate its facility. Under the current interpretation of criterion (b), this would allow it to either refuse access or to charge monopoly prices with no risk of declaration and regulated access (or the costs of duplicating its facility).

Interpreting 'anyone' to include the incumbent would therefore allow the incumbent to entrench its monopoly power, with adverse impacts on efficiency and competition in upstream and downstream markets. This possibility is most likely for a vertically integrated infrastructure operator that aims to entrench its market power in related markets by denying access to bottleneck infrastructure to its competitors in related markets.

The ACCC considers, therefore, that the Government should take appropriate action to ensure that the term 'anyone' in declaration criterion (b) should be defined to specifically exclude the incumbent owner of the facility to which access is sought.

The ACCC recognises that this amendment is less critical if the current interpretation of criterion (b) were to revert to the test enunciated in *Duke*, discussed above. This is because if a facility is a natural monopoly then strictly speaking it would be inefficient for anyone, including the incumbent facility owner, to duplicate the facility.

Nonetheless, the ACCC favours amendment to avoid strategic behaviour of incumbents arguing it would be efficient for them to duplicate the facility.

2.1.5 Evaluating the effectiveness of access regimes

Establishing a clear rationale and role for regulation—the decision whether to regulate—involves identifying the objectives of regulation, assessing the costs and benefits of regulating, and considering other policy responses (including no action) that may achieve the objectives more efficiently and effectively. The ACCC supports rigorous evaluation of the net benefits of the National Access Regime and other access regimes.

To this end, the ACCC has published two working papers (see Appendix 1 to this submission) on methodologies and evidence for evaluating infrastructure reforms and the economic regulation of infrastructure. Since either the ACCC or the AER has a role as regulator of much of the economic

infrastructure considered in the research, the evaluation role itself is best undertaken by others. Accordingly, the ACCC welcomes the PC's assessment of the outcomes of the National Access Regime.

While the ACCC and the AER do not evaluate the overall effectiveness of access regimes for which they have regulatory responsibilities, both organisations conduct cost/benefit assessments of specific regulatory decisions as standard practice. In the ACCC's view, an evidence-based approach to regulatory decision-making is consistent with regulatory best practice.

Albon (2011) describes in some detail the ACCC's approach to evaluating infrastructure reforms and the economic regulation of infrastructure. He notes that, to draw valid conclusions, it is necessary to compare the observed outcomes (the 'factual') with the outcomes that may have eventuated had the policy or program not gone ahead (the 'counterfactual'). He draws attention to the challenges of evaluation, observing that 'the feasibility of successful *ex post* evaluation can often be compromised by inadequate data or the absence of a clear point in time dividing before-and-after reform' (Albon 2011, p. 4). Consequently, the approach adopted is 'often pragmatic, but must always be consistent with the other aspects of the evaluation process, including the research question, the evaluation design and the availability of data' (p. 3).

Further, the limitations of evaluations must be kept in mind, particularly when drawing policy conclusions. As Albon (2012, p. 4) highlights:

> *Regardless of the chosen evaluation design and method, trade-offs will inevitably be required between what is theoretically ideal and what is achievable in practice. Trade-offs arise, for example, as a result of the difficulty of specifying a defensible counterfactual, the limited resources (including time) available to conduct an evaluation and data limitations. The need to make trade-offs means that an evaluation's findings can be controversial and subject to criticism.*

The working papers included in Appendix 1 suggest ways in which trade-offs may be made while retaining the robustness and defensibility of the evaluation results.

The ACCC agrees with the PC's statement in its issues paper (p. 21) that evaluating the net economy-wide benefits of the National Access Regime requires identification of an appropriate counterfactual and the availability of robust data. The ACCC does not underestimate the challenges involved in this task. The PC's issues paper (pp. 21-22) described some of the difficulties, including:

> *The challenge of quantifying the overall impact of the Regime reflects the broad coverage of the Regime as well as the difficulty of establishing the administrative and compliance costs, access conditions and investment levels that would have prevailed in the absence of the Regime. Any indirect impact of the regime on the behaviour of firms, through the threat of regulated access providing an incentive to reach private agreement, would be difficult to quantify. The effects of the Regime would also be difficult to distinguish from other reforms and events affecting infrastructure investment and its impact on economic growth and productivity. As a consequence, a degree of judgment will be required when assessing the balance of costs and benefits of the Regime.*

The ACCC makes the following comments in relation to identifying an appropriate counterfactual and the data needed to evaluate economy-wide costs and benefits:

- Counterfactual analysis compares the estimated costs and benefits of one state of affairs (based on current circumstances) with the expected costs and benefits of an alternative state of affairs (based on a specified change in circumstances).
- In its issues paper (p. 22), the PC suggested that the appropriate counterfactual is not having an overarching National Access Regime. In developing its counterfactual, the PC will need to determine whether to assume (for a forward-looking analysis) that repeal of Part IIIA would leave unchanged the other access regimes that were modelled on, or developed under, the 'umbrella' of the National Access Regime. For example, would certified state and territory access regimes remain in place—or would they be replaced, modified or repealed in the absence of Part IIIA? Would existing access undertakings remain in force (under 'grandfathering' provisions or other policy measures)—and if so, would they remain in force only until the current undertakings expire or would replacement undertakings be given for the life of the infrastructure facility?
- There would be greater difficulties if the PC were to attempt to estimate the net benefits the National Access Regime has had on the economy and productivity to date. A backward-looking evaluation would have to determine whether, under the counterfactual, the existing industry-specific access regimes and state and territory access regimes would have been established—and if so, would they have been designed differently in the absence of the framework (and model) provided by the Part IIIA provisions. In the absence of the undertaking provisions in Part IIIA, would other legislative or policy provisions have been developed to ensure access to rail infrastructure and bulk wheat export terminals?
- As noted by the PC, the threat of regulated access may have underpinned private negotiations and dispute resolution, allowing the parties to reach agreement on commercial terms and conditions for infrastructure access. In addition, the existence of the regime, and its identification of factors relevant to determining access arrangements, may have facilitated commercial negotiations even where the threat of regulated access was perceived as low. Such benefits, which would be very difficult to identify and quantify, could result from prompting certain businesses to pursue the option of seeking access, from identifying the issues that need to be addressed in an effective long-term contract, and from disseminating examples of how access issues could be addressed (such as by the ACCC publishing access undertakings).
- Alternative counterfactuals could be identified. For example, an alternative to a generic national access regime might be the development of state and territory access regimes that are broader in scope (and substitute for a national access regime) or the establishment of industry-specific access regimes for additional industries (such as, potentially, rail, ports and/or airports) or the implementation of alternative policy measures (such as government ownership or expansion of the competition laws).

The ACCC looks forward to the publication of the PC's evaluation of the costs and benefits of the National Access Regime and the opportunity to provide further comments on its methodology and findings.

2.1.6 Future role of the National Access Regime

Changes in demand and technology can alter the natural monopoly characteristics of an infrastructure facility. In some industries, demand growth can make it economical to duplicate a

previously natural monopoly facility (since, as noted in chapter 3, natural monopoly is defined for a given range of output). In other cases, technological change can undermine a natural monopoly by creating substitute infrastructure or products (for example, the development of mobile networks as a partial substitute for services provided on the fixed line network). However, technological and demand changes do not always reduce natural monopoly characteristics—for example, in the early 1900s, technological change resulted in electricity supplanting gas for lighting, leading to an increase in the natural monopoly character of electricity networks (Hannah 2009).

In a recent article, Crew and Kleindorfer (2012, p. 3) highlighted the significant changes in regulation that have occurred over the past 30 years, reflecting changes in technology and consumer demands:

> *The regulatory scene of 30 years ago differs significantly from what we see today. The change that has taken place in the last 30 years is ostensibly greater than that of the previous century. In the last 10 years the pace of change has been rapid. The electronic communications revolution and the Internet began to make its presence felt worldwide. … The impact is felt on almost all economic activity and on society more generally. Regulation is having to address the new situation created by this major change. This is not surprising since the change is akin to [a] new Industrial Revolution but it is happening more quickly. For regulation, it means different problems … The nature of regulation has changed along with the technological and structural changes in these industries.*

The recent history of regulation demonstrates the difficulties involved in attempting to predict what infrastructure facilities will be, or might become, bottlenecks that are essential to competition in related markets (see chapter 3 of this submission for a discussion of recent regulatory history relating to access and of the relevance of access regulation to competition in related markets). Whether or not an infrastructure facility is likely to be, or become, a bottleneck facility may relate in part to geographic dimensions, such as population density and the magnitude of demand for the output of the facility (for example, as is currently the case for telecommunications networks).

Adding to these difficulties is the complexity of most supply chains in modern economies. Technological changes could transform the nature of a supply chain and the interactions between the links in the chain. One link becoming a bottleneck could have broad-ranging implications for the efficiency of the entire supply chain. This is more likely when access to one part of a network is only effective if there is also access to other facilities. For example, in telecommunications, access to Telstra's copper network is effective only when access seekers can obtain access to Telstra exchange buildings to install their own equipment and connect to Telstra's distribution equipment in the exchange. This situation will continue when the National Broadband Network is rolled out because the majority of Points of Interconnect will be located in Telstra exchange buildings.

The framework established by the National Access Regime—which sets out a clear process and integrates checks and balances—plays a valuable role in facilitating access where it will promote efficiency and competition. This framework ensures that a mechanism exists for seeking access to infrastructure facilities that do not fall within the scope of an industry-specific access regime. It is important, in the ACCC's view, to retain a generic access regime as its existence will promote certainty and consistency in regulatory approaches across the economy. It will also provide an option for regulating infrastructure that becomes a bottleneck facility in future, which may avoid the need to create a new industry specific regime.

Another reason for retaining a generic access regime is that it provides an overarching template or model for industry-specific and state and territory access regimes. The ACCC considers that Part IIIA has been, and continues to be, successful in promoting a consistent approach to access issues across the economy. This is the case even though Governments have legislated for industry-specific access regimes in a range of industries such as electricity, gas, telecommunications and post. While there are clearly differences between the specifics of each of these access regimes, Part IIIA is the umbrella or template. The principles in these industry-specific regimes are drawn from the more general access provisions of Part IIIA. Part IIIA therefore promotes a level of consistency in economic regulation across sectors. It follows that the ACCC applies a broadly consistent approach to regulatory issues across the economy.

A further reason for retaining a generic access regime is that the existence of the regime, and its identification of factors relevant to determining access arrangements, may facilitate commercial access negotiations without having to proceed to declaration—and, thus, this benefit from having the regime may not therefore come to public attention. The threat of declaration can act as a constraint on an infrastructure operator's behaviour and is likely to be a factor in an infrastructure operator's decision to reach a commercial solution to an access issue. As noted in section 2.1.5, the existence of a generic access regime may facilitate commercial access negotiations even when the threat of regulated access is low.

2.2 The National Access Regime and other access regimes

2.2.1 Key points

The ACCC considers that the National Access Regime, appropriately amended to address a number of concerns with its operation (discussed above in 2.1.4 and below at 2.17 and 2.18), should be the primary regulatory means for resolving emerging access issues.[11] Importantly, declaration is not (and was not intended by the Hilmer Committee to be) the only path to access under the National Access Regime. The regime encompasses a range of regulatory options for dealing with access, including:

- requiring service providers to submit Part IIIA access undertakings through specific legislation (e.g. the *Wheat Export Marketing Act 2008* (Cth) (WEMA) which requires port terminal service providers who also export wheat to pass an 'access test',[12] which can be met by having a Part IIIA undertaking in operation)
- deeming certain services to be declared under Part IIIA (e.g. the regime that initially applied to airports following their privatisation)
- negotiating access arrangements as part of the planning process for new infrastructure proposals (e.g. the State Agreement Act in Western Australia that requires a Part IIIA access undertaking for the proposed Roy Hill railway and the Queensland Government's approval of GVK/Hancock's railway as an 'Infrastructure Facility of Significance' including access obligations) and
- including access requirements as a condition in leases of government assets (e.g. ARTC's lease arrangements for the Hunter Valley).

[11] As distinct from access issues which have already been addressed in industry-specific legislation, such as legislation governing access to services provided via telecommunications and energy networks.

[12] The WEMA provides that the port terminal operator must not export wheat if it does not pass the access test.

These arrangements sit alongside industry-specific regimes, such as those for electricity, gas and telecommunications. These regimes are based on the Part IIIA framework but include features reflecting the particular features of the industries they cover. This section sets out how the regulatory options outlined above have come into effect, and what checks and balances were undertaken in each process.

The ACCC's position is that regulatory options such as those outlined above are appropriate as long as they involve appropriate checks and balances and are based on best practice regulatory principles. Accordingly, the declaration process need not be the only path to resolve access issues.

In the issues paper for this inquiry, the PC asked a number of questions related to these issues. The relevant questions are listed below.

Related questions in the PC's Issues Paper

- **Q** *What principles should determine those facilities that should fall under the National Access Regime, and those that should be governed by industry-specific access regimes? (p. 5)*
- **Q** *What principles should determine when access should fall directly under the National Access Regime or a state or territory access regime, or when other regulatory measures such as planning processes or leasing arrangements may be more appropriate? (p. 5)*
- **Q** *What is the appropriate role for mandatory undertakings? (p. 17)*

2.2.2 Access undertakings for wheat export port terminals

Until 2008 the selling and marketing of Australian wheat for export was controlled by a monopoly or 'single desk.' When the policy decision was taken to liberalise Australia's wheat exporting arrangements, the issue of access by wheat exporters to Australia's wheat port terminals arose.

After an exposure draft of the legislation proposing to end the 'single desk' arrangement was released,[13] a Senate Committee (the Senate Rural and Regional Affairs and Transport Standing Committee) inquired into the draft legislation. The Senate Committee process was extensive—the committee received 48 submissions and held three public hearings in Canberra and one in Perth. At the hearings the Senate Committee heard evidence from approximately 35 witnesses including representatives from government departments and agencies, grower groups, industry organisations, peak bodies and farming groups as well as individual growers.

A number of witnesses before the Senate Committee expressed concern about the role and potential market power of the wheat port operators under the proposed changes. [14] It was argued that wheat ports throughout Australia were owned and controlled by a limited number of companies and that there was significant excess capacity in some instances.[15] Concerns were raised

[13] *Wheat Export Marketing Bill 2008* and the *Wheat Export Marketing (Repeal and Consequential Amendments) Bill 2008.*

[14] Including Mr Alick Osborne, then Director of the Australian Grain Exporters Association (appearing before the Senate Committee on 27 March 2008); Australian Grain Exporters Association (submission dated 4 April 2008); and Consolidated Grain Industries Pty Limited (submission dated 3 April 2008).

[15] Mr David Ginns, *Committee Hansard,* 26 March 2008, p. 21.

that, in the event that some or all of these companies became wheat exporters, they may be in a position to limit access to these facilities by other exporters.[16]

Given this, the Senate Committee supported the introduction of an "access test", requiring that a wheat exporter that also provides port terminal services must have a Part IIIA access undertaking in operation in relation to the provision of that party's port terminal services.

The access test was incorporated in the *Wheat Export Marketing Act* 2000, which became effective on 1 July 2008.[17]

The PC, when reviewing the access test in 2010, found that the access test was appropriate as a temporary measure because it facilitated the entry of new players into the industry by providing certainty about port access in the face of a dramatic overnight change, reducing transaction costs in establishing a competitive market, and facilitating commercial decision making (PC 2010, p. 16). The PC also noted stakeholder concerns about reliance on Part IIIA in the absence of the access test.[18]

2.2.3 Deeming airport services to be declared

The *Airports Act* 1996 (Cth) was enacted to support the Commonwealth's program of selling leases to operate the airports that were managed by the Federal Airports Corporation. Section 192 of the Airports Act allowed the airports twelve months (twenty-four months for smaller airports) to have an access undertaking under Part IIIA accepted by the ACCC. If an undertaking wasn't in place after that time, the Minister was to determine that each 'airport service' at the airport is a declared service for the purposes of Part IIIA. The Minister was required to specify the expiry date of the determination, and no power was conferred on the Minister under s.192 to renew the declaration once it had expired.

The Airports Act did not include an objective for section 192. However, the second reading speech for the Airports Bill noted that the section would facilitate access for new passenger airlines (Hansard, HoR, 23 May 1996, p. 1308).

In reviewing the regulatory regime covering airports, the Productivity Commission (2002, p.272) observed:

> *That the Commonwealth Government introduced an airports-specific access regime for privatised airports suggests it considered the Part IIIA provisions would not adequately*

---

16 The Senate Rural and Regional Affairs and Transport Standing Committee, *Exposure Drafts of the Wheat Export Marketing Bill 2008 and the Wheat Export Marketing (Repeal and Consequential Amendments) Bill 2008,* April 2008 Report, para. 3.93.

17 The Explanatory Memorandum to the Wheat Export Marketing Bill explained that the 'Access Test' aimed to '… ensure that accredited exporters that own, operate or control port terminal facilities provide fair and transparent access to their facilities to other accredited exporters. The test aims to avoid regional monopolies unfairly controlling infrastructure necessary to export wheat in bulk quantities, to the detriment of other accredited exporters. All accredited exporters should have access to these facilities while allowing the operators of the facility to function in a commercial environment.' Explanatory Memorandum, Wheat Export Marketing Bill 2008, clause 24, p. 31.

18 For example, AWB submitted that: 'Access to port terminal services should not be regulated using only Part IIIA of the TPA. That regime is too slow and very expensive. It will be impractical if not financially impossible for most accredited exporters to pursue fair access through Part IIIA of the TPA'. (sub. 24, p. 7)

facilitate access to the services these airports provide. However, as Part IIIA was in its infancy when s. 192 was introduced, the applicability to airports was unclear at the time.

In responding to the Productivity Commission's 2002 report, the Government described section 192 as having been '...introduced as a transitional measure to streamline the access processes under the TP Act as they apply to the newly privatised airports. The intention was that the arrangements under s.192 would ultimately expire, and that airports would be subject to the generic access provisions of the TP Act.' Section 192 essentially ceased to have effect after 2002.

2.2.4 Negotiating access arrangements during project approval/ planning

In recent years there have been two instances of State Governments and infrastructure proponents agreeing to access arrangements that incorporate the option of provision of a Part IIIA access undertaking to the ACCC (with the default, or backstop, of access regulation by the relevant State economic regulator). These instances are outlined below.

Roy Hill railway

In 2010, Hancock Prospecting Pty Ltd (Hancock), an Australian energy and resources company, through its wholly owned subsidiary Roy Hill Infrastructure Pty Ltd (Roy Hill), entered into an agreement with the Western Australian Government (State Agreement).[19] The State Agreement details the terms of Roy Hill's proposal to construct and operate a 340 kilometre railway and associated infrastructure to transport iron ore from the Roy Hill mine (in the Pilbara, located approximately 277 kilometres due south of Port Hedland at the eastern end of the Chichester Range) to a port facility at Port Hedland. The Western Australian Government made a policy decision that Roy Hill would be required to provide 'smaller miners' with access to its rail infrastructure.[20]

In negotiations with the Western Australian Government regarding the appropriate form of access regulation for the project, Roy Hill submitted that providing 'below-rail' access under the Western Australian Rail Access Regime (WARAR) to a new railway line in the Pilbara constructed for the purposes of transporting iron ore would result in 'inefficient outcomes'.[21]

Roy Hill also argued to the Western Australian Government that efficiency would be better promoted by access being facilitated via a haulage service rather than regulating access to below-rail infrastructure as provided for under the WARAR, stating that:

> *[t]he most efficient operation of, use and investment in railway infrastructure in the Pilbara for the transport of base metals ore is a vertically integrated railway integrated with an upstream mining operation and a downstream loading, shipping and transporting operation.*[22]

As a result of these negotiations, the Western Australian Government agreed that Roy Hill should have the opportunity of having a haulage service regime accepted by the ACCC under a Part IIIA

---

19 The *Railway (Roy Hill Infrastructure Pty Ltd) Agreement Act 2010 (WA).*

20 Media statement of Colin Barnett Premier, Minister for State Development (WA), *Roy Hill agreement provides jobs, investment and prosperity in the Pilbara,* 24 June 2010.

21 Roy Hill, *Submission to the NCC Relating to the Possible Certification of the WA Rail Access Regime*, 2010, at 9.5.

22 Roy Hill, *Submission to the NCC Relating to the Possible Certification of the WA Rail Access Regime*, 2010, at 9.2.

access undertaking as an alternative to being regulated pursuant to the WARAR. The State Agreement therefore provides that the WARAR will apply to ensure access to below-rail services provided by the railway as soon as possible after the railway is constructed and commissioned, and to any expansion or extension of the railway as soon as any such expansion or extension is constructed. The WARAR will however cease to apply if the ACCC accepts an above-rail haulage access undertaking from Roy Hill.[23] The provision of this option by the Western Australian Government recognises that, in some circumstances, an above-rail (haulage) access regime may promote efficiency as well as a below-rail access regime.[24]

Hancock/ GVK Galilee Basin Railway

Also in 2010, Hancock proposed building a railway from the Galilee Basin in Queensland to the Port of Abbot Point. In 2011 GVK Coal Developers (Singapore) Pte Limited (GVK) acquired the majority of Hancock's Galilee Basin assets.

GVK/Hancock's rail infrastructure proposal involved the construction of a railway and the provision (via a subsidiary or contracted rail operator) of haulage services. GVK/Hancock has publicly stated that it would allow "multi user access" to its proposed railway.[25]

This commitment was highlighted in the Queensland Government's approval of GVK/Hancock's railway as an 'Infrastructure Facility of Significance' in October 2010.[26] This approval enabled GVK/Hancock to request the Queensland Government to use its compulsory acquisition powers to acquire the relevant land for GVK/Hancock if it was unable to do so through commercial negotiation.

The decision to approve the corridor as an Infrastructure Facility of Significance stated that:

> *Hancock Coal has also undertaken to provide access to the railway to third parties in accordance with a voluntary undertaking to be made by Hancock Coal pursuant to Part IIIA of the [then] Trade Practices Act 1974.*[27]

GVK/ Hancock indicated at the time that it was likely to offer third parties an 'above-rail' service rather than a 'below-rail' service.[28]

---

23 Roy Hill, *Submission to the NCC Relating to the Possible Certification of the WA Rail Access Regime,* 2010, at 9.5

24 There is also a precedent for this approach in WA. Prior to the establishment of iron ore operations in the Pilbara, each major producer entered into an agreement with the WA State Government, which was subsequently enacted as a State Agreement Act. The early State Agreements incorporated haulage obligations regard iron ore, non-iron ore product and passengers,

25 Hancock Coal Pty Ltd, 'The Alpha Coal Project', at http://hancockcoal.com.au/go/current-projects/the-alpha-coal-project, accessed 19 December 2012.

26 Pursuant to the *State Development and Public Works Organisation Act 1971* (Qld).

27 Queensland Government Gazette, No. 35, 1 October 2010, p. 266.

28 'Below rail' access is the use of the railway track and associated infrastructure. Where below rail access is granted to the service, a third party is able to run its own trains on the rail line but cannot require the owner of the infrastructure to transport the third party's goods. 'Above rail' access to the service is the use of trains on the railway track. Where above rail access is granted to the service, a third party is able to require the owner of the infrastructure to transport the third party's goods on the infrastructure owner's trains, but cannot run its own trains on the rail line. See GVK Media release "Queensland Government selects GVK's Rail Corridor for connecting Galilee Basin to Abbot Point Port" June 6, 2012 regarding GVK's intention to provide an 'above rail' service.

On 6 June 2012 the Queensland Government approved the GVK-Hancock rail corridor alignment as one of two corridors to service the new and existing coal mines in the Galilee and Bowen Basins. The other corridor is an east-west corridor extending the existing QR National network as proposed by QR National and Adani Mining Pty Ltd. Deputy Premier Jeff Seeney stated that the government would "ensure third party access to each of these corridors and [that] no proponent will be disadvantaged". He also noted that there may be options for other parties to co-locate additional railway lines within the GVK-Hancock rail corridor if commercially viable.[29] Following this announcement, on 23 August 2012 Federal Environment Minister Tony Burke gave approval with conditions to GVK/Hancock to construct and operate its Alpha Coal Mine and rail project.[30]

GVK/Hancock has subsequently engaged in commercial negotiations with third parties regarding access to its proposed railway line. On 11 December 2012 GVK/Hancock entered into a Memorandum of Understanding with QCoal for the two companies to work together on coal transportation services to be provided by GVK Hancock to QCoal for approximately 20 million tonnes of coal per annum. The Memorandum of Understanding sets out key commercial principles, including the scope of services, pricing principles and service requirements.[31]

GVK/Hancock has noted further third party consultation is underway.[32]

2.2.5 Including access requirements as a condition in leases of Government assets

In May 1990, the Industry Commission (IC) commenced an inquiry into Australia's railways.[33] The IC argued that many of the problems experienced by rail users were caused by government ownership and intervention. One of the key IC recommendations was that owners of railway tracks should be required to provide access to operate on their tracks, subject only to capacity being available and commercial negotiation of prices and conditions for access. ARTC provides an example of how this has been implemented.

ARTC

ARTC is responsible for providing and managing network access to standard gauge track in South Australia, Victoria, New South Wales and Western Australia. Access management incorporates the planning, scheduling and transit of trains through the network and associated commercial arrangements with train operators. ARTC owns track in South Australia and leases track in Victoria and New South Wales.[34]

ARTC was established in 1997 as part of significant reforms to the national rail industry agreed between the Commonwealth and State Governments. The objective of these reforms was to

---

29 Deputy Premier, Minister for State Development, Infrastructure and Planning, The Honourable Jeff Seeney, Media release: 'Two rail corridors defined for Galilee Basin', 6 June 2012, accessed http://statements.qld.gov.au/Statement/Id/79468.

30 Federal Environment Minister Tony Burke, 'Alpha Coal mine and rail project approved', Media release, 23 August 2012, accessed http://www.environment.gov.au/minister/burke/2012/mr20120823.html.

31 GVK Hancock, 'Alliance between GVK Hancock and QCoal for coal supply using GVK's proposed rail and port infrastructure', Media release, 11 December 2012.

32 GVK Hancock, 'Galilee Basin and Coal Energy Conference', Presentation, 12 November 2012.

33 The inquiry examined the institutional, regulatory and other arrangements subject to government influence which led to inefficient resource use, and advised on courses of action to reduce or remove such inefficiencies. The IC released its final report, *Rail Transport*, in August 1991.

34 See http://www.artc.com.au/

respond to rail's decreasing market share by increasing private sector involvement to lower the cost of transport to industry, better meet the needs of customers and provide long term employment in the rail sector. Previously, the government-owned Australian National had provided both above- and below-rail services across Australia.[35]

An Inter-governmental Agreement between the State and Commonwealth Transport Ministers established ARTC to provide below-rail access to the interstate network. This was intended to improve, among other things, the efficiency and competitiveness of the rail industry by providing a single point of access for the standard gauge interstate rail network.[36]

A variety of access regimes had been implemented across jurisdictions. All mainland States had introduced access regimes, although none had yet been recommended for certification by the National Competition Council or accepted as an undertaking by the ACCC. The access regimes differed, both in terms of their coverage (types of track, such as intrastate and interstate) and the provisions that they contained.[37]

The Inter-governmental Agreement provided that ARTC would lodge an access undertaking application with the ACCC under Part IIIA once it had secured the necessary lease arrangements with the states.[38]

In response to the Productivity Commission's 1999 inquiry into Rail Reforms, the Government stated that it would encourage ARTC to lodge a "National Rail Access Regime" for the interstate network with the ACCC as soon as possible after finalising access agreements with the relevant States and Territories.[39] The Government also noted that if a national rail access regime is not working effectively by mid-2001 a new institutional framework would need to be developed and that this may involve a network manager based on Commonwealth legislation, if necessary and practicable.[40]

The PC's inquiry into Rail Reforms recommended, among other things:

- that there be a single network manager, which does not own trains or track (similar to the role the National Electricity Market Management Company (NEMMCO) played in electricity)

---

35 Australian National owned and maintained track in New South Wales, Western Australia, South Australia, Tasmania and the Northern Territory. It also provided intrastate rail freight services in South Australia and Tasmania, and interstate rail freight services in the Northern Territory, South Australia, Western Australia and New South Wales, and passenger services on the Indian Pacific, Ghan and Overland trains. Refer to http://www.infrastructure.gov.au/rail/trains/background/index.aspx. As part of the reforms to the rail industry the Australian Government horizontally separated and privatised Australian National's above-rail freight operations.

36 ACCC, *Decision – ARTC Access Undertaking*, May 2002.

37 For example, the regimes contained provisions setting out the principles for access seekers to negotiate with the access providers to reach agreeable terms and conditions. However, the pricing principles and the restrictions on negotiation varied significantly. There were also significant differences in dispute resolution mechanisms.

38 ACCC, *Decision – ARTC Access Undertaking*, May 2002.

39 Federal Minister for Transport and Regional Services, *Response of the Federal Government to Report of the Productivity Commission*, April 2000, www.pc.gov.au/__data/assets/pdf_file/0007/81970/response.pdf, p. 25.

40 Federal Minister for Transport and Regional Services, *Response of the Federal Government to Report of the Productivity Commission*, April 2000, www.pc.gov.au/__data/assets/pdf_file/0007/81970/response.pdf, p. 4.

- vertical separation of train operations and track infrastructure and

- an access regime embedded in a market code of conduct, approved, as an undertaking, by the ACCC. Administration of the access regime should be flexible, pricing principles transparent, and appeal processes independent.[41]

In response to the recommendations in the PC's Report, the Government stated that it would:

> *encourage the States to deliver on their commitments to network investment, harmonisation and access arrangements, made under the Intergovernmental Agreement (IGA) for establishment of the ARTC. This will include the establishment of access arrangements acceptable to either the NCC or the ACCC, for all track used by general purpose carriers of freight and passengers. The Commonwealth intends establishing a national [rail] access regime under Part IIIA of the Trade Practices Act (1974) during 2000.*[42]

In May 2002 the ACCC accepted an access undertaking from ARTC in relation to tracks on the interstate network managed by ARTC in Victoria, South Australia and Western Australia. This undertaking expired on 30 June 2007 and was replaced by the 2008 Interstate Access Undertaking for a term of 10 years.

In 2004 ARTC commenced a 60 year lease of certain parts of the New South Wales intra-state rail network in order to integrate this infrastructure into the national freight network. The lease arrangements required ARTC to submit an access undertaking to the ACCC for approval. Accordingly, ARTC's 2008 Interstate Access Undertaking (which was accepted by the ACCC) also covered the additional track ARTC had leased in New South Wales (with the exception of the Hunter Valley coal network).

ARTC chose to submit a separate undertaking to the ACCC for the Hunter Valley coal network. In June 2011 the ACCC accepted ARTC's Hunter Valley Access Undertaking and regulatory coverage of the Hunter Valley coal network transferred from the Independent Pricing and Regulatory Tribunal (IPART) to the ACCC. The undertaking is for a term of five years.

2.2.6 Telecommunications

Anti-competitive conduct and access provisions (in Parts XIB and XIC respectively) were introduced into the CCA specifically to regulate the telecommunications industry. The Government considered that additional refinements to the generic provisions in Part IIIA were necessary because:

- there was considerable scope for the incumbent to engage in anti-competitive conduct because competitors in downstream markets depended on access to networks or facilities controlled by the incumbent

- anti-competitive cross-subsidies by the incumbent from non-competitive markets to markets in which competition exists or is emerging was a particular threat to the establishment of a competitive environment

---

41 Productivity Commission, *Inquiry Report – Progress in Rail Reform*, p. XXXIV, August 1999

42 The Hon John Anderson MP, Deputy Prime Minister, Minister for Transport and Regional Services, *Response of the Federal Government to Report of the Productivity Commission*, April 2000, www.pc.gov.au/__data/assets/pdf_file/0007/81970/response.pdf. p. 4.

- due to the fast pace of change in the industry and the volatile state of the industry, anti-competitive behaviour can cause particularly rapid damage to competition.[43]

When it was established, Part XIC included a 'declare/negotiate/arbitrate' regime for the telecommunications industry based on the general access regime set out in Part IIIA, with refinements to reflect the Government's policy interests in:

- promoting any-to-any connectivity
- promoting diversity and competition in the supply of carriage services, content services and other services supplied by means of carriage services
- ensuring access to carriage services was established on reasonable terms and conditions and included necessary ancillary services such as physical interconnection, billing information and access to conditional access customer equipment (such as set top boxes used in the supply of pay television).[44]

2.2.7 Gas

For the gas industry, COAG decided to implement industry-specific access legislation in 1997.[45] In implementing industry-specific legislation, the Government noted:

> *Energy specific regulatory arrangements are considered necessary to accommodate the technical aspects of service provision in gas and electricity networks and associated market power issues.*[46]

The Government also considered that an industry-specific Gas Access Regime would enhance certainty, uniformity and consistency.[47]

The scheme to be applied was intended to involve a balance between flexibility, required to deal with the individual circumstances of pipelines and customers, and have a level of prescription to ensure consistency of treatment.[48]

The Government was also concerned that jurisdiction-specific gas legislation, or a requirement for undertakings to be developed by individual pipeline owners, would result in a proliferation of differing regulatory arrangements with the potential to create 'rail gauge' problems.[49] There was also a concern this could damage development of a national market for gas, with adverse consequences for economic growth and Australia's international competitiveness.

---

43 Explanatory Memorandum to the *Trade Practices Amendment (Telecommunications) Bill 1996,* p. 6.

44 Explanatory Memorandum to the *Trade Practices Amendment (Telecommunications) Bill 1996,* p. 38.

45 CoAG meeting of 7 November 1997.

46 House of Representatives, Australia 1998, Gas Pipelines Access (Commonwealth) Bill 1997, Explanatory Memorandum, para 2.

47 House of Representatives, Australia 1998, Gas Pipelines Access (Commonwealth) Bill 1997, Explanatory Memorandum, para 32-3

48 House of Representatives, Australia 1998, Gas Pipelines Access (Commonwealth) Bill 1997, Explanatory Memorandum, para 32-3

49 In railways, a problem can arises when different size gauges meet one another, a situation known as a break of gauge. A classic example of this problem occurred in Australia at the time of Federation, and the commencement of free trade between the states, when it became apparent that different gauges that existed in the states and territories would be a significant impediment.

The National Gas Law and National Gas Rules commenced in 2008. The AER became the economic regulator for covered natural gas transmission and distribution pipelines in all states and territories (except WA). The ACCC may still potentially be asked to assess gas pipeline access undertakings from uncovered pipelines, but all covered pipelines are now dealt with through the AER.

2.2.8 Electricity

COAG utilised both state legislation and the voluntary undertaking process under Part IIIA to establish an industry-specific national electricity regime.[50] As part of the regime, certain elements of the operation of the national grid were regulated by way of a Code of Conduct, which was subject to the authorisation process under Part IIIA.[51] It was considered that the development of a national electricity grid and a Code of Conduct, overseen by the ACCC:

- would lead to enhanced competition and efficiency within States and Territories as well as between jurisdictions, and
- was consistent with the reforms of competition policy articulated in the National Competition Policy Review report by the Hilmer Committee.[52]

Under the electricity regime, the ACCC was able to waive the requirement to perform separate public assessments of individual access undertakings where undertakings submitted complied with the Code of Conduct (the NEM Access Code).[53] This approach was aimed at:

- ensuring that the access regime comprehensively covered the NEM and
- providing a streamlined process for assessing individual access undertakings by avoiding unnecessary duplication of assessment procedures for conforming access undertakings.

The National Electricity Law and National Electricity Rules commenced in 2005. Under the new National Electricity Law, network service providers are no longer required to submit access undertakings to the ACCC.

2.3 Undertakings

2.3.1 Key points

The ACCC considers that the access undertakings path under Part IIIA has been effective in promoting economic efficiency and competition and aligning incentives for efficient operation and investment across supply chains. This has particularly been the case in relation to third party access

---

50 State and Territory legislation enacted the National Electricity Code and required the relevant service providers to submit undertakings consistent with the legislation.

51 A National Grid Management Council (NGMC) discussion paper, published in October 1993, recommended a range of regulatory arrangements for the national electricity grid, including a Code of Conduct. It was proposed that the Code would be developed, and subsequently administered, by the NGMC or its successor. The successor of the NGMC was National Electricity Code Administrator (NECA).

52 NEM Access Code *clause 1.2.1* (Origins and development of the Code).

53 The ACCC had authorised the National Electricity Code (except chapter 3), which covered the electricity transmission and distribution networks in southern and eastern Australia. To avoid services being declared under Part IIIA of the TPA, each owner or operator of an electricity transmission or distribution network would have to provide a pro forma undertaking to the ACCC to be accepted under Part IIIA.

arrangements to wheat port terminals and ARTC's interstate and Hunter Valley rail networks.[54] Greater economic efficiency in the operation of, use of and investment in this infrastructure has benefits for the productivity of the Australian economy and enhances the total welfare of Australians.

It is relevant to note, however, that in each case when an access provider has submitted an access undertaking to the ACCC, there has either been a legislative or contractual requirement to submit the undertaking or an additional sanction for failure to submit. In this sense, no infrastructure owner has voluntarily submitted an access undertaking to the ACCC solely to avoid the risk of declaration under Part IIIA.

The ACCC engages proactively and extensively with parties seeking to have access undertakings accepted under Part IIIA. A rigorous third party consultation process is also carried out during the ACCC's assessment process. It is common for ACCC staff to spend time one-on-one with both access seekers and the infrastructure operator discussing issues in dispute, such as what the appropriate rate-of-return should be, how best to prevent discriminatory conduct or how to align contracted capacity along a supply chain. In other circumstances the ACCC will hold 'industry forums' where industry comes together with ACCC staff to attempt to resolve contentious issues.[55]

The ACCC has found that the consultation process itself is often effective in assisting parties to reach agreement on appropriate ways to deal with contentious issues. In other words, the ACCC can play a facilitative role in assisting the parties to negotiate reasonable commercial access arrangements. The case study at 2.3.2 below (regarding the Hunter Valley coal supply chain and the rate of return) provides an example of this.

Undertakings can provide certainty over access terms and conditions, including how prices will be set, and balance the infrastructure operator's interests in recovering its efficient costs (including sunk network costs) and the access seekers' interest in obtaining sufficient certainty about access terms and conditions to reduce the risks associated with complementary investments. Thus undertakings can be seen as a form of long term contracting (or credible commitment) that reduces the risk of opportunism and hold-up. (Hold-up and long-term contracting are discussed in more detail in chapter 3.)

The consultation process around access undertakings can also give the parties incentives to reveal information relevant to the negotiations, which promotes more effective commercial dealings over the terms of the undertaking.

Access undertakings can deal with a range of price and non-price terms and conditions. Areas that an access undertaking can cover include:

- the scope of what is being provided (ie. the service or services to which access is being provided)
- the duration of the arrangements
- pre-conditions of access (e.g. ensuring prudency requirements are reasonable)

---

[54] Chapter 2.2 above sets out how ARTC's interstate and Hunter Valley rail lines and Australia's wheat port terminals came to be covered by Part IIIA access undertakings.

[55] The presence of ACCC staff at industry forums encourages parties to resolve issues between themselves rather than face the backstop of determination by the ACCC.

- measures to address scope for discrimination arising from vertical integration (e.g. ring-fencing, non-discrimination provisions, etc.)
- pricing, either the level of prices or the methodology for determining prices
- capacity allocation procedures
- performance indicators/ KPIs and
- dispute resolution procedures.

Where an access seeker has no option but to use the services of a monopoly infrastructure owner, access arrangements are often put to them on a 'take it or leave it' basis. The aim of the access undertaking development process is to redress the effect that market power and, in some cases, vertical integration would likely have on the incentives for an infrastructure operator to offer reasonable access terms and conditions in commercially-negotiated access arrangements.

The ACCC has demonstrated flexibility in its approach to access undertakings in that different types of arrangements have been found to be appropriate in different scenarios. One example, set out in section 2.3.3 below, is the ACCC's assessment of the wheat port access undertakings in 2009 and the ACCC's decision that ex ante price regulation was not required due to the specific circumstances of the industry.

Appendix 2 sets out details of all access undertakings and codes[56] considered by the ACCC pursuant to Part IIIA.

In the issues paper for this submission, the PC asked a number of questions related to these issues. The relevant questions are listed below.

Related questions in the PC's Issues Paper

Q *How effective has the undertakings path en? How effective have access codes been? (p. 17)*

Q *How could the process and criteria for assessing undertakings be improved? (p. 17)*

2.3.2 Case Study: The Hunter Valley coal supply chain and the rate of return[57]

The Hunter Valley coal supply chain transports coal from the region's mines to the Port of Newcastle for export. Current estimates indicate that more than 140 million tonnes of coal were exported in 2012, worth in excess of $10 billion in export earnings to Australia. The Hunter Valley coal supply chain is one of the largest and most complex coal export operations in the world. Approximately 14 coal producers have either existing or planned operations in the region. These include some of the world's largest mining companies, such as BHP Billiton, Xstrata Coal, Coal & Allied (a subsidiary of Rio Tinto), Peabody Energy Corporation, Vale and Anglo American Metallurgical Coal Pty Ltd.

The rail network is also used by passenger trains, grain trains, north-south freight trains crossing the network, and coal trains supplying domestic users such as power stations.

[56] Under Part IIIA (s 44ZZAA) the ACCC may accept a code submitted by a prescribed industry body setting out rules for access to a service.

[57] More information is provided in Bordignon and Littlechild, 2012.

The ACCC has had an integral role in promoting the efficient use of, and investment in, the Hunter Valley coal supply chain. This role has derived from two distinct regulatory functions:

- assessing applications pursuant to Part VII of the CCA for authorisation of capacity sharing arrangements at the Port of Newcastle and
- assessing access undertakings submitted pursuant to Part IIIA of the CCA regarding access to ARTC's below-rail services in the Hunter Valley.

The ACCC accepted an access undertaking from ARTC for the Hunter Valley rail network in June 2011, for a five year term. This followed an extensive assessment process.

An issue in the development of the access arrangements was determining the appropriate rate of return for ARTC. This was one of a number of issues considered as part of the process. ARTC had originally sought a rate of return of over ten per cent real pre-tax weighted average cost of capital (WACC). In contrast the ACCC originally considered that a rate of return of seven per cent would be appropriate based on the relevant commercial and regulatory risks faced by ARTC. In particular, the ACCC considered a number of characteristics of the access arrangements mitigated the risk faced by ARTC, such as:

- the use of long-term take or pay contracts
- the ability for ARTC to require access seekers to demonstrate financial viability prior to entering contracts
- the use of conservatively short asset lives to calculate allowable revenue.

By the time of releasing its second position paper, the ACCC considered that 8.57 per cent could be appropriate based on a pragmatic approach to the assessment of certain WACC parameters while maintaining the principle that the rate of return should reflect the relevant regulatory and commercial risks in order to facilitate efficient investment in and use of infrastructure.

Over time, ARTC reduced what it was seeking to 9.16 per cent (and later 9.1 per cent) to accommodate some of the ACCC's views, but remained concerned with the rate of return proposed by the ACCC.

As negotiations continued it became apparent that coal producer users of the network were willing to accept a higher rate of return for ARTC (i.e. the 9.1 per cent that ARTC was seeking) in exchange for ARTC agreeing to further changes to the proposed HVAU to address concerns by producers. These included ARTC agreeing:

- that the term of the undertaking would be five years rather than ten
- to an appropriate plan to transition the industry from the previous arrangements overseen by IPART to the new arrangements in the HVAU
- that certain steps would be taken to ensure that system assumptions (of capacity available on the rail network) would align with other parts of the supply chain (namely, port capacity).

This essentially became a negotiated agreement between ARTC and coal producers. The ACCC explicitly recognised this agreement in its decision to accept the HVAU. The ACCC noted that while it had initially assessed the rate of return according to standard regulatory practice (that is, a WACC benchmark for an efficient operator), it was appropriate to accept an additional 'premium' to that figure given that it had been arrived at via negotiation and agreement between the parties. The ACCC stated:

> *... the endorsement of ARTC's higher proposed rate of return by the majority of access seekers in this context is an important additional consideration, as it essentially reflects an agreement between ARTC and the largest group of users of the network. The 'premium' proposed to the ACCC's view on the rate of return also does not of itself appear unreasonable or excessive, as it reflects that ARTC has in turn agreed to assume additional obligations. While the financial analysis outlined above provides a proxy for what would be an efficient return in a competitive environment, in this case the agreement between ARTC and users adds an empirical dimension, in part reflecting a commercial agreement. The ACCC considers this to be a beneficial contribution to the rate of return assessment (s 5.3.4 p. 48).*

2.3.3 Case study – wheat access undertakings – *ex ante* prices not required

In 2009 the ACCC approved tailored port access arrangements that suited the particular characteristics of the wheat export industry (the background to how Part IIIA access undertakings came to be in place for wheat port terminals is above in chapter 2.2).

A key concern for wheat port operators was whether the ACCC would require *ex ante* prices in the arrangements. It was submitted by ABB Grain Limited (ABB) during the assessment of the 2009 access undertakings that 'there is no need for *ex ante* approved pricing given the lack of incentive to monopoly price, the countervailing power of customers to negotiate and the potential recourse to binding arbitration under the oversight of the Commission if a customer is not satisfied'.[58] This would be significant because *ex ante* price regulation generally requires an infrastructure operator to engage in a number of steps including valuation of assets, determining an appropriate rate of return, developing forecasts of capital expenditure, operating expenditure and demand, and constructing a financial model to incorporate these elements and thereby calculate access prices.

The ACCC, wheat port operators, farming groups and the broader wheat industry engaged early in the process about whether the ACCC would likely accept access arrangements for wheat port terminal services that did not include ex ante price regulation[59]. During consultation it became clear that the most significant concern of the industry was about the potential for discriminatory conduct. The Australian Grain Exporters Association, in its submission of 15 May 2009 stated:

> *The access undertakings to be submitted to the ACCC as part of the wheat export accreditation process should ensure that other market participants have access to export facilities and information on the same basis as the bulk handlers who control the ports.*

Early in the process the ACCC provided preliminary views to the industry that, due to the specific circumstances of the wheat export industry, it would be unlikely that *ex ante* price regulation would be necessary.

---

[58] ABB, Submission to the Australian Competition and Consumer Commission, 16 April 2009, p. 7.

[59] ACCC, ABB Grain Limited, Co-operative Bulk Handling Limited & GrainCorp Operations Limited, Port Terminal Services Access Undertakings, Issues Paper, 29 April 2009, p. 19.

The main factor that the ACCC took into account in forming this view was the risk and undesirability of imposing regulation that was not appropriate at a time when the industry was newly liberalised and in transition. The industry was undergoing a period of significant transition – having gone from a single exporter of wheat to 23 accredited exporters within just 12 months – and it was the ACCC's view that there was a risk that *ex ante* price regulation might distort the effective development of the industry. The ACCC considered that the alternative publish-negotiate-arbitrate model can be effective when underpinned by robust non-discrimination measures and appropriate transparency. Finally, the ACCC also had regard to the relatively short duration of the initial access undertakings and the threat of more prescriptive regulatory requirements in any future access undertaking should the publish-negotiate-arbitrate framework not be effective.[60]

Section 44ZZA of Part IIIA provides sufficient flexibility for the ACCC to take into account the particular characteristics of an industry in determining whether to accept an access undertaking. Section 44ZZA(3)(e) provides that the ACCC is able to have regard to any other matters that the ACCC thinks are relevant. In accepting the wheat access undertakings, the ACCC also had regard to the *Wheat Export Marketing Act 2008,* the intention of Parliament in enacting that legislation and the extent to which the undertakings were clear and certain.

Further, the ACCC took the view that section 44ZZA(3) describes matters to which the ACCC is required to have regard, not criteria of which the ACCC must be satisfied. In assessing the wheat access undertakings, the ACCC considered that 'satisfaction' of a particular criterion under section 44ZZA(3) did not lead to a conclusion that a proposed access undertaking should be accepted. The test under s.44ZZA (3) is whether the Commission considered it 'appropriate' to accept the undertakings having regard to the matters listed in section 44ZZA(3).[61]

By the ACCC providing certainty to wheat port operators on this issue early on in the access undertaking assessment process, the access providers avoided carrying out the steps involved in having an economic regulator assess the appropriateness of prices.

The final arrangements accepted by the ACCC focused on the issues of key concern to the industry. The arrangements included:

- robust prohibitions against each port operator anti-competitively discriminating in favour of its own wheat trading business or hindering access to its port terminal services; and the ability for the ACCC to order independent audits of each port operator's compliance with the non-discrimination obligations
- clear and transparent port loading protocols that the port operators are obliged to follow in managing demand for the port terminal service, for example in making decisions about the allocation of shipping slots
- obligations on the port operators to negotiate in good faith with eligible wheat exporters around price and non-price terms of access to port terminal services

[60] ACCC, ABB Grain Limited, Further Draft Decision, 23 September 2009, p. 126.
[61] ACCC, ABB Grain Limited, Further Draft Decision, 23 September 2009, pp. 26-27.

- if negotiation fails, the ability of wheat exporters to seek mediation or binding arbitration on price and non-price terms of access to the port operators' port terminal services
- for those wheat exporters who wish to take a standard offer, a set of clear and certain minimum non-price terms and conditions of access to port terminal services; and an obligation on each port operator to publish its standard prices for port terminal services at least one month prior to commencement of each new wheat exporting season
- obligations on each port operator to publish certain port terminal information to provide greater transparency over its operations.

The ACCC considered that these arrangements would unlock bottlenecks and promote competition in the market for the export of bulk wheat by ensuring that third party exporters are able to access port terminals operated by vertically integrated port terminal operators. Allowing third party access on non-discriminatory terms improves productivity by ensuring the efficient use of monopoly infrastructure.

2.4 Negotiate-arbitrate framework

2.4.1 Key points

The ACCC has needed to engage in very little actual arbitration activity under the provisions of Part IIIA. Only one arbitration under Part IIIA has been conducted to conclusion (the 2007 determination of a dispute between Services Sydney and Sydney Water regarding access to Sydney Water's sewerage pipeline services (the Sydney Water arbitration)).

In the same year Virgin Blue notified the ACCC of an access dispute with Sydney Airport, but the matter was withdrawn following successful commercial settlement. Chapter 5 provides details on the ACCC's experience with arbitrations, both under Part IIIA and for the telecommunications industry under Part XIC.

However, the limited amount of actual arbitration activity under Part IIIA does not mean that the negotiate-arbitrate framework in Part IIIA has been unsuccessful. To the contrary, the ACCC considers that the threat of arbitration by the ACCC has facilitated commercial settlements in a range of access disputes. Examples of where this has occurred are at section 2.4.3 below.

In the issues paper for this inquiry, the PC asked a number of questions about the negotiate-arbitrate framework. The relevant questions are listed below.

Related questions in the PC's Issues Paper

Q *What evidence is there that the negotiate–arbitrate framework has proven successful at resolving access disputes? (p. 18)*

Q *What role has the Australian Competition and Consumer Commission played in facilitating negotiation? Are there examples where its involvement has effectively prevented the need for arbitration? (p. 18)*

Q *What evidence is there that a lack of information is impeding the ability of parties to successfully negotiate access arrangements? Are further measures needed to address information imbalances between parties? (p. 18)*

Q *What evidence is there that infrastructure service providers have used negotiation as a way of deliberately prolonging access disputes in order to raise the costs faced by access seekers? If required, what options exist for controlling such behaviour? (p. 18)*

Q *Looking across Australia's access regimes, what lessons have emerged from the experience with the negotiate–arbitrate model? (p. 18)*

Q *What variations could be made to the negotiate–arbitrate model, such as variations on arbitration, or alternative models of dispute resolution, to better address access disputes? (p. 18)*

2.4.2 Arbitration activity

The ACCC considers that the Services Sydney arbitration was successful in resolving the access dispute between Sydney Water and Services Sydney. Factors contributing to the success of the process were that:

- The arbitration process was timely—once the dispute was notified, the arbitration process was relatively short (eight months).
- The ACCC was able to narrow the scope of what it would arbitrate on to the fundamental issue of the pricing methodology. (The ACCC declined to arbitrate in relation to the interconnection services until there had been adequate negotiations between the parties.)
- The ACCC's determination on the pricing methodology provided the basis for further negotiations between the parties to settle the access prices to be paid.

Chapter 5 provides further details of the ACCC's experience with this arbitration.

2.4.3 Examples of availability of arbitration facilitating commercial outcomes

While actual arbitration experience under Part IIIA is limited, the ACCC considers that the credible threat of arbitration can encourage commercial negotiations and effective outcomes. The prospect of arbitration by the ACCC can help bring parties to the bargaining table. This is especially important where one party has substantial market power and might otherwise resist a commercial solution.

Dispute between Virgin Blue and Sydney Airport

In May 2007 a long running dispute between Virgin Blue and Sydney Airport was resolved, only a few weeks after Virgin notified a dispute to the ACCC regarding access to what was termed an "Airside Service".[62] It is clear that the prospect of arbitration by the ACCC of the dispute between Virgin Blue and Sydney Airport was a key driver in facilitating a commercial settlement between the parties.[63]

Chapter 5 provides further details of the ACCC's experience with this dispute.

---

62 "Airside Service" covers all movement in relation to aircraft between runways and passenger arrival and departure gates and the servicing, maintenance, equipping and re-equipping of aircraft at the start and end of a flight (*Re Virgin Blue Airlines Pty Ltd* (2005) 195 FLR 242; (2006) ATPR 42-092; [2005] ACompT 5, para 8).

63 Note submission made by Virgin Blue to the Productivity Commission inquiry into Economic Regulation of Airport Services in 2010 that the credible threat of an arbitrator making a binding decision in relation to a dispute can be a very effective mechanism in facilitating truly commercial negotiations between parties where there is a significant imbalance in market power (*Submission by Virgin Blue,* 18 April 2011).

Dispute between Glencore and GrainCorp

Another example of where the prospect of arbitration appears to have facilitated a commercial outcome was in relation to a dispute between Glencore Grain Pty Ltd (Glencore) and GrainCorp regarding access to GrainCorp's port terminal services in 2010.

As outlined in section 2.3.2, the wheat access undertakings accepted by the ACCC in 2009 did not incorporate *ex ante* price regulation, instead incorporating a publish-negotiate-arbitrate model based on the provisions in Part IIIA.

In 2010 Glencore stated that the threat of arbitration has facilitated commercial outcomes to disputes with port providers. In its submission to the Productivity Commission's review of Wheat Export Marketing Arrangements, Glencore said:

> *Glencore Grain [was] effectively eliminated from participating in the 2009-2010 harvest accumulation for shipping wheat off the east coast in any way shape or form because we did not agree to the Port Terminal Services Agreement proposed to us by GrainCorp under its access undertaking. In our view the terms were uncommercial. GrainCorp refused to negotiate with us in any form until we initiated the dispute resolution provisions of the access undertaking, after which GrainCorp immediately negotiated a realistic agreement with us. Without the access undertaking we would not have resolved our issues.*[64]

While this view of events was disputed by GrainCorp[65], the PC (2010, p.185) found that:

> *The access test is likely to have reduced the transaction costs in establishing a competitive market by encouraging discussion between the parties and facilitating commercial decision making. That is, the access test is likely to have helped to facilitate timely negotiations between the port terminal operators and rival exporters.*

2.4.4 Access disputes and arbitrations in the telecommunications industry

As discussed in chapter 5, the ACCC's experience with access disputes and arbitrations in the telecommunications industry has been more mixed than for disputes under the generic National Access Regime. Reasons for some of the difficulties experienced in arbitrating telecommunications disputes include:

- Telstra held relevant information about its facilities, services and efficient costs, to which access seekers did not have general or uninhibited access. Reaching a commercially negotiated agreement was more difficult in these circumstances and this increased recourse to arbitration.
- Telstra's vertical integration meant it had little commercial incentive to provide access and, in fact, had an incentive to deny or delay the provision of access in order to provide a commercial advantage to its own downstream business. Telstra had an incentive to use procedural

---

64 Glencore, *Submission to the PC on Wheat Export Marketing Arrangements*, 2 May 2010, p. 12.

65 GrainCorp did not consider the matters which Glencore disputed related to access to port terminal services and thus were not covered by GrainCorp's Part IIIA Undertaking. GrainCorp submitted that the matters related to prices charged for particular services and the absence of a 'dispatch – demurrage' clause in the service provision contract. "This is a not a matter of access port elevator services, but one that relates to the management of commercial risk associated with exporting grain in bulk." (GrainCorp, *Submission to the PC on Wheat Export Marketing Arrangements*, 31 May 2010, p. 2)

opportunities available to it to delay providing access to its downstream competitors on reasonable terms and conditions.

- The mobile network operators and other vertically-integrated fixed line network operators (such as Optus) had similar incentives to seek to avoid or delay providing interconnection to their retail competitors on reasonable terms.

- Refusing to negotiate reasonable terms, and then proceeding to arbitration, could be used as a means of delaying the provision of access on reasonable terms and conditions. Until a final arbitration decision was made, access seekers would face uncertainty about the terms and conditions of access. This uncertainty created difficulties and risks for access seekers' decisions on setting retail terms and conditions, particularly in regard to long-term retail plans.

- By submitting a series of unreasonable undertakings after an arbitration process had commenced, Telstra could delay the finalisation of an arbitration determination. This extended the period of uncertainty about regulated terms and conditions.

- Where there are multiple issues and multiple parties all simultaneously negotiating access to services, reaching agreement on reasonable commercial terms and conditions becomes more difficult. This is a further factor likely to lead to increased recourse to arbitration.

- A high percentage of arbitration determinations were appealed, despite the low rate of success in overturning the ACCC's decisions. These appeals imposed substantial costs and uncertainty on the parties. This is likely to have adversely affected access seekers' ability to compete effectively for retail customers and may have deterred new entry, with negative implications for downstream competition. In addition, it appears to have damaged the relationship between the parties during the relevant period and had a negative impact on subsequent commercial negotiations.

Chapter 5 provides more information on the ACCC's telecommunications arbitration decisions.

2.5 Pricing principles

2.5.1 Key points

The ACCC considers that the pricing principles set out in section 44ZZCA of Part IIIA are appropriately focused on efficiency and competition. It is also appropriate that they are specified in high-level terms, as this allows for flexibility, when applying the principles, to take into account relevant industry circumstances and changes in those circumstances over time. High-level specification also allows for updating of the methodologies adopted to reflect developments in best practice regulation and in relevant economic and finance theories (where appropriate).

Specifying more detailed or prescriptive pricing principles could lead to inefficiencies and/or uncompetitive outcomes if industry circumstances (or the latest developments in best practice pricing methodologies) cannot be taken into account in setting prices. Alternatively, regular revisions to the pricing principles may be needed and this would undermine certainty and predictability. By allowing for flexibility and adaptability in how they are applied, the principles themselves are likely to require infrequent modification and this will promote certainty.

The ACCC considers that the evidence on how the principles have been applied in regulatory decision-making supports a conclusion that the pricing principles are appropriate.

In the issues paper for this inquiry, the PC asked a number of questions about the pricing principles for the National Access Regime. The relevant questions are listed below.

Related questions in the PC's Issues Paper

Q *How appropriate are the pricing principles for regulating access prices under Part IIIA? How much certainty do they provide for access seekers and service providers? When is price discrimination appropriate? (p. 19)*

Q *How adaptable are the principles to differences between industries and sectors that could be covered under the National Access Regime? (p. 19)*

Q *How should access prices incorporate a return that is commensurate with the regulatory and commercial risks involved? How important is this in providing an incentive for the efficient operation of, use of, and investment in, infrastructure? (p. 19)*

2.5.2 ACCC's approach to the pricing principles in Part IIIA

In making certain decisions under Part IIIA, including pricing determinations in arbitrations (s. 44X of the CCA) and decisions on undertakings and access codes (ss. 44ZA and 44ZZAA), the ACCC is required to 'take into account', or 'have regard to', the pricing principles set out in s. 44ZZCA. These pricing principles are:

(a) that regulated access prices should:

(i) be set so as to generate expected revenue for a regulated service or services that is at least sufficient to meet the efficient costs of providing access to the regulated service or services; and

(ii) include a return on investment commensurate with the regulatory and commercial risks involved; and

(b) that the access price structures should:

(i) allow multi-part pricing and price discrimination when it aids efficiency; and

(ii) not allow a vertically integrated access provider to set terms and conditions that discriminate in favour of its downstream operations, except to the extent that the cost of providing access to other operators is higher; and

(c) that access pricing regimes should provide incentives to reduce costs or otherwise improve productivity.

These principles aim to promote efficiency and competition (in downstream markets) and to ensure that access providers are able to recover their efficient costs. In estimating efficient costs, an appropriate risk-adjusted rate of return is to be provided—this will promote efficient investment in natural monopoly infrastructure. The ACCC considers that the principles are appropriately focused on efficiency and competition.

As noted in chapter 3, price discrimination can reduce the adverse consequences of natural monopoly on allocative efficiency, where different prices are set based on different consumers'

willingness to pay (that is, prices are set using Ramsey-Boiteux pricing principles). Efficient price discrimination can allow a natural monopoly with large fixed costs to recover its efficient costs of providing the service while setting price equal to marginal cost for marginal units of consumption. However, perfect price discrimination is subject to a number of practical difficulties, including insufficient information about consumers' price elasticities of demand, high transaction costs, and the potential for arbitrage (where consumers charged a low price on-sell services to consumers charged a higher price by the infrastructure provider).

The ACCC notes that a monopolist may attempt to price discriminate on other than efficiency grounds. Typically, such inefficient price discrimination is designed to reduce the competition faced in an upstream or downstream market by an arm of a vertically-integrated business or by an associated company. The ACCC supports the principle that price discrimination should be allowed where it aids efficiency.

The ACCC considers that the pricing principles in Part IIIA should be specified in high-level terms, as they are now. Specifying high-level principles allows for flexibility when applying the principles to take into account relevant industry circumstances and changes in those circumstances over time. High-level specification also allows for updating of the methodologies adopted to implement the principles to reflect developments in best practice regulation and in relevant economic and finance theories (where appropriate). Box 2.1 sets out examples of pricing approaches that have been taken under Part IIIA to date.

Flexibility to take into account industry circumstances and methodological enhancements has been particularly important to regulatory practices for determining a return on investment commensurate with the regulatory and commercial risks involved. The ACCC and AER recognise that an appropriate WACC is important for promoting efficient investment in infrastructure. Considerable resources are devoted to researching the latest developments in economic and finance theory and to ensuring the methodologies adopted for determining the WACC reflect best practice. For example, the AER conducts regular reviews of its WACC approach; these reviews incorporate significant consultation with industry and other interested parties and the dissemination of expert reports to inform participants of the latest evidence and thinking on WACC issues. In applying the WACC methodologies, the ACCC and AER take into account industry-specific factors and general economic and financial market conditions to develop up-to-date, valid estimates of the different risk profiles of regulated infrastructure access providers.[66]

It is important to recognise that specifying detailed or prescriptive pricing principles may lead to inefficiencies and/or uncompetitive outcomes if industry circumstances (or the latest developments in best practice pricing methodologies) cannot be taken into account in setting prices. Alternatively, regular revisions to the pricing principles may be needed and this would undermine certainty and predictability. By allowing for flexibility and adaptability in how they are applied, the principles themselves are likely to require infrequent modification and this will promote certainty.

[66] For example, in its decision to approve ARTC's Hunter Valley access undertaking, the ACCC accepted a proposal to include a 'premium' on the WACC that had been negotiated by the parties. In return for this premium, ARTC had agreed to assume additional obligations.

As is common in regulation, there is a trade-off between certainty and the ability to adapt the way the principles are applied. It is important to balance these considerations appropriately. One of the means by which the ACCC and AER balance certainty and adaptability is through its consultation processes. In making regulatory pricing decisions, and decisions on access undertakings and codes, the ACCC and AER seek submissions from industry and other interested parties on how they should apply pricing principles in particular decisions. Through these consultation processes, industry and other parties are able to raise any concerns they may have about the impact of any proposed change in the way the pricing principles are applied.

Further, over time, a body of regulatory pricing decisions is built up, which indicates how the ACCC and AER generally applies the principles and the reasons for adapting the pricing methodologies for different circumstances. This body of evidence promotes certainty and predictability about how the pricing principles will be implemented in particular circumstances.

Box 2.1: Examples of pricing approaches under Part IIIA in practice

Interstate rail network access undertaking

ARTC's Interstate Access Undertaking, approved by the ACCC, incorporates a hybrid price-cap and revenue-cap model. Prices for reference 'indicative' services are set at the beginning of the regulatory period and adjusted each year for changes in the CPI. ARTC determines prices for other services by reference to the indicative prices. ARTC's aggregate revenue (which is dependent on actual volumes for all services) is also subject to a revenue cap. Within this model, ARTC has considerable discretion in differentiating access charges for non-indicative services.

The ACCC took the view that it is legitimate to apply different prices to services with different characteristics, as those characteristics can have a significant impact on the cost of service delivery. In addition, the ACCC considered that permitting some price differentiation to allow ARTC to recover its full costs of providing services was appropriate.

Hunter Valley rail network access undertaking

In ARTC's Hunter Valley Access Undertaking, the ACCC approved a 'loss capitalisation' approach to determining the revenue cap for certain sections of the network (known as 'Pricing Zone 3'). Loss capitalisation allows ARTC to incorporate revenue shortfalls in any year into its regulatory asset base and recover those losses in later periods. For the remainder of the network the ACCC approved a standard revenue cap (based on the building block model).

In approving the loss capitalisation approach, the ACCC noted that Pricing Zone 3 served new mines in the Gunnedah Basin which were predominantly in the start-up phase. The ACCC considered that the use of loss capitalisation in these circumstances may facilitate ARTC investing in track infrastructure to service those mines (even though it would not earn a return on those investments in the short term) and therefore facilitate increased coal exports via the Port of Newcastle. Once coal volumes from the region increased, ARTC would recover those initial revenue shortfalls.

Bulk wheat port terminal access undertakings

In the four access undertakings for bulk wheat port terminals submitted by Australian Bulk Alliance Pty Ltd, Viterra Operations Ltd, Cooperative Bulk Handling Limited and GrainCorp Operations Limited, the ACCC approved a publish-negotiate-arbitrate model for determining access prices where the prices themselves are not set by the ACCC. The threat of arbitration was seen as providing a sufficient incentive for the port terminal operators to negotiate appropriate prices with access seekers. This approach was considered appropriate during the wheat industry's transition from a centralised monopoly to a deregulated competitive market.

Sewage transportation services—arbitration decision

In its arbitration on the access dispute between Services Sydney Pty Ltd and Sydney Water Corporation, the ACCC determined that a retail-minus methodology (with avoidable costs calculated using a building-block approach) was appropriate. In determining the appropriate methodology, the ACCC had regard to the structural features of the sector, including that Sydney Water is a vertically integrated supplier with regulated retail prices set on a geographically uniform basis by the New South Wales regulator (IPART). The ACCC also took into consideration the complexity that would be involved in practically implementing the parties' proposed access pricing methodologies. (See chapter 5 for more details about the access dispute and the ACCC's arbitration decision.)

2.6 Infrastructure investment

2.6.1 Key points

Access regulation aims to prevent wasteful duplication of investment in infrastructure with natural monopoly and bottleneck characteristics and to provide incentives for efficient investment in both the natural monopoly infrastructure and complementary infrastructure in upstream and downstream markets.

It is not apparent from the data available to the ACCC that access regulation has a 'chilling' impact on investment. To the contrary, investments in rail infrastructure and complementary mine and port investments upstream and downstream of the rail infrastructure have increased significantly in recent years and further large investments are forecast to occur over the next few years. Bulk wheat handlers have also made substantial infrastructure investments since the abolition of the Australian Wheat Board (single wheat desk). In the telecommunications industry, access seekers have invested in complementary equipment to allow them to provide services over Telstra's copper network that better meet their customers' needs. Further, energy network investment is at historically high levels. Chapter 4 provides further detail about investment related to each of these industries.

The ACCC notes that concerns have been raised in the past by the PC and others about the potential for access regulation to reduce investment incentives and distort investment decisions. The ACCC considers that these concerns are now well-known and well-understood, that regulators are well-aware of these conceptual risks and that they have implemented practical measures to adapt their regulatory approaches to reduce these risks.

Access regimes in place pursuant to Part IIIA access undertakings typically include measures designed to facilitate efficient use of, and investment in infrastructure (such as the 'user funding' and 'loss capitalisation' arrangements in ARTC's Hunter Valley access undertaking). The ACCC considers that well-designed regulatory frameworks such as these can ensure against any negative impacts on investment incentives.

In the issues paper for this inquiry, the PC asked a number of questions about the impact of access regulation on infrastructure investment. The relevant questions are listed below.

Related questions in the PC's Issues Paper

Q *How does the capacity of the regulator to direct a provider to extend a facility assist in achieving efficient investments in infrastructure? Do the restrictions on ownership and allocation of the costs of extension set out in Part IIIA make it difficult, in practice, for the ACCC to direct providers to undertake extensions? (p. 19)*

Q *What are the practical implications of this capacity for the funding of extensions to infrastructure? (p. 19)*

Q *What is the evidence that the access regime has had an effect on investment? In particular, possible 'chilling' effects, or apparent strategic responses relating to investment decisions, including infrastructure capacity, to limit competitor access? What evidence is there that efficient investment has proceeded as a consequence of access regulation? (p. 21)*

2.6.2 Designing access regulation to reduce undesirable impacts on investment

Access regulation aims to prevent wasteful duplication of investment in infrastructure that has natural monopoly characteristics, particularly where it serves as a bottleneck for related markets. It also aims to provide incentives for efficient investment in natural monopoly and complementary infrastructure in upstream and downstream markets (see chapter 4 for a fuller discussion). Efficient investment will increase productivity, maintain or improve service quality, and promote competition in upstream and downstream markets.

However, access regulation has the potential to generate unintended consequences. By distorting the returns to, or risks associated with, infrastructure investments, a poorly designed regulatory framework can have negative impacts on investment incentives—resulting in either under- or over-investment.

While there is an extensive body of research into the impacts of access regulation on investment incentives, empirical studies tend to yield inconclusive results. This reflects the common difficulty in separating the impacts of regulation from other influences, such as changes in economic conditions, in expectations about future demand levels, and in other government policies. Another important reason is that the nature of regulation and how it is implemented will affect whether the investment incentive effects are positive or negative. In addition, access regulation may have different effects on investments in different parts of the supply chain, which hinders the identification of the net impacts of access regulation.

Some evidence on infrastructure investments in the rail, energy, telecommunications and bulk wheat export terminals is presented in chapter 4 of this submission. Investment in energy network infrastructure has grown strongly in recent years and is at historically high levels. Investments in rail infrastructure, and related mine and port investments, has also increased significantly and further large investments are forecast to occur over the next few years. Bulk wheat handlers have also made substantial infrastructure investments since the abolition of the Australian Wheat Board (single wheat desk).

The picture is less clear in the telecommunications industry. Technological change has led to periods of high infrastructure investment as the industry moves to adopt the new technology. However, the ACCC considers that Telstra's monopoly position had negative impacts on its own incentives to invest in fixed line network infrastructure and the investment incentives of access seekers that

needed access to Telstra's network. There is evidence that, following the introduction in 1997 of full retail competition and stronger access regulation (which sought to encourage efficient 'build/buy' decisions in the context of an established ubiquitous monopoly fixed line network), access seekers have made substantial investments in their own equipment to allow them to provide services to their retail customers using Telstra's copper network (that is, complementary investment needed to make effective use of the services provided by the bottleneck facility). The roll-out of National Broadband Network is expected to result in a sustained period of high investment in coming years.

It is important to bear in mind the qualifications on using this evidence to draw conclusions about the relationship between investment and access regulation. In addition to the data limitations, it needs to be recognised that a correlation between infrastructure investment levels in a particular industry and changes in access regulation applying to that industry does not prove that there is a causal relationship. In fact, it is impossible to establish a definite causal relationship between the two variables as there is no quantifiable counterfactual.

Due to information constraints and limitations on the regulator's ability to foresee all potential consequences of regulatory decisions, it is not possible to design access regulation that avoids creating any distortions to infrastructure investment incentives. In regulating infrastructure access, some balancing will be needed of the impacts of regulatory measures on the efficiency of investment, both by the infrastructure operator and by access seekers, and on the efficiency benefits from facilitating competition in downstream markets by regulating access to the essential input.

However, improving regulatory frameworks and the design and implementation of access regulations will reduce the adverse impacts of regulation on investment incentives. For example, increasing the predictability and accountability of regulatory decision-making will reduce the risks associated with infrastructure investments. The perceived risk of regulatory opportunism can be reduced, and investor confidence in the regulatory system promoted, by allocating responsibility for administering the access regime to an independent regulator with clear efficiency and competition-based objectives. Public consultation, transparency about the reasons for regulatory decisions, and effective review mechanisms will also reduce the risk of opportunistic regulatory decisions.

Timely regulatory decision-making is also important, given that infrastructure investments have long lead times and delays to key decisions can cause uncertainty, increase costs to industry, and increase investment risks.

The ACCC and AER review the effectiveness of their regulatory decision-making processes, and assess the efficiency and competition impacts of specific decisions, on an on-going basis. In the ACCC's view, regulatory best practice is promoted by an evidence-based approach to regulatory decision-making. The ACCC and AER also monitor the latest developments in regulatory theory and findings from empirical studies, and conduct research into international regulatory practices, to assist in identifying ways to improve the implementation of access regulation (and regulation more broadly). Applying best practice in implementing access regulations will reduce the potential for adverse impacts on investment incentives.

The ACCC considers that the concerns raised by the PC (and others) in the past about the potential for access regulation to reduce investment incentives and distort investment decisions as a result of

asymmetric truncation of investment returns are now well-known and well-understood. Consequently, the ACCC considers that regulators are well-aware of these conceptual risks and have implemented practical measures to adapt their regulatory approaches to reduce these risks.

The ACCC considers it follows that the potential negative impacts on investment of the potential for truncation of returns should not be over-stated. Where these potential impacts relate to possible regulatory truncation of returns, regulatory approaches can be modified to address the risk of truncation where this problem is likely to be significant.[67] These include the following choice of regulatory pricing approaches: deferral of cost recovery (for example, by adopting a 'loss capitalisation' approach, such as used in the Hunter Valley Access Undertaking accepted by the ACCC in 2011); adjustments to the regulatory rate of return (such as the 'premium' to the WACC accepted in the Hunter Valley Access Undertaking); and choice of regulatory depreciation schedules (see section 4.1.2 of this submission for a more detailed discussion and further examples). In determining the appropriate approach to addressing any truncation problem, care must be taken to ensure that investors will be appropriately compensated for bearing legitimate risks, without creating an expectation of, or opportunity to receive, excess returns.

Access holidays have been advocated as a means to reduce the impact of regulatory truncation on investment returns, and the consequent disincentive to invest in high-risk infrastructure projects (see chapter 4). An access holiday is a period of time, approved by the government or the regulator, during which a new infrastructure facility would not be subject to regulated access.

Under the gas access regime, the NCC can make no-coverage determinations for greenfields gas pipelines, which effectively provide an access holiday for the pipeline. If a 15-year no-coverage determination were to be made, for example, the pipeline could not be covered (that is, declared) or subject to access regulation until 15 years after the pipeline was commissioned. The criteria for determining coverage under the gas access regime mirror the declaration criteria under Part IIIA. (A price regulation exemption may be granted in respect of international pipelines, which exempts the pipeline from price or revenue regulation for the exemption period, but other non-price regulatory requirements would still apply.) During the no-coverage period the pipeline operator has certainty that it will not be regulated and is free to decide whether to supply access and any access terms and conditions (including charging monopoly prices).

The ACCC accepts that granting an access holiday reduces the risk of regulatory truncation of returns. However, a decision to grant an access holiday must weigh up the trade-offs involved. As stated by Gans and King (2003, p. 176):

> *Access holidays are a second-best solution ... An access holiday can improve the timing of infrastructure investment from a social perspective, albeit at the cost of creating a deadweight loss of surplus due to temporary monopoly pricing.*

In addition, the likely impacts of an access holiday on competition and efficiency in upstream and downstream markets would have to be taken into account in deciding whether to grant an access holiday. Where the infrastructure operator is vertically integrated, a cautious approach would be warranted to guard against entrenching the market power of the infrastructure operator's upstream

[67] Infrastructure investors can take actions to manage the risk of project failure, such as through hedging or diversification.

or downstream business. For example, an access holiday could, by allowing the infrastructure operator to deny access to downstream competitors, confer a first mover advantage on its downstream business. The market power of the downstream business may be sustained after the expiry of the access holiday if there are significant switching costs or network externalities.

Further, the difficulties in determining the appropriate length of an access holiday due to the asymmetry of information about the risks and returns on the proposed investment need to be borne in mind when deciding whether access holidays should be made available under Part IIIA.

2.6.3 ACCC power to direct extensions

In regard to the ACCC's powers under Part IIIA (and also under Part XIC) to direct an infrastructure operator to extend a facility to assist in achieving efficient investments in infrastructure, the ACCC notes that these powers have never been exercised (or sought to be exercised). The ACCC considers that any decision to require an infrastructure operator to extend a facility would need to consider carefully the potential impact on the infrastructure operator's risks and financial viability.

The ACCC considers it is preferable to provide effective incentives to prompt the infrastructure operator to extend its facility, including, when appropriate, providing the option of user-funded extensions. The Hunter Valley access undertaking provides an example of mechanisms for encouraging the infrastructure operator (ARTC) to extend the capacity of its rail track network when warranted by user demand.

The undertaking provides that investment proposals may be initiated by ARTC, by the Hunter Valley Coal Chain Coordinator Ltd (HVCCC) (which includes all coal producers as well as service providers), or by individual users. For proposals to proceed they must be endorsed by users, via a consultative forum known as the Rail Capacity Group (RCG). Where proposals are endorsed, ARTC may include the capital expenditure in its regulated asset base and recover it through access charges. In the event that the RCG does not endorse a project proposed by ARTC, ARTC may seek a ruling from the ACCC as to whether the project is prudent and it would be appropriate to proceed.

Where users propose an infrastructure investment that ARTC is unwilling to fund, the undertaking sets out a 'user-funding' process by which users can pay for the project to be undertaken by ARTC (provided certain safety and technical requirements are met). This 'user-funding' option seeks to 'avoid the possibility of hold-up by a monopoly infrastructure owner not investing in new capacity. It also facilitates private investment in the rail network and reduces the risk to ARTC' (Bordignon and Littlechild 2012, p. 182).

In the ACCC's view, the infrastructure operator and access seekers (including potential access seekers) have better information on the risks and returns associated with specific infrastructure extensions than the regulator. Where possible therefore, the ACCC considers that the infrastructure operator and access seekers should reach agreement on whether to extend the facility. User-funding may be appropriate where the infrastructure operator takes a different view to access seekers on the costs, benefits and risks of the extension.

The ACCC recognises that infrastructure operators and access seekers will sometimes have conflicting interests or incentives to resist negotiating an extension to a facility. In these cases, the threat of an ACCC direction that an infrastructure operator must extend a facility may provide an

incentive for the parties to reach a commercial agreement—similar way to the way the threat of arbitration can prompt parties to settle a dispute (see section 2.4 of this submission). In the event that an access seeker (or group of access seekers) were to ask the ACCC to direct an infrastructure operator to extend a facility, the ACCC would conduct a rigorous consultation process. It would be open for the ACCC to decline to make the proposed direction and to decide that a user funding approach would be more appropriate in the circumstances.

2.7 Institutions and processes

2.7.1 Key points

The ACCC is of the view that the access undertakings and arbitrations processes under Part IIIA have worked well.

In relation to declaration, however, the ACCC is cognisant that declaration is potentially a 13 step process for an access seeker,[68] can take a long time (ie. five years or more) and often can only be successfully pursued by an applicant with substantial financial resources.

However, the ACCC notes that the amendments made in 2010 to streamline the declaration process are, to date, largely untested. It may be that these amendments, combined with the comments by the High Court in the recent *Pilbara* decision regarding the appropriate role of the Competition Tribunal, could serve to resolve some of the more significant concerns about the process.

In the issues paper for this inquiry, the PC asked a number of questions about these issues. The relevant questions are listed below.

Related questions in the PC's Issues Paper

- **Q** *Do all of the institutions involved in Part IIIA contribute to effective and efficient decision-making? If so, how? If not, how could their roles, or the interaction between them, be improved? (p. 23)*
- **Q** *How well do the Part IIIA institutional arrangements balance the need for sound, transparent and accountable decision-making against the cost of seeking (or denying) third party access? (p. 23)*
- **Q** *How effective is the National Access Regime in providing small firms with paths to access infrastructure services? (p. 23)*
- **Q** *Do current institutional arrangements provide a sufficient level of transparency and accountability for recommendations and decisions? (p. 23)*
- **Q** *Are there other institutional structures or decision-making arrangements (for example, arrangements for regulating access in the telecommunications or electricity sector) that work better than those currently in place for Part IIIA? (p. 23)*
- **Q** *Are there measures that could improve the flexibility and reduce complexity, costs and time for all parties involved in facilitating access to essential infrastructure? (p. 23)*

[68] The steps are: negotiate; NCC recommendation; Minister decision; Tribunal review (plus judicial review: Federal Court, Full Federal Court, High Court); negotiate; ACCC arbitration; Tribunal review (plus judicial review: Federal Court, Full Federal Court, High Court).

2.7.2 Processes involved in undertakings and arbitrations

As discussed in section 2.3 of this submission, the ACCC is of the view that the access undertakings process under Part IIIA has worked well. Factors contributing to this are:

Early and frequent engagement with proponents of access undertakings

- The ACCC engages in comprehensive pre-lodgement discussions and meetings with proponents of access undertakings. In these meetings the ACCC is able to provide infrastructure operators with information about the types of terms and conditions of access that are likely to be appropriate pursuant to Part IIIA. Many non-contentious issues (such as the scope of the undertaking, clarity and certainty of proposed drafting, and the negotiation framework) can be expeditiously dealt with during this process.

- The ACCC encourages prospective access providers to engage with relevant stakeholders on proposed undertakings prior to formal lodgement. This allows an access provider to deal with concerns raised by industry outside of the formal process and where possible, to get a broad consensus on particular positions or arrive at an acceptable compromise. Where the issues in play have been narrowed to those where a compromise cannot be reached, the decision making process is efficient.

Rigorous, transparent and wide-ranging consultation processes

- The ACCC conducts thorough consultation on proposed access undertakings. In the 2009 assessment of wheat port terminal access undertakings, for example, the ACCC released issues papers and draft decisions on each of the undertakings for consultation, sought and received 28 written submissions and met with wheat exporters, farming groups and other interested stakeholders multiple times during the course of assessment of the undertakings. This type of consultation process allows parties a number of opportunities to have their views considered by the ACCC as the drafting of the undertaking develops.

Timely decision-making

- Part IIIA sets time limits for ACCC decisions on access undertakings. The ACCC must make a decision on an access undertaking application within 180 days, beginning on the day that it receives the application.

- The 180 day period may be extended (in effect) by 'clock stoppers.' That is, the Act provides that certain periods of time are not counted when calculating the 180 period. This occurs where:

  - the ACCC and the access provider agree to stop the clock;

  - the ACCC gives a notice requesting further information in relation to the application;

  - the ACCC publishes a notice inviting public submissions in relation to an application; or

  - the ACCC publishes a decision to defer consideration of whether to accept the undertaking while the ACCC arbitrates an access dispute.

- If the ACCC does not publish a decision on the undertaking within the 180 day period (or longer period having regard to clock-stoppers), then the Act states that the application is deemed to have been rejected.

- The ACCC has published guidance on its website setting out the process for assessing an access undertaking under Part IIIA, including in relation to timing. This guidance states:

  - ACCC assessment of an access undertaking will involve different stages, and the steps in a simple assessment are set out below. These steps are an indicative guide of the process the ACCC may adopt when assessing an access undertaking. The actual process for having an undertaking considered by the ACCC will depend on the circumstances in each case, and will be informed by a number of matters, including but not limited to, the characteristics and complexity of the undertaking that is put forward. For some parts of the process legal requirements in the Act dictate steps the ACCC must follow.

  - Pre-lodgement - The ACCC strongly encourages parties contemplating submitting an access undertaking to first contact the ACCC to discuss their application. ACCC staff will be able to provide guidance on the ACCC's assessment process, and on matters that may be of significance during assessment of the undertaking.

  - Pre-lodgement discussions with ACCC staff are intended to facilitate the undertaking assessment process to the benefit of all parties, and they are not a replacement for a formal assessment process. The ACCC's ultimate decision on whether to accept or reject an access undertaking will occur following a thorough assessment, typically including public consultation.

  - Formal lodgement - The 'formal lodgement' of an access undertaking application will commence a 180 day statutory time period for the ACCC to make a decision. The ACCC expects that a formal access undertaking application will include sufficient information to enable the ACCC to begin its assessment (see further below).

  - Assessment - The ACCC will commence assessment of the undertaking application, having regard to the matters specified in the Act. The ACCC will usually conduct public consultation on the application, which may involve publishing the application on the ACCC's website, calling for submissions from interested parties, and holding meetings with relevant stakeholders. The ACCC may also request further information from the access provider or other parties.

  - Draft Decision - The ACCC will usually publish a Draft Decision, setting out its preliminary view on whether or not it thinks it is appropriate to accept the proposed undertaking, having regard to the matters specified in the Act, and explaining its reasons for reaching this view. The ACCC may alternatively set out its preliminary view in a Position Paper.

  - The ACCC's preliminary view takes into account all relevant information available up to that point. The ACCC will typically conduct further public consultation on its preliminary view, seeking further submissions from interested parties. The ACCC may consequently revise its preliminary view in light of new or additional information.

- If the ACCC expresses the preliminary view that an undertaking is not appropriate to accept, the ACCC may also provide guidance to the access provider on possible changes to the undertaking that, if incorporated, might make the undertaking more likely to be acceptable.

- *Further assessment*—Following publication of the ACCC's preliminary view, and consideration of any submissions from interested parties, the ACCC will form its decision.

- *Decision*—Having conducted its assessment, the ACCC will make a decision on whether it is appropriate to accept the undertaking, having regard to the matters specified in the Act. The ACCC will publish its decision and its reasons for reaching that decision.

- An ACCC decision about an access undertaking may be reviewed by the Australian Competition Tribunal. If the undertaking is accepted and the ACCC's decision is not subject to review, the provider is required to abide by the terms of the undertaking, and the undertaking can be enforced in the Federal Court.

- Consistent with the statutory requirements, the ACCC endeavours to make decisions in a timely manner. The ACCC recognises the importance of timely decisions in providing certainty for the businesses involved in access undertaking process (particularly the access provider and the access seeker). In practice, the actual time required to assess an undertaking application will depend on the circumstances in each case.

- The reality of the Part IIIA access undertaking process is that an access provider will often make more than one formal application in connection with a particular matter. This is because the access provider will withdraw its proposed access undertaking application after the ACCC releases its draft decision on that undertaking, and resubmit a revised access undertaking that addresses the ACCC's concerns as set out in the draft decision. Each time an access undertaking is resubmitted the 180 day timeframe re-starts. Therefore where it appears that a particular case has taken a long time to reach a decision, this may in fact reflect that the access provider has made and withdrawn multiple applications.

- A range of factors can also influence the timeframes of an access undertaking assessment. As noted above, the complexity of the issues involved, and the completeness of the information supplied by the access provider and other parties, can both have an impact on timeframes. Complex, technical or controversial issues necessarily require careful assessment, particularly to ensure that the views of relevant parties are heard and taken into account; this takes time. The ACCC also cannot make timely decisions if it does not have the necessary information to do so.

- Importantly, not all timing factors are within the ACCC's control. The access undertaking process is one under which the access provider submits the undertaking to the ACCC for assessment, and to a large extent timing is within the hands of the access provider. For instance, ARTC first submitted an access undertaking application in connection with the Hunter Valley rail network in April 2009; the ACCC made a decision to accept an undertaking from ARTC in June 2011. While this appears to be a long period, several factors must be unpacked. For instance, ARTC only submitted a partial undertaking application in April 2009. That is, while the undertaking included a framework to regulate ARTC's prices, the application itself did not include those prices; these were only submitted by ARTC in October 2009. The ACCC would not have been in a position to

make a decision in relation to that application in the absence of such crucial information. Consequently, the ACCC was obliged to extend the decision-making timeframe. (Note that at that point in time, the ACCC's statutory obligation was to use its best endeavours to make a decision in an application within 6 months, or extend the decision-making period). Similarly, in connection with ARTC's subsequent application, submitted in September 2010, ARTC twice requested a clock stopper to extend the period for assessment. The ACCC's final decision was in relation to the third application submitted by ARTC.[69]

- The first round of wheat access undertakings assessed by the ACCC took less than 6 months from lodgement, withdrawal and resubmission and acceptance by the ACCC (initial submission in mid-April 2009, decision in September 2009). In this case, there was a strong incentive on the parties submitting the undertakings to ensure a timely outcome, as the WEMA stipulated that if an access undertaking was not in place by 1 October, the parties would lose their accreditation to export bulk wheat. The ACCC was mindful of this imperative and recognised it in its decisions as a factor relevant to the legitimate business interests of the access providers.

- The ACCC must also adhere to natural justice/procedural fairness obligations when making its decisions. This means the ACCC must provide opportunities for interested parties to provide input into a decision that may affect their interests. The ACCC will therefore consult extensively on applications to ensure that all interested parties have an opportunity to be heard. The ACCC will also often request information from interested parties to ensure that the ACCC has the appropriate information before it when making decisions. Engaging in these processes necessarily takes time: importantly, the ACCC is mindful of the commercial realities of parties involved in undertaking processes and realises that sufficient time needs to be allowed for businesses to respond and provide input.

The ACCC's role in relation to arbitration, while rarely used, has also been successful (see section 2.4).

2.7.3 Processes involved in declaration

The concerns with the procedural aspects of the declaration process include time, cost and complexity.

Two cases illustrate the concerns with the procedural aspects of Part IIIA declaration. In recent years, Fortescue Metals Group (FMG) applied for declaration of rail services operated by BHP Billiton and Rio Tinto in the Pilbara region of Western Australia. The declaration applications have progressed through the various stages of Part IIIA, including appeals to the High Court on jurisdictional points and on the substance of the matter. As a result, the case has been on foot for a significant period.

As discussed in section 2.1.4, on 14 September 2012, the High Court handed down its latest judgment in relation to FMG's application. The Court:

- endorsed a 'privately unprofitable' interpretation of declaration criterion and

[69] The timeline for the assessment of the Hunter Valley access undertaking is set out in the ACCC's June 2011 Decision (pp. 25-6).

- remitted the matter to the Australian Competition Tribunal for determination.[70]

In the Fortescue decision, the Tribunal noted that obtaining access via declaration under Part IIIA can potentially involve up to nine steps: NCC recommendation; Ministerial declaration; Tribunal review; appeals to the court; possible remitter; negotiations for access; arbitration; further Tribunal review; further appeals to the court. Hence, the Tribunal noted, a complex case may require four to five years to complete.[71]

Previously, in October 2002, Virgin Blue applied to the NCC for declaration of domestic airside services at Sydney Airport. The NCC made its recommendation not to declare in November 2003, and in January 2004 the Minister agreed not to declare the services. Virgin Blue sought review of the decision in January 2004. The Tribunal overturned the Minister's decision and determined that the services be declared to December 2010. The Federal Court upheld the Tribunal's determination in 2006. In 2007, Virgin Blue notified the ACCC of an access dispute with Sydney Airport, though the notification was withdrawn following a successful commercial settlement.

The implications to draw from these examples must be assessed carefully. These examples demonstrate that it is possible for a declaration application to stretch into several years without reaching conclusion. Declaration is also only the first stage of the access process under Part IIIA. Following declaration, parties may seek to negotiate access and notify a dispute to the ACCC for arbitration if they cannot reach agreement. The ACCC's arbitration determination may be reviewed by the Tribunal (which is a de novo hearing), and the Tribunal's decision may be appealed to the Court.

The significance of this is twofold. First, there is the cost to business of participating in a process that may run for several years. The issues involved in a declaration application and arbitration may be economic, legal and commercial, and the expenses associated with retaining specialist expertise for a sustained period can be considerable. More indirectly, there is a cost to the economy of delayed access. This is of particular concern where a well funded party draws out the declaration and arbitration process through its various stages in order to exhaust the resources of its opponent.

A second implication is the effect on the perception and credibility of the National Access Regime. Part IIIA is predicated on a preference for commercial negotiations, and for declaration and arbitration to exist as a fallback in the event that parties cannot reach mutually acceptable access terms. Where it has been demonstrated that the Part IIIA process may take up to 7 years without resolution (whether or not that case is an exception), the viability to a potential access seeker of applying for declaration may be reduced. This undermines the credibility of the National Access Regime and its effectiveness to address the market failure problems discussed earlier.

That said, Part IIIA has been amended subsequent to the commencement of these cases, such that the regime that currently operates is not the same as the one that existed when these cases began. In 2010 in particular, amendments were made to the CCA to streamline the declaration process.[72] These included:

---

70 A decision by the Australian Competition Tribunal is expected to be handed down early in 2013.

71 *Re Fortescue Metals Group Ltd* (2010) 271 ALR 256 at 474 [1350]

72 *Trade Practices Amendment (Infrastructure Access) Act 2010* (Cth).

- enabling the NCC to approve reasonable amendments to a declaration application, provided it would not cause undue delay or prejudice
- imposing a 180 day time limit on the NCC for making its recommendation to the Minister, and on the Tribunal to make its decision (though both are subject to clock-stoppers)
- limiting the material considered by the Tribunal in a review of a declaration decision to the material that was before the Minister (or NCC in the case of deemed decisions), unless the Tribunal requests additional material
- removing the automatic stay of a declaration decision where an application for review is made (though the Tribunal may order a stay).

These amendments may lead to more timely outcomes, though their effect is to date largely untested. Since their introduction, only one declaration application has been made. On 27 September 2011, the Board of Airline Representatives of Australia (BARA), an industry group representing international airlines, applied for declaration of two related jet fuel supply services at Sydney Airport. On 15 March 2012, the NCC made its recommendation to the Minister, and on 10 May 2012 the Minister announced his decision not to declare the services. Review was not sought of the Minister's decision. This example demonstrates a relatively swift resolution of declaration proceedings, though the absence of any review is notable in that regard. Whether the amendments facilitate timely resolution of a complex case subject to review is yet to be determined.

Further, arguably the Pilbara and Sydney Airport cases are exceptional, representing the extreme end of what may occur under the declaration process. As noted, 25 applications have been made to the NCC since 1995 for declaration of services. Of these, 7 have resulted in services being declared, 10 have resulted in services not been declared (including 3 deemed decisions not to declare), 6 have been withdrawn and there are also the Robe and Hamersley applications that have been remitted by the High Court to the Tribunal. In many cases, declaration applications have concluded with the parties reaching a commercial agreement.

Also relevant to note is that, in the High Court Fortescue decision, the majority held that the Competition Tribunal had gone beyond the task given to it under the CCA. The High Court noted that the Competition Tribunal's task is to review the Minister's decisions by reconsidering the material before the Minister supplemented, if necessary, by any information given to the Tribunal by the NCC. This may serve to resolve a number of concerns with the merits review process.

2.8 Review of regulatory decisions

2.8.1 Key points

The ACCC supports appropriate reviews of decisions in promoting confidence in regulatory decision-making and in minimising the risk of regulatory error.

In terms of merits review under Part IIIA, as noted above, it is relevant that in the recent High Court Fortescue decision, the majority held that the Competition Tribunal had gone beyond the task given to it under the CCA. This, combined with recent amendments to Part IIIA discussed above, may serve to resolve a number of concerns with the merits review process.

In the issues paper for this inquiry, the PC asked a number of questions about review processes. The relevant questions are listed below.

Related questions in the PC's Issues Paper

- **Q** *What is the rationale for merits reviews under Part IIIA? Could judicial review suffice? (p. 26)*
- **Q** *Are merits reviews of ministerial and ACCC decisions appropriate in the context of Part IIIA? Why or why not? (p. 26)*

2.8.2 Trade-offs in review mechanisms

The ACCC recognises the importance of accountability in promoting confidence in regulatory decision-making and in minimising the risk of regulatory error. As noted in chapter 6, effective appeal mechanisms may promote confidence in the regulatory regime by infrastructure investors. Review mechanisms can provide a credible commitment by government that regulatory decisions will be correct in law, unbiased, based on relevant evidence, and not subject to regulatory opportunism. Yarrow (2012, p. 16) noted in a report to the Australian Energy Market Commission (AEMC):

> *All 'discretionary' regulatory activity is subject to scrutiny and supervision (whether by courts, tribunals or by other administrative agencies), and the greater the discretion at the decision stage the greater tends to be the ex post supervision (by courts, tribunals, etc.). … well functioning economic and political systems will tend toward establishment of appropriate checks and balances (e.g. judicial supervision, competitive markets).*

The ACCC notes, however, that review mechanisms involve difficult trade-offs between certainty, cost and timeliness of regulatory decision making on the one hand and promoting confidence in regulatory processes by providing appeal opportunities on the other. These trade-offs have been recognised by international regulators (see chapter 6). Yarrow (2012, p. 16) also highlighted the trade-offs, commenting that judicial review 'can be very resource intensive in situations where new law is being developed' and 'legal processes can become slow and cumbersome'.

Box 2.2: Review provisions in Australian access regimes

National Access Regime: The National Access Regime was established by Part IIIA of the *Trade Practices Act 1974* in 1995. While it was originally proposed to limit appeals against the arbitrator's decision to matters of law (that is, judicial review), the regime initially provided for full merits review by the Australian Competition Tribunal of declaration and arbitration decisions. Following a review by the PC, merits review was extended in 2006 to decisions on access undertakings submitted by infrastructure operators.

In 2010, the merits review provisions in Part IIIA of the now *Competition and Consumer Act 2010* (CCA) were amended to reduce the timeframes and uncertainty associated with merits review processes by:

- imposing a 21-day time limit for applications for review of declaration decisions
- giving the Tribunal an indicative time limit of 180 days (subject to certain extension provisions) and
- limiting the material that can be considered by the Tribunal.

Telecommunications access regime: When the telecommunications-specific access regime (Part XIC) was inserted into the Act in 1997, most decisions were subject to full merits review, including decisions on access undertakings and arbitration of access disputes, but not declarations (although exemptions from the access obligations were). In 2002, Part XIC was amended, following a review by the PC, to reduce the availability of merits review and reduce the cost and delay associated with such review. In 2010, amendments to Part XIC in the CCA removed merits review from the telecommunications-specific access regime.

Energy access regimes: In 2005, the National Electricity Code was replaced by the National Electricity Law and in 2008, the electricity framework was replicated in a new National Gas Law. These Laws provided for limited merits review for both gas access arrangement and electricity determinations by the AER. The Tribunal has an indicative time limit of three months.

Assessments of merits review: In 2006, following a report on Australia's export infrastructure (Exports and Infrastructure Taskforce 2005), Australian governments agreed to limit merits review of regulatory decisions (where available) to the information submitted to the regulator. In 2007, this was revised to allow the review body to admit new information in limited circumstances.

Recently, concerns about large electricity and gas price rises and shortcomings in the rules for setting prices for energy network businesses have prompted several inquiries, including a review of the limited merits review regime (AER 2012, p. 2).

Assessment of the outcomes of limited merits review of electricity and gas regulatory decisions (Yarrow, Egan and Tamblyn 2012, pp. 2-4) has found that the regime has not adequately taken into account the interests of all stakeholders, failed to explicitly consider the long term interests of consumers, and had the immediate effect, in some cases, of increasing prices for users and consumers. An 'insufficiently holistic' approach to correcting errors (often described as 'cherry picking') has created concerns that Tribunal decisions are unbalanced, unjust or unreasonable (p. 103). The report concluded that these outcomes have led to doubts about the legitimacy of the regime and undermined trust and confidence in regulatory processes.

Review processes have had a complex history in Australia across the different regulated sectors (box 2.2). Finding the right balance in designing review mechanisms continues to be a critical issue in regulatory policy.

The ACCC is currently undertaking a major research project to identify lessons from international regulatory practices (further details are provided in chapter 6). One focus of this project is examining more closely the relationships along the entire 'regulatory supply chain', including levels of prescription, the extent of consultation, and discretion within the decision-making process, to identify any international lessons in how to improve appeal processes and outcomes.

2.9 Other issues

The PC asked a number of questions in its issues paper that have not been addressed in the preceding sections of this chapter. These questions are listed below and addressed in this section.

Questions in the PC's Issues Paper

Q *What would happen in the absence of the National Access Regime, without each of the*

(a) declaration

(b) certification

(c) undertaking pathways?

Would governments expand the use of other policy measures or implement new ones? What are the costs and benefits of these alternatives? (p. 20)

Q *Is competitive tendering an effective approach to promoting the efficient supply of services provided by government-owned infrastructure? Why have there been no ACCC-approved competitive tender schemes? (p. 28)*

Q *What alternative policy measures to the National Access Regime could be used to promote effective competition in upstream and downstream markets? (p. 29)*

Q *What alternative policy measures could be used to facilitate access to services provided by nationally significant infrastructure? (p. 29)*

Q *Are there approaches used internationally to promote effective competition in upstream and downstream markets that could be practically implemented in an Australian context? (p. 29)*

2.9.1 Implications of absence of National Access Regime

From the perspective of the ACCC's current work in relation to Part IIIA, the most significant implication of the absence of the National Access Regime would be the impact upon the access regulation of ARTC's interstate and Hunter Valley rail networks and Australia's wheat port terminals (given that the access arrangements governing these services were proffered under Part IIIA). In the absence of the Part IIIA provisions, there would no longer be a clear framework for assessing undertakings or legislative provisions for approving access undertakings.

Other likely implications of the absence of the National Access Regime were identified in section 2.1.5 above. In summary:

- A generic access regime ensures that a mechanism exists for seeking access to infrastructure facilities that do not fall within the scope of an industry-specific access regime. The generic framework established by the National Access Regime sets out a clear process and integrates

checks and balances for facilitating access where it will promote efficiency and competition. It also provides flexibility to address bottlenecks that may arise in future as a result of industry, demand and technological changes.

- The existence of a generic access regime may facilitate commercial access negotiations and avoid the need for declaration or other regulatory intervention.
- By providing an overarching template or model for industry-specific and state and territory access regimes, a generic access regime can promote consistency (to the extent appropriate) across regimes.

2.9.2 Alternative policy measures

The National Access Regime sits alongside, but is not a substitute for, other policy measures that can facilitate access to services provided by infrastructure owners with monopoly characteristics. These include section 46 of the CCA as well as the ACCC's authorisation procedures under Pt VII of the CCA.

Section 46

Section 46 of the CCA provides that a corporation that has a substantial degree of power in a market shall not take advantage of that power in that or any other market for the purpose of:

- eliminating or substantially damaging a competitor of the corporation or of a body corporate that is related to the corporation in that or any other market
- preventing the entry of a person into that or any other market, or
- deterring or preventing a person from engaging in competitive conduct in that or any other market.

Section 46 is potentially applicable to situations involving access to services provided by infrastructure owners with monopoly characteristics. If the facility in question has natural monopoly characteristics, it is likely to mean that its owner has a substantial degree of market power. It may be possible to characterise a refusal to provide access as a use of that power. Further, a refusal to provide access to a facility might be motivated by one of the three anti-competitive purposes.

There have been a number of instances of section 46 being successfully used by parties seeking access to a product or service provided by another party. The first significant case was *Queensland Wire Industries Pty Ltd v Broken Hill Proprietary Co Ltd*.[73]

In this case, Queensland Wire Industries Pty Ltd (QWI) alleged that Broken Hill Proprietary Co Ltd (BHP) had contravened section 46 of the Trade Practices Act (now the CCA) through a constructive refusal to supply.

Queensland Wire sought supply of Y-bar, a product manufactured by BHP and used in the manufacture of "star picket posts". These posts are used to construct the most popular kind of rural wire fencing in Australia. Between them, Queensland Wire and BHP supplied nearly all of the rural steel fencing in Queensland.

[73] (1989) 167 CLR 177.

Queensland Wire and BHP were at that time the only manufacturers of galvanised wire in Australia, and the High Court noted that Queensland Wire had competed "fairly effectively" with BHP's subsidiary in the market for that product in Queensland and northern New South Wales.

BHP was the only manufacturer of Y-bar in Australia and no significant quantities had been imported. Queensland Wire sought to acquire Y-bar from BHP so that it could also make the star picket posts.

BHP initially refused to supply Y-bar in its raw input form, instead supplying it as finished star picket posts. BHP later offered to supply Y-bar but at an extremely high price. BHP claimed its policy to either refuse supply or supply at an uncompetitive price was to preserve its own business in the manufacture and wholesale supply of fence posts.

In November 1984 Queensland Wire filed a claim in the Federal Court alleging that BHP had violated section 46 of the Act by constructively refusing to sell Y-bar. In the first instance, Queensland Wire's application was dismissed by the Federal Court on the ground that BHP had not 'taken advantage' of its market power within the meaning of section 46, because BHP's conduct was not "reprehensible" or "predatory or unfair".

The Full Court of the Federal Court found that BHP had acted with the purpose of preventing Queensland Wire from competing with it in the market for star picket fencing. However, the Full Court also dismissed Queensland Wire's application for a different reason, finding that because Y-bar had never been sold, there had never been a market for Y-bar so as to attract the operation of section 46.

On appeal, the High Court found that it was "not necessary" for Queensland Wire to establish that the relevant market is the Y-bar market and that "by focusing on that market the Full Court was in error". The High Court also noted that an absence of existing buyers did not mean there was no market for Y-bar.

Consequently, the High Court upheld Queensland Wire's claim that BHP had misused its market power, in violation of section 46, by effectively refusing to sell Y-bar to Queensland Wire. The High Court remitted the matter to the Federal Court for determination of any entitlements to injunctions or damages by Queensland Wire.

Another significant case *was NT Power Generation v Power and Water Authority* (NT Power).[74]

In this case, the Power and Water Authority (PAWA) was a corporation established by legislation to generate, reticulate, distribute and sell electricity in the Northern Territory and was empowered to license persons to generate and sell electricity in various regions of the Northern Territory.

NT Power Generation Pty Ltd (NT Power) operated a power station which supplied electricity to certain mining operations under a licence granted by PAWA. NT Power desired to expand its operations and supply electricity to a wider range of Northern Territory consumers. In 1998, PAWA

[74] At first instance: *NT Power Generation Pty Ltd v Power & Water Authority* (2001) 184 ALR 481 (*NT Power)*; On appeal to the Full Federal Court: *NT Power Generation Pty Ltd v Power and Water Authority* [2002] FCAFC 302 (*NT Power FCA*); On appeal to the High Court: *NT Power Generation Pty Ltd v Power and Water Authority* (2004) 210 ALR 312 (*NT Power HCA)*.

granted NT Power a three-year licence to sell electricity generated at its power station to consumers in the Darwin/Katherine region and to PAWA. In order to supply electricity to these customers however, NT Power needed access to infrastructure owned by PAWA.

Although NT Power and PAWA had been in negotiations to reach an agreement that would provide NT Power with access to PAWA's infrastructure, negotiations concluded without a contract being signed. One of PAWA's reasons for negotiations being discontinued was that an access regime for electricity infrastructure was in the 'distant horizon' and that it refused access in the interests of 'sensible competition' being implemented. Another reason was that PAWA was concerned that NT Power would 'cherry pick' PAWA's profitable business customers that subsidised its community service obligations to supply electricity to remote communities.

In response to this failure to gain access, NT Power claimed that by refusing to supply NT Power with access to the infrastructure (or continue negotiations regarding such access), PAWA had taken advantage of the substantial degree of power it had in the Northern Territory electricity transmission and distribution markets for the purpose of deterring or preventing NT Power from engaging in competitive conduct in those markets in contravention of section 46.

The High Court granted NT Power leave to appeal following the decision of the Full Federal Court (2 October 2002) to dismiss its appeal. NT Power were appealing from the judgment of Mansfield J (3 April 2001) which dismissed NT Power's application seeking orders requiring PAWA, the first respondent, to provide it with access to use of electricity transmission and distribution facilities owned by PAWA in the Northern Territory.

The High Court overturned the decision of the Full Court, considering that all elements of section 46 had been established, finding that PAWA did take advantage of its market power for a proscribed purpose in refusing access to NT Power to use PAWA's electricity transmission and distribution facilities.

However, as noted by the Hilmer report (Independent Committee of Inquiry 1993), there were difficulties with utilising section 46 in relation to access issues. These include:

- A necessary inquiry under section 46 relates to the purpose of conduct, whereas access issues under Part IIIA are determined on the basis of economic principles (Independent Committee of Inquiry 1993, p. 243). The ACCC considers that questions about the purpose of conduct are not relevant considerations in relation to market failure associated with natural monopoly characteristics. Part IIIA seeks to provide access to facilities for the purposes of ensuring economically efficient and competitive markets. Whether or not access is made available under Part IIIA should depend on economic principles rather than the purpose of conduct by the access provider.

- While section 46 may be able to deal with a vertically-integrated firm's refusal to provide access to a service, it is unable to resolve issues of monopoly pricing by a structurally-separated firm

(ARTC, for example). Monopoly pricing is a key issue addressed by Part IIIA. It is not prohibited by section 46.[75]

- Relief under section 46 (court-imposed penalties and injunctions) does not lend itself easily to setting specific terms and conditions of access, and courts would be reluctant to determine a 'reasonable price' of access (Independent Committee of Inquiry 1993, pp. 243-44).

Perhaps because of these reasons, in practice, access seekers in Australia have tended to trigger processes under Part IIIA rather than rely upon section 46. A recent article (Decker and Gray, 2012) examining this issue notes:

> From 1995 to 31 August 2012, there were fifteen applications under Part IIIA for declaration of a service where the access provider operated in a related market in potential competition with the applicant. These applications concerned access to: railway tracks used to transport products to ports where the track entity competed in the final product market (coal or sugar); railway tracks where the track entity also provided above-rail services; water storage and transport, sewerage, and electricity networks where the State-owned corporation also provided a retail supply.
>
> In contrast, over this seventeen year period, there was only one significant case where the access seeker elected to commence proceedings for a contravention of the relevant competition law provisions in Part IV rather than seek declaration under Part IIIA. NT Power (a gas-powered electricity generator) alleged that the Power and Water Authority (a vertically integrated enterprise owned by the Northern Territory) had refused to allow NT Power access to the electricity network to sell electricity to consumers. In 2004, the High Court of Australia found that the Authority was subject to section 46, and had contravened this section by denying access to its infrastructure to protect its electricity sales revenue.[76]

Authorisation

The ACCC's authorisation role pursuant to Part VII of the CCA also sits along-side, and to some extent can complement, the National Access Regime.

Authorisation is a process under which the ACCC, in response to an application, can grant immunity on public benefit grounds against action under the competition provisions of the CCA. Authorisation may be sought in relation to any of the competition prohibitions under Part IV of the Act except for misuse of market power. Generally, the ACCC can grant immunity from the application of the competition provisions in the CCA if it is satisfied that the public benefit from the conduct outweighs any public detriment.

One example of where the ACCC's authorisation role complements measures in Part IIIA relates to arrangements to address the imbalance between the demand for coal loading services at the Port of Newcastle and the capacity of the Hunter Valley coal chain.

---

[75] The Hilmer Report noted (at p. 187) that at the time there was no provision in the TPA that would address the issues of monopoly pricing.

[76] Decker and Gray, 2012, pp. 11 – 12.

As discussed in section 2.3 of this submission, the ACCC has a role under Part IIIA in relation to assessing and ensuring compliance with an access undertaking from ARTC for the Hunter Valley rail network.

In the years prior to the ACCC finalising access arrangements for the rail network, the ACCC had a role in assessing applications for authorisation for various capacity management systems at the port of Newcastle. The applications arose because in 2003-2004 excess demand for coal loading services at the Newcastle port resulted in large vessel queues forming offshore. Over time, industry participants worked to understand and develop solutions to the capacity management problems plaguing the network.

In 2004, the operator of the then only coal loader in Newcastle, Port Waratah Coal Services (PWCS), first sought authorisation for a queue management system, (the 'Capacity Balancing System') which was designed to address the imbalance between the demand for coal loading services at the Port of Newcastle and the capacity of the Hunter Valley coal chain.

The ACCC considered capacity balancing systems were in the public interest as transitional measures only and continued to encourage the industry to develop a longer-term solution to the underlying issues contributing to the capacity imbalance in the Hunter Valley – including the common user provisions in PWCS' lease, which was restricting its ability to enter long term contracts to underpin port investment, and service providers contracting based on assessments of individual capacity without reference to the capacity of the coal chain as a whole. In 2009 the ACCC granted the most recent authorisation to PWCS, Newcastle Port Corporation and the Newcastle Coal Infrastructure Group for long-term Capacity Framework Arrangements at the Port of Newcastle until 31 December 2024. These arrangements:

- allow producers to sign long-term export contracts with PWCS for the first time which will underpin future investment decisions to expand capacity
- establish a framework which should assist producers to align their contracts with track and rail operators in the Hunter Valley
- support centralised modelling of system capacity and monitoring of performance standards.

Among the public benefits, the ACCC considered that the Capacity Framework Arrangements are likely to generate significant public benefits because they enable coal producers to sign long-term coal export contracts at the port, which establishes a commercial framework to support accurate and timely investment decisions in the Hunter Valley coal chain.

2.9.4 International approaches

In regulating infrastructure industries, the ACCC/AER aims to implement effective regulatory measures that improve economic efficiency and promote the welfare of Australians. Regular review of regulatory practices and processes is, in the ACCC's view, an essential element in maintaining a focus on best-practice regulation. The ACCC considers that learning from the experiences of regulators in other jurisdictions assists in identifying best practice regulatory practices and processes.

Chapter 6 summarises findings from an ongoing research program by the ACCC into general issues in the practice of regulation across different infrastructure sectors and a broad range of OECD countries. The purpose of the research is to identify potential improvements in regulatory design and processes, including factors relevant to designing effective processes and decision-making frameworks for facilitating third party access to infrastructure.

The ACCC expects to publish its report on the findings of the current research project during 2013. Further details on the progress of the research and initial findings can be made available to the PC on request.

Chapter 3: The rationale for regulating access to infrastructure

The ACCC's views on the role and objectives of the National Access Regime are discussed in chapter 2. This chapter provides a fuller discussion of the economic rationale for regulating access to infrastructure and places Australia's current frameworks for regulating infrastructure access within a broader historical and international context.

The terms of reference (TOR) for the inquiry require the PC to undertake a broad examination and assessment of the reasons for regulating access to infrastructure and the effectiveness of access regulation, and other possible policy measures, in helping to ensure effective and responsive delivery of infrastructure services and promote economic efficiency.

In examining the rationale, role and objectives of the National Access Regime established under Part IIIA of the *Competition and Consumer Act 2010* (CCA), and Australia's overall framework for regulating infrastructure access, the PC is required to comment on 'the full range of economic costs and benefits of infrastructure regulation, including contributions to economic growth and productivity' (TOR 1a).

Broadly speaking, the infrastructure reforms undertaken over the past two decades are well regarded. The former chairman of the PC, Gary Banks (2010), assessed the competition reforms as successful in addressing the problems caused by 'inefficient government monopolies'. He stated that the reforms were built on a 'foundation of evidence', a broad-ranging and lengthy consultation process, identification of procedures for identifying and implementing reforms, and strong political leadership. Banks attributes 'higher productivity and lower costs' in the energy, telecommunications, transport and water industries to these reforms.

Similarly, the OECD (2005, p. 2) identified Australia's microeconomic reform program as making an important contribution to prolonged good economic performance:

> *In the last decade of the 20th century, Australia became a model for other OECD countries in two respects: first, the tenacity and thoroughness with which deep structural reforms were proposed, discussed, legislated, implemented and followed-up in virtually all markets, creating a deep-seated 'competition culture'. ... [Combined with stable fiscal and monetary policy, this] resulted in a prolonged period of good economic performance that shrugged off crises in its main trading partners as well as a devastating drought ...*

Australia's microeconomic reform program included a number of regulatory reforms designed to promote competition, where feasible—one such reform was the creation of a National Access Regime (under Part IIIA of the *Trade Practices Act 1974* (TPA), now the CCA). The establishment of a general access regime was prompted, in large part, by the findings of an independent review chaired by Professor Fred Hilmer (Independent Committee of Inquiry 1993), which highlighted the productivity and welfare benefits from promoting competition in markets upstream and downstream from bottleneck infrastructure which has natural monopoly characteristics.

In the ACCC's view, it is timely, after nearly two decades of experience with the National Access regime, for the PC to conduct a full evaluation of the rationale for, and benefits and costs, of the regime. Such an evaluation will contribute to ensuring that the regime continues to promote Australia's economic performance, productivity levels and competitiveness.

The ACCC considers that regulatory intervention should be justified by rigorous assessment of the benefits and costs of regulating (including effective stakeholder and community consultation and consideration of alternatives to regulation). In addition, for regulation to achieve its objectives in an efficient and effective way, it is important to tailor the regulatory approach to address the specific circumstances of the industry and the problem(s) to be addressed. Applying 'best practice' regulatory principles to decisions on regulating infrastructure industries is, in the ACCC's view, a critical part of the decision-making process.

Section 3.1 describes the historical and international context for infrastructure access regulation. Section 3.2 identifies the economic and other benefits expected from infrastructure regulation, with reference to both economic theory and practical examples from the ACCC's experience in regulating infrastructure operators. Finally, section 3.3 highlights that identifying valid economic or other reasons for regulating an industry or particular infrastructure assets is not sufficient of itself to justify regulation—it is essential to identify and assess the costs of regulating, recognising that regulation is typically imperfect and costly.

3.1 Background: the historical and international context

Governments have long placed constraints on the behaviour of infrastructure businesses, initially (from the middle of the 19th century) either through public ownership or by regulating privately-owned businesses.

While different regulatory and governance arrangements have been adopted over time and in different countries, there has been broad acceptance by governments (and economists, dating back to Adam Smith) that certain inherent characteristics of infrastructure industries necessitate some form of government involvement in those industries.[77] For example, in late nineteenth century America, it was realised that it was more cost-efficient to have one railway line covering a particular area than a series of competing lines.[78] Subsequently, economic thinking at the time changed focus from creating competition in the railway industry to encouraging and regulating the railway monopoly to promote efficiency. Economic regulation evolved as the complement to privately-owned natural monopoly infrastructure.

Following a Supreme Court decision in 1898 (*Smyth v Ames*), economic regulation in the United States (US) typically adopted a cost-plus formula, or rate-of-return approach, reflecting the Court's

[77] A rudimentary concept of 'natural monopoly' was developed in the late nineteenth century amongst economic thinkers (see Albon 1991). Terms like 'practical monopoly' and 'essential monopoly' were used, but the meaning was clear: least-cost provision of a service by a single operation based on economies of scale, economies of scope and/or economies of coordination. This realisation led to a debate about the implications for public policy—with the appropriate government response seen to range from complete government control (through government ownership) through to government regulation of private providers (Albon 1991, pp. 26-7). In France, Jules Dupuit (1848) and his colleagues established a tradition of cost-benefit analysis (based partly on his invention of 'consumer surplus') and applied it to infrastructure such as rail, roads, canals and water supply. Dupuit understood the implications of natural monopoly for unit costs, and considered issues relating to competition versus regulation in industries such as rail and water supply.

[78] As McCraw (1994) explains, the earliest railway operators found that they could transport large numbers of passengers and huge loads of freight at only slightly more expense to themselves than when they carried one box and one passenger. Average costs would decrease until the train was fully loaded. The discovery of economies of scale went to the heart, McCraw argues, of what was seen in America at the time as the 'railway problem', that is, competition and the cheapest possible transportation, were not compatible.

ruling that the regulated business was entitled to a 'reasonable' return on 'the fair value of the property being used for the convenience of the public'. Utility regulation cycled between a broad-based perspective addressing economic benefit to American society as a whole and a focus on legal due process and individual rights.

In the United Kingdom (UK) and Europe, governments experimented with various methods of regulating monopoly infrastructure providers, including licence and franchise obligations, judicial processes, elected boards, stakeholder representation and professionally appointed civil-service regulators. In contrast to the US, the failure to find adequate regulatory solutions led to a policy of nationalisation. Government ownership under ministerial control became the dominant mode of monopoly control across much of Europe and the UK (Hannah 2009). Furthermore, government coordination was considered necessary to achieve the reconstruction and major investments in infrastructure required after World War II.

In Australia, infrastructure provision by government had been part of colonial economic development—what the economic historian, Noel Butlin (1994), has termed 'colonial socialism'. From 1861 to 1900, government outlays in Australia accounted for a far higher proportion of total capital outlays than in other capitalist countries. Well into the twentieth century, government enterprises and nationalisation were seen as a way to combat private monopoly and achieve social justice.[79]

However, from the 1970s, concern grew about the negative productivity and welfare impacts of public ownership (largely in the UK, European countries and Australia) and about 'regulatory failure' and continuing misuse of private monopoly power (mainly in the US).Economic downturn increased the significance of these concerns and the desire to boost productivity and economic growth.

In the US, a new generation of economists at the University of Chicago argued that much economic regulation of industry served to promote the interests of the regulated industry, not the broader community. Alfred Kahn's seminal work, *The Economics of Regulation: Principles and Institutions,* was published in 1971. When Kahn became chairman of the Civil Aeronautics Board, he worked towards a policy of de-regulation, which was adopted in 1978. This new economic thinking re-focused attention on market solutions, the benefits of competition and efficient pricing. At the same time antitrust cases, especially in communications, were used as a complement to regulation to achieve increased competition (see, for example, Baker 2003; Carlton and Picker 2013; Kovacic and Shapiro 2000).

These developments had a significant influence on economic thinking in Europe, the UK, Australia and New Zealand. In addition, there was evidence of significant inefficiencies in government-owned enterprises and analysis showing that the lack of productivity and investment in these utilities was hindering overall productivity growth and economic performance.

Through the 1980s and 1990s, a range of reforms were adopted in a number of European countries, the UK, Australia and New Zealand. These reforms included:

- corporatisation of government-owned enterprises to give them a separate legal identity, a more commercial focus and clearer objectives

[79] A detailed history of the evolution of infrastructure regulation in Australia is available in an ACCC/AER working paper by Harriet Gray (2009).

- structural reforms in some industries, involving some type of separation of upstream and downstream operations
- the introduction of competition and associated regulation of access by third parties to essential (bottleneck) services provided by infrastructure with natural monopoly characteristics
- changed governance arrangements, with the regulator being made more independent of government and the privatisation of some government-owned enterprises.

In the very broadest terms, there was a convergence between American and European thinking in the late twentieth century about governance and the role of independent agencies administering economic regulation for services provided by infrastructure with natural monopoly characteristics. However, the US model of rate-of-return regulation by independent industry-specific commissions was criticised for distorting incentives for productive and dynamic efficiency (and the consequential impact on service quality), excessive legalism and the capture by private (industry) interests. In the UK and New Zealand, there was an interest in incentive regulation. It was hoped that this would be regulation with a light touch (later referred to as 'light-handed' regulation).

3.1.1 Australian regulatory reform since the 1970s

In Australia, the *Trade Practices Act 1974* (TPA) established the Trade Practices Commission to enforce the competition and consumer protection provisions contained in the Act. Other institutional reforms were then made. The Government enacted the *Prices Surveillance Act 1983*, establishing the Prices Surveillance Authority, as part of the Accord agreement with the Australian Council of Trade Unions to control prices and wages. Similar to the reform process in the UK and Europe, Australian governments embarked, in the 1980s, on a reform program that sought to make Government Business Enterprises (GBEs) more independent from government, more efficient and more responsive to consumer demands.

In 1991, the Australian Commonwealth, States and Territories reached agreement on the need for a national competition policy. An Independent Committee of Inquiry, now referred to as the Hilmer Review, was established to answer a number of critical questions:[80] What type of regulatory regime was required to fulfil the policy objective of improving the efficiency of Australia's public utilities and more generally of Australian industry? What type of regulatory institutions would be required to administer these reforms?

In 1995, in response to the Hilmer Report (Independent Committee of Inquiry 1993), the Commonwealth and States reached a final agreement on a National Competition Policy (NCP), which was intended to 'facilitate effective competition in the interests of economic efficiency'. The NCP reforms included:

- the establishment of an access regime (Part IIIA of the then TPA, now the *Competition and Consumer Act 2010* (CCA))
- further reform of GBEs, including consideration of independent prices oversight, competitive neutrality and reviews to be undertaken before privatisation of a public monopoly

[80] The terms of reference are set out in Independent Committee of Inquiry 1993, Annex A.

- the establishment, in place of the Trade Practices Commission and Prices Surveillance Authority, of the Australian Competition and Consumer Commission (ACCC) as an economy-wide regulator with responsibility for economic regulation, as well as competition law and consumer protection
- the establishment of the National Competition Council (NCC) by agreement of the Council of Australian Governments (COAG) to recommend on the regulation of third party access to services provided by monopoly infrastructure.

A regulatory structure underpinned by complex and sophisticated sets of processes and procedures is now in place. Based on learnings from both experience and formal reviews, changes and adjustments have been made to the legislative provisions and to a number of the processes and practices underpinning the regulatory structure.

3.1.2 Industry-specific regulatory reforms under National Competition Policy

Industry-specific microeconomic reforms were initiated and implemented from the 1990s as part of the NCP.

Fundamental reforms occurred in energy. State and Territory governments (as a condition for NCP payments by the Commonwealth) reached agreement on the creation of a national electricity market in the eastern States underpinned by an open access regime (in 1996) and a code for the economic regulation of natural gas pipelines (in 1997). Subject to certain exceptions, regulation was divided between the ACCC (transmission) and State and Territory regulators (distribution).

In the telecommunications industry, limited competition was introduced with the creation of two fixed line carrier licences in 1992 (for Telstra and Optus) and three mobile-operator licences in 1991, followed by open competition after June 1997. With the introduction of open competition, the industry-specific regulator (AUSTEL) was replaced by the ACCC and a telecommunications-specific competition and access regime was established under Part XIC of the TPA (now the CCA). Amendments to the CCA in 2010 introduced provisions for the ACCC to make up-front access determinations specifying price and non-price terms and conditions.

The process of airport privatisation commenced in 1996 through the use of long-term (99-year) leases. This was accompanied by a transitional (five-year) price-cap regime administered by the ACCC, and an industry-specific process for applying the National Access Regime provisions. These measures were subsequently replaced by annual price monitoring by the ACCC following a PC review in 2001-02.

In rail, the Commonwealth and State governments reached agreement (in 1997) on a national track authority (Australian Rail Track Corporation (ARTC)) to provide access to the interstate standard gauge rail network. Access undertakings by ARTC have been accepted by the ACCC for the interstate network (in 2002 and 2008) and for the Hunter Valley network (in 2011).

More detailed information and comments on regulation of the energy, telecommunications, rail and wheat export industries is provided throughout this submission.

3.2 Benefits from regulating infrastructure operators

The conventional economic case for independent regulatory intervention in infrastructure industries has emphasised the need to minimise the negative efficiency and welfare effects of misuse of market power and to alleviate the risks associated with large, long-lived sunk investments.

Significant monopoly power and substantial sunk investments are both typically associated with natural monopolies.

This section identifies the economic and other benefits expected to be obtained from infrastructure regulation. It provides practical examples of these benefits based on the ACCC's experience in regulating infrastructure industries. Before doing so, however, it is important to highlight that regulating access to an infrastructure operator's services is only one means to address market power issues. Alternatives include private litigation, private ownership and contracting solutions, government and customer-ownership, and other government policy approaches (some of which are mentioned later in this section). In addition, the ACCC and AER have other powers to support competition and the more efficient and effective operation of markets, including by:

- prosecuting *ex post* abuses of market power, misleading and deceptive conduct and unfair trading practices (under the national competition law provisions in Part IV of the CCA, the Australian Competition Law (ACL) through Part XI of the CCA, and the National Energy Retail Law)
- preventing mergers and acquisitions (under section 50) that would increase the market power of the merged entity and raise the risk of monopolistic behaviour (which could in turn raise concerns under section 46 of the CCA)
- providing market information to increase market transparency, reduce search and other transaction costs, and promote confidence in markets, through price monitoring (under the generic prices surveillance regime set out in Part VIIA of the CCA) and providing consumer information and education.

As noted in section 3.3, in deciding whether to intervene, and whether and how to regulate, the benefits and costs of alternative courses of action must be compared to ensure that the government's objectives are achieved in the most efficient and effective way possible.

3.2.1 Economic efficiency and competition

Under idealised conditions, competition will maximise efficiency, which will, in turn, maximise productivity and community welfare.[81] A substantial body of evidence demonstrates that competition promotes innovation, growth and economic prosperity (see, for example, Baumol 2002; Easterly 2001, chap. 9; Olson 1982; PC 2012a; Soames, Brunker and Talgaswatta 2011).

Consistent with the evidence and economic theory, the Hilmer Report (Independent Committee of Inquiry 1993, pp. 4-6) identified competition, and an effective national competition policy, as the key to economic prosperity. Referring to its role in promoting economic efficiency, the Hilmer Report identified a number of benefits from competition: consumers gain access to new, better and cheaper products; productivity is increased, leading to a general increase in real average wages and higher returns to producers in aggregate; and firms become more robust and better equipped to adjust to unexpected economic conditions.

The Hilmer Report concluded that competition—and its role in promoting efficiency and the productivity of the economy—is the driving force behind economic growth: it improves living standards, fosters innovation, and creates jobs and new industries. The Report (p. 4) stated:

[81] In technical terms, this situation is described as achieving Pareto optimality.

Economic efficiency plays a vital role in enhancing community welfare because it increases the productive base of the economy.

The notion that competition and greater economic efficiency improves community welfare is recognised in Australian legislation. For example, the object of the CCA (s. 2) is to 'enhance the welfare of Australians through the promotion of competition and fair trading and provision for consumer protection'. Australian regulatory regimes aim to promote consumer interests, with the underlying view that promoting competition and efficiency is the best way to achieve that aim:

- Part XIC of the CCA, which establishes the regulatory framework for the telecommunications access regime, specifies that: 'The object of this Part is to promote the long-term interests of end-users of carriage services or of services provided by means of carriage services' (s. 152AB(1)). In evaluating whether this objective is achieved, the Act requires that regard is to be had to 'the objective of encouraging the economically efficient use of, and the economically efficient investment in' infrastructure' (s. 152AB(2e)).
- Rule 23 of the National Gas Law provides that: 'The objective of this Law is to promote efficient investment in, and efficient operation and use of, natural gas services for the long-term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas.'
- Rule 7 of the National Electricity Law provides that: 'The objective of this Law is to promote efficient investment in, and efficient operation and use of, electricity services for the long-term interests of consumers of electricity with respect to (a) price, quality, safety, reliability and security of supply of electricity; and (b) the reliability, safety and security of the national electricity system…'

Part IIIA of the CCA, which establishes the National Access Regime, also focuses on economic efficiency and competition. The aims of Part IIIA are to: "(a) promote the economically efficient operation, use of and investment in the infrastructure by which services are provided, thereby promoting effective competition in upstream and downstream markets; and (b) provide a framework and guiding principles to encourage a consistent approach to access regulation in each industry" (s. 44AA).

Economic efficiency comprises three components, described in the Hilmer Report (Independent Committee of Inquiry 1993, p. 4; see also ACCC/AER 2010) as:

Technical or productive efficiency, which is achieved where individual firms produce the goods and services that they offer to consumers at least cost. Competition can enhance technical efficiency by, for example, stimulating improvements in managerial performance, work practices, and the use of material inputs.

Allocative efficiency is achieved where the resources employed to produce a set of goods or services are allocated to their highest valued uses (that is, those that provide the greatest benefit relative to costs). Competition tends to increase allocative efficiency, because firms that can use particular resources more productively can afford to bid those resources away from firms that cannot achieve the same level of returns.

Dynamic efficiency reflects the need for industries to make timely changes to technology and products in response to changes in consumer tastes and in production opportunities. Competition in markets for goods and services provides incentives to undertake research and

development, effect innovation in product design, reform management structures and strategies and create new products and production processes.

The conditions under which competition maximises efficiency are violated if the long-run average costs of production are decreasing, there are significant transaction costs, public goods or externalities, or information is imperfect. Such violations of the conditions for perfect competition may give rise to 'market failures', which, at least potentially, provide a rationale for regulation or another form of government intervention (provided the benefits from intervention exceed the costs; see the discussion in section 1.3). The market failure arising from decreasing long-run average costs—or 'natural monopoly'—is the conventional justification for regulating infrastructure industries (and is the rationale for regulation articulated in the Hilmer Report (Independent Committee of Inquiry 1993).

3.2.2 Natural monopoly and implications for efficiency

In the absence of natural monopoly characteristics in an industry, the standard economic case against monopoly is that a monopoly supplier will constrain output and charge a higher price compared to a competitive industry. The monopolist's use of its market power leads to a net loss of economic welfare (the 'deadweight loss'). Allocative efficiency is reduced because the monopoly price exceeds marginal cost.

In theory, the adverse consequences of monopoly on allocative efficiency may be reduced to the extent that the monopolist is able to price discriminate efficiently.[82] In that case, the effects of monopoly would be limited to a transfer from consumers to the monopolist, which would maximise its profits.[83] In practice, however, information limitations, very high administrative costs in charging different prices to different customers, and difficulties in preventing arbitrage among customers means that perfect price discrimination is likely to be extremely rare.

More importantly, monopoly can result in lower productive and dynamic efficiency. An absence of competitive pressure can allow a monopolist to incur inefficient costs that meet the self-interest of its owners and/or employees (reflecting X-inefficiency, such as gold-plating, and the principal-agent problem). In addition, a monopolist has less incentive to innovate to reduce production costs and better satisfy consumer preferences. Therefore, competition is the best way to promote economic efficiency.

This conclusion does not necessarily apply in the case of an industry with natural monopoly characteristics. A natural monopoly arises where 'a single firm can supply an entire market significantly more efficiently than two or more firms' (Independent Committee of Inquiry 1993, p. 5). Natural monopoly infrastructure is characterised by economies of scale, economies of scope and/or network economies (or economies of density). The existence of any of these economies means, for a given range of output, that it is uneconomic to duplicate the natural monopoly infrastructure

[82] Price discrimination involves setting different prices for different consumers (or for different units of consumption) based on the consumer's willingness to pay. Perfect price discrimination would allow the monopolist to obtain the entire consumer surplus (the full area under the demand curve) up to the point where P=MR=MC. The quantity supplied by a perfectly-price-discriminating monopolist would be the same as that supplied in a competitive market. However, price discrimination requires barriers to trading of the service by consumers (or arbitrage will drive prices down) and may involve significant transaction costs.

[83] Monopoly profits would also represent a pure transfer from consumers to the monopolist in the special case where demand is perfectly inelastic, that is, the demand curve is vertical line.

because the fragmentation of output increases costs. Commonly-cited examples of natural monopoly infrastructure facilities are:

- electricity transmission and distribution networks where the total wholesale or retail market demand for electricity in the area covered by the network can be transported to customers at lower cost by a single network than by duplicating the existing network of poles and wires
- a gas pipeline with sufficient capacity to carry total production from the gas field to market
- a telecommunications network where demand for fixed line telephone and broadband services can be supplied at lower cost using a single network of ducts and pipes
- a rail network with capacity to meet the total market demand for rail transport along the routes serviced by the network, which can provide those services at lower cost than by duplicating the existing track network and associated loading and unloading facilities
- water and sewerage systems with sufficient capacity to transport water from the water source (such as a dam or desalination plant) to customers' premises, and to transport sewage from customer premises to the treatment plant(s)
- an airport or port that has sufficient capacity to meet total demand for its services in the area served by that facility.[84]

Natural monopolies are the primary reason for market failure in utilities and the fundamental rationale for the economic regulation of infrastructure industries like energy and telecommunications.

In general, competition ensures prices more closely reflect costs, drives down costs and stimulates innovation, and is preferable to regulation. The Hilmer Report (Independent Committee of Inquiry 1993) stated that, where a market suffers from a lack of competition, the first-best solution is to introduce competitive pressures to the market.[85] Monopoly pricing is not sustainable in a competitive market because either customers substitute to a rival supplier or product, or the associated higher returns for producers attract new market entrants, increasing competition.

In the presence of natural monopoly characteristics, however, the entry of competing infrastructure operators is likely to constitute a market failure. This is because (i) having more than one operator of the natural monopoly infrastructure results in higher unit costs of producing a given level of output

[84] Natural monopolies are defined for a given range of output. When an infrastructure facility reaches its capacity, it will be a practical matter (based on relative costs and the required increase in capacity) to determine whether it is more economical to expand the existing facility or to duplicate it. For example, it may be more economical to duplicate a gas pipeline to meet an increase in market demand but, as a contrasting example, it may be cheaper to expand the capacity of a rail network by building additional passing loops than by duplicating the entire length of the track.

[85] The Hilmer Report (Independent Committee of Inquiry 1993) noted that some monopolies had been created by government legislation. In this case, the Hilmer Report (pp. xxxiii, 183) recommended structural reform to increase contestability in the market. It recommended the structural separation of (a) the commercial activities of a public monopoly from regulatory responsibilities, (b) the contestable activities of a public monopoly from the natural monopoly elements, and (c) potentially contestable elements of a monopoly into several independent businesses operating in the one market (p. 185). While recognising that reforms to public monopolies, including corporatisation and privatisation, had resulted in productivity growth, the Hilmer Report (p. xxxi) recommended that a public monopoly should be structurally separated before being privatised.

(or a given bundle of outputs, where there are economies of scope or network economies), and (ii) the new entrant may ultimately be unprofitable because the incumbent producer can supply at a lower unit cost, and therefore charge a lower price, than the new entrant (unless the new entrant is able to quickly capture a large share of demand and benefit from economies of scale, scope or density), leading to exit of the new entrant and waste of ('sunk') resources. That is, competition can cause a form of productive inefficiency.

However, while a single infrastructure operator can generally produce at lower unit cost than a number of competing infrastructure operators where the infrastructure has natural monopoly characteristics, a monopolist will also have the ability to exploit its market power, causing prices to be inefficiently high and resulting in allocative inefficiency.

Economic regulation of industries that exhibit natural monopoly characteristics aims to achieve the productive efficiency benefits of a single infrastructure operator while preventing the allocative efficiency losses that would result from the monopolist's use of its market power. This may require regulation of the prices charged by a monopolist and specification of minimum service quality standards (to ensure monopoly profits are not earned by cutting costs through service degradation). In setting prices, regulators typically aim to allow the recovery of efficient operating costs and provide the monopolist with a risk-adjusted commercial rate of return on capital, and a return of capital through depreciation over the asset life. This pricing approach will maintain the monopolist's incentives to invest and allow it to recover its full production costs.[86] However, price regulation is only one option for restraining the monopolist's use of its market power; other options are identified in the rest of this chapter.

3.2.3 Natural monopoly and regulation of infrastructure access

In some markets, effective competition requires market participants to obtain, on equivalent terms and conditions to their competitors, services provided by upstream or downstream infrastructure facilities that exhibit natural monopoly characteristics, and hence cannot be duplicated economically. For example, effective competition in electricity generation and telecommunications services requires access to transmission grids and telephone networks respectively.[87]

It is sometimes argued that a vertically separated unregulated owner of a bottleneck facility has no incentive to deny access. Commercial negotiations between the monopoly infrastructure operator and parties requiring its infrastructure services are expected to ensure efficient access to the infrastructure on commercial terms and conditions. Where the infrastructure operator has spare

[86] Where natural monopoly derives from economies of scale in production, the infrastructure operator will frequently have large fixed costs relative to variable costs and average costs that exceed marginal costs over the relevant range of output. Allowing a natural monopoly infrastructure operator to recover its full costs may require the regulator to adopt, or approve, a two-part tariff structure or the use of average pricing.

[87] It may be possible to unbundle the services provided by the network infrastructure to permit access seekers to compete by differentiating their services. For example, in the telecommunications industry, unbundling of the local loop service provides access to just the copper wire to the end-user's premises. Access seekers install their own switching equipment (which can be efficiently duplicated) in the exchange, which allows them to offer voice and high-speed broadband services and enhanced features to their customers. Similarly, for rail networks, unbundling haulage and track services allows an access seeker to compete using its own rolling stock (which can be efficiently duplicated) with access to rail track services.

capacity on its sunk investment, there will be a commercial incentive for it to offer access on reasonable price and non-price terms and conditions (to allow it to recover its sunk investment).

There is evidence that the incentives for parties to negotiate such terms and conditions can vary depending on such factors as the characteristics of the market (including the extent of market power and vertical integration); institutional dynamics encompassing the credibility and extent of the threat (the backstop) if the negotiation fails; information asymmetries and uncertainty; the number of parties to the negotiating process (which increase the transaction costs involved in negotiating access); the homogeneity or heterogeneity of interests of the parties; and the parties' negotiating styles and previous negotiating experiences (see, for example, ACCC 2009, pp. 49-50; Bordignon and Littlechild 2012; Gray, Malam and Naughtin 2007; Ross and Stillinger 1991).

Access to the infrastructure facility is unlikely to be denied, subject to available capacity, where the infrastructure operator is not competing in upstream or downstream markets. However, a vertically separated monopoly infrastructure operator will still have an incentive to use its market power to extract monopoly profits from users of the facility. That is, the operator will reduce output and charge monopoly prices in order to maximise its economic profits. As discussed in section 3.2.2 above, the monopolist's use of its market power leads to a net loss of economic welfare (the 'deadweight loss') and lower allocative efficiency.[88]

In addition, monopolist's use of its market power increases the costs to access seekers of products for which the natural monopoly infrastructure is a required input (which reduces the returns expected on the access seekers' own investments) and may create uncertainty for access seekers about the future path of access prices (which increases the risks associated with their own investments). Both of these effects will have negative impacts on complementary investments, and production, by access seekers, with negative implications for economic efficiency in related markets.

Further, the infrastructure operator may delay or limit investments in expanding the capacity of its infrastructure or in adopting new technology or other innovations to improve its service quality. These actions could have negative implications for efficiency and competition in upstream and downstream markets, as illustrated by the following examples:

- Congestion on a rail network could prevent the entry of a new haulage operator, which would have increased competition in the downstream market, because all available track capacity has already been contracted for (at monopoly prices).
- A lack of available capacity on a water pipeline with natural monopoly characteristics could deter a business from developing a new (upstream) water source if the business is unable economically to transport the water to its customers (because duplication of the pipeline is not economically feasible).

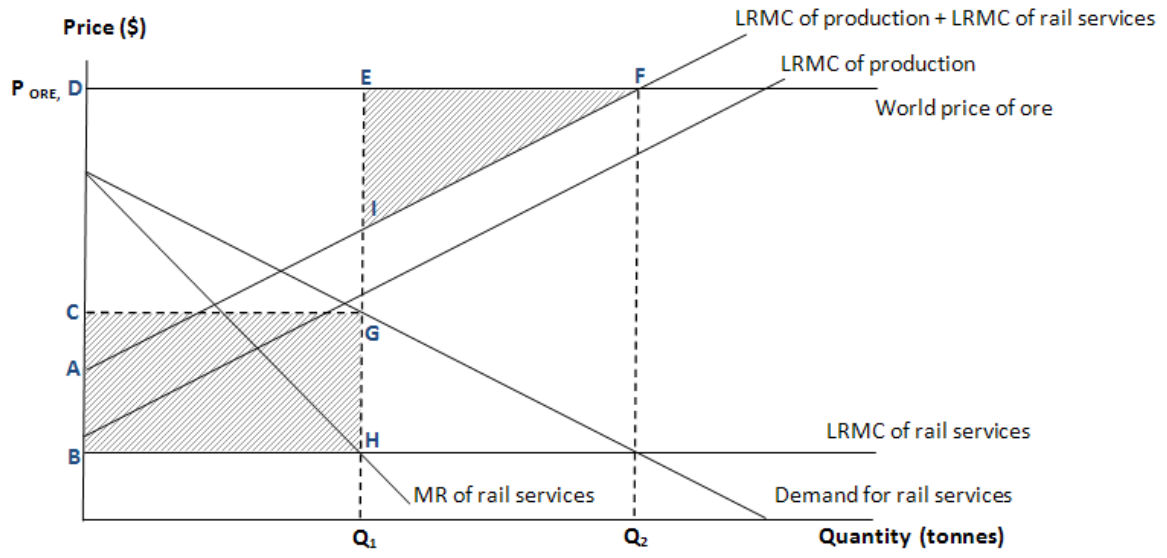
[88] Technical note—In a static (one-stage) model, with perfectly inelastic demand by infrastructure users, the infrastructure operator's monopoly prices will simply be a transfer of the users' consumer surplus. In this case, there will be no deadweight loss or adverse allocative efficiency impacts—provided there are no adverse efficiency or competition impacts in other related markets. However, while theoretically conceivable, it is unlikely that these circumstances would occur in practice.

Monopoly pricing of infrastructure access

The conclusion that monopoly pricing of infrastructure access will have adverse allocative efficiency effects has been challenged in regard to infrastructure used to supply services to Australian businesses that are price-takers in the downstream market.

The most common example given is the case of a miner exporting its entire output into a global market where the quantity produced by Australian miners does not affect the global price. The miner needs access to rail services to transport its ore to port. Another nearby miner has built a railway to transport its own output to the port and has spare capacity, which it could use to provide rail services to the first miner. Since the railway is a natural monopoly, given total demand for rail services in the area, the railway owner can use its market power to set a charge for rail transport services that expropriates all of the first miner's economic profits (its resource rents). It has been argued that expropriation of these rents represents a pure transfer which will have no impact on the first miner's production decisions (and therefore no allocative efficiency consequences).

However, the inability to influence world prices does not ensure that an expropriation of rents by the railway owner represents a pure transfer. Allocative inefficiency would be expected to result where the exercise of monopoly power by the railway owner increases the miner's marginal cost of getting its ore to market. As illustrated by the diagram below, monopoly pricing of rail transport services creates a deadweight loss (shown by the shaded area EFI) and causes the miner to reduce its output from Q_2 to Q_1 tonnes; the transfer of rents to the railway operator is the shaded area BCGH.



Even if the railway operator is able to expropriate some or all of the miner's rents (the area ADF) without affecting the miners' marginal costs of supply (for example, by imposing a two-part tariff for rail services), there may still be negative efficiency consequences from the expropriation of the miner's economic rents. Mining exploration is inherently risky as many prospects will be found not to be viable after substantial exploration and initial development expenditures have been incurred. The economic rents made on commercially viable mines allow miners to recover losses on prospects that prove unviable and to achieve at least a commercially-acceptable risk-adjusted rate of return across their entire operations (including losses on unviable prospects). Expropriation of these economic rents may discourage investments in prospecting for, and developing, new mines—with negative implications for allocative and dynamic efficiency, productivity and export earnings, and, in turn, for community welfare.

The Hilmer Report (Independent Committee of Inquiry 1993, p. 248) concluded that:

> *there are some industries where there is a strong public interest in ensuring that effective competition can take place, without the need to establish any anti-competitive intent on the part of the owner for the purposes of the general conduct rules. The telecommunications sector provides a clear example, as do electricity, rail and other key infrastructure industries. Where such a clear public interest exists, but not otherwise, the Committee supports the establishment of a legislated right of access.*

The extent to which a monopolist infrastructure operator can impose monopoly prices and other terms and conditions will depend on the relative bargaining position of the operator and its customers in commercial negotiations. By establishing a legal right to negotiate, backed up by the availability of recourse to arbitration by the regulator if commercial negotiations are unsuccessful, access regimes can improve the bargaining power of access seekers. The threat of regulatory intervention can support the primacy of commercial negotiations and avoid the need for the regulator to set regulated access terms and conditions. In some cases, determining regulated non-price terms and conditions, such as minimum service quality levels, could provide sufficient certainty about the service being provided to promote more effective commercial negotiation of price terms for access.

The incentive for an infrastructure operator to provide access depends in part upon whether it also operates in a related market dependent on access to the infrastructure service. A vertically integrated infrastructure operator will have an incentive to restrict access to the facility by its competitors in the related market. It will also have an incentive to charge monopoly prices to those competitors in the related market, and impose a lower internal (transfer) price, to provide a competitive advantage for its own downstream operations. Such behaviour is likely to eliminate or reduce competition in the dependent market and maximise the (total) profits of the vertically-integrated monopolist. Because the infrastructure facility occupies a strategic position in the supply chain, access must be provided on a non-discriminatory basis in order to support effective competition in upstream and/or downstream markets.

Government intervention to establish a legal right to access and 'non-discrimination' and transparency provisions (such as ring-fencing or operational separation) may be sufficient, depending on industry conditions, to achieve effective upstream and downstream competition.

3.2.4 Two extensions: 'hold-up' and supply chain coordination

Two extensions to the standard natural monopoly rationale for infrastructure regulation have been identified in the literature. These are the 'hold-up' problem and the problem of coordination across supply chains. As discussed in this section, both of these problems rest on the presence of natural monopoly characteristics—however, the literature does not always highlight this pre-condition.

The ACCC does not consider that either of these problems represents the sole or primary rationale for access regulation.[89] Rather, an understanding of these problems provides a fuller explanation of the benefits from regulating infrastructure that has natural monopoly characteristics (where regulation is the appropriate policy response).

[89] The PC has also argued that the hold-up problem does not represent the sole or primary rationale for access regulation, such as in its recent report on electricity network regulatory frameworks (PC 2012d, Appendix B).

The 'hold-up' problem

Drawing on the seminal work of Goldberg (1976) and Williamson (1976), a number of authors have argued that the risk of opportunistic behaviour, or 'hold-up', provides a rationale for regulating infrastructure provision, including Laffont and Tirole (2000, pp. 74-75) and Church and Ware (2000, pp. 765-768).

A risk of hold-up arises when one party makes long-lived investments that are both 'sunk' (that is, have little or no value in alternative uses and have low scrap value) and are specific to transactions with another party. If an investment is sunk and specific to a transaction, then the investing party is locked into a relationship with the second party, and the risk arises that the second party will behave opportunistically to expropriate the value of the first party's sunk investment (Williamson, 1976).

In other words, these characteristics of the investment confer market power on the second party due to high costs to the first party of ending the relationship and switching to another relationship.

Transaction cost economics identifies at least three types of relationship-specific investments: (a) location-specific investments; (b) investments in equipment, production methods, research and development and/or learning-by-doing specific to a particular technology or input; and (c) investments in marketing, billing systems, and customer service systems specific to a particular relationship.

Initially, the literature focussed on two types of hold-up risk. Infrastructure operators might be subject to hold-up by their customers. For example, once a railway operator had constructed a railway to a particular mine, the miner could threaten to cease production, transport its minerals to market by road, or, in the case of a greenfields development, suspend development of the mine unless the railway operator dropped the price it charged for providing rail transport services. Since the railway to the mine is a sunk investment, the miner could potentially push the price paid to the railway operator down to its marginal (avoidable) cost of operating and maintaining the railway, expropriating all of the railway operator's investment in the railway infrastructure.[90]

However, the hold-up risk is reduced if there is a competitive market for rail transport services in the area served by the railway. Competition for rail services will exist if other miners or agricultural or manufacturing businesses operate in the area and require transport services to destinations on the railway's route. Provided the railway operator's costs of modifying its operations to supply these customers (the switching costs) are not too large, there will be competing purchasers of the railway's services. In the event of a threat of hold-up by the first miner, the railway operator will switch its operations to service alternative customers, thus reducing or avoiding the risk of hold-up.

[90] Technical note—In a purely static (one-stage) model, expropriation of the infrastructure operator's sunk investment represents a transfer of the producer surplus and thus has no impact on allocative efficiency. However, in a dynamic (multi-stage) model with rational expectations or a repeated game with learning from experience, the infrastructure operator will not be willing to make the initial sunk investment (or, if the initial investment has already been made, will refuse to invest in upgrading or augmenting capacity) due to the risk of not being able to recoup the cost of its investment. In a dynamic model, the risk of expropriation of the producer surplus (which would otherwise allow for recovery of the fixed cost of the sunk investment) will deter efficient infrastructure investment and have negative impacts on productive, allocative and dynamic efficiency.

Therefore the risk of hold-up by a customer rests on the infrastructure being specific to that customer (that is, being characterised by 'asset specificity' using Williamson's (1983) terminology).

Another, potentially more significant hold-up risk was identified as deriving from political or regulatory opportunism. This type of hold-up risk (also known as sovereign risk) involves the expropriation of the sunk infrastructure investment via nationalisation (without full compensation), a significant increase in taxation of the returns on the investment, or the setting of regulated prices below the full costs of supply (which include a risk-adjusted, commercial rate of return).

More recently, Biggar (2009, 2011) and others have highlighted the sunk investments made by the customers of infrastructure operators. Customers' sunk investments are specific to an ongoing supply of services from the infrastructure operator. Examples include airlines' investments in marketing services to or from a particular airport (Fuhr and Beckers 2006) and households' investments in electrical wiring and electrical appliances. Gomez-Ibanez (2003, pp. 9-10) has described the kinds of sunk investments that may be made by customers of an infrastructure operator:

> *The customers make their durable and immobile investments when they establish their residences and businesses in the territory served by the infrastructure company. These investments include the time a family must spend to find a suitable local home, job, and schools for the children, for example, or the resources a business devotes to developing a local workforce or customer base.*

In the absence of a mechanism to protect these investments, customers face the risk that, once their investment is sunk, they will be exposed to the threat that the infrastructure provider will raise its prices (or lower its quality), expropriating the value of the customers' investment. However, analogous to the railway example discussed above, this risk will only be significant where the infrastructure provider has market power. Where customers' investments are sunk but not specific to a relationship with a particular supplier, they will be able to switch to another supplier (provided switching costs are not too large). In the example of households' investments in electrical wiring and electrical appliances, the hold-up risk will be minimised where there is a competitive retail market in electricity provision (and the transaction costs of switching to another retailer are not large).

Typically, both the infrastructure operator and its customers will need to make sunk investments. In the railway example discussed above, the miner will generally have to make on-mine investments (such as train loading facilities) and construct a rail spur to connect to the railway in order to use the transport services provided by the railway. At the railway's destination, location-specific sunk investments are likely to be made in unloading facilities, storage facilities, and possibly significant port infrastructure to enable export of the mine's production.

Similarly, airport operators make significant sunk investments in airport infrastructure. In the electricity industry, retailers make sunk investments in marketing and systems; distributers invest in the electricity-transmission network; and generators invest in generation capacity and in connecting to the network. In the telecommunications industry, a network operator makes a significant sunk investment in building its network of ducts and pipes, wires, and exchange facilities; retail service providers may invest in their own exchange facilities (such as DSLAMs[91] and switching and routing

[91] A Digital Subscriber Line Access Multiplexer (DSLAM) is a network switching device that allows a telecommunications service provider to offer voice and high speed broadband services and enhanced features to its customers.

equipment), staff training and customer marketing and systems; and households and businesses invest in telephone equipment and on-premises wiring.

As noted above, the risk of hold-up is significant only where one or both parties have market power, that is, where the infrastructure provider is a monopolist or where the customer has some monopsony power.[92] Where hold-up is a significant risk, customers may be reluctant to make the necessary investments to take up or make best use of the monopoly service. Similarly, if an infrastructure operator has sunk investments that are subject to hold-up, it faces the risk that customers may lower the price *ex post*, thereby extracting the value of the firm's investment. In both cases, efficient investments will be deterred and economic efficiency and productivity will be reduced.

Supply-chain coordination problems

A second extension of the natural monopoly rationale for infrastructure regulation derives from the potential for problems in aligning incentives across supply chains to ensure that there is efficient coordination of operations and investments across the entire chain (Bordignon and Littlechild 2012; Gomez-Ibanez 2010; Simatupang, Sridharan and Wright 2000). Coordination difficulties are exacerbated by information asymmetries, where supply chain participants have private information but insufficient incentives to reveal that information.

As a result, production costs across the supply chain are likely to be higher than an efficient level of costs (reflecting a loss of synergies from coordination of production), leading to productive inefficiency. In addition, total output is likely to be less than the efficient throughput of the supply chain, resulting in allocative inefficiency. Dynamic inefficiencies will result from insufficient coordination of investment decisions.

The potential for supply chain coordination problems can be illustrated by reference to the Hunter Valley access undertaking that was accepted by the ACCC in 2011. During the negotiations between the owner of the infrastructure (the Australian Rail Track Corporation—ARTC) and the users, the issue arose of how to ensure that the management of existing capacity and investment in new capacity would be conducive to 'supply chain alignment', specifically coordination of rail network operations and investments with mine and port operations and expansions (Bordignon and Littlechild 2012, p. 181).

This exemplifies only one kind of coordination problem that may arise in a supply chain. Coordination problems may also arise between different users of the infrastructure: for example, in a rail network with multiple train operators, coordination problems may emerge in relation to the scheduling of train paths. Similar issues may arise in applying (technical) traffic management policies to manage congestion on telecommunications networks during peak periods.

[92] It is the customers' investments in sunk, relationship-specific assets that often locks those customers into purchasing services from a particular infrastructure operator and confers market power on the infrastructure operator. Gomez-Ibanez (2003, p. 9) noted that: 'An effective monopoly in local infrastructure depends on the customers, as well as the company, making durable and immobile investments.'

Example of coordination issues in the electricity supply chain

Achieving an efficient balance of demand and supply requires that the various participants at different parts of the electricity supply chain act in a coordinated manner. The ultimate aim should be to present consumers with a price that is reflective of the costs of consumption at differing times and places on the market, and/or provide consumers with an offer to reduce or alter their consumption at times of greatest impact on the market (for example, at peak times when capacity is constrained).

However, different parts of the supply chain face supply constraints in different ways and possibly also at different times, with wholesale market peaks and network peaks not necessarily coinciding. Therefore, efforts to address the demand-side of the demand/supply equation will necessarily create different specific costs and benefits for different parts of a supply chain when that supply chain is disaggregated, as is the case in electricity. It follows that a range of market participants will need to be involved, and different types of demand management measures will be needed, for an effective solution. These measures could range from contract based (such as a commitment to alter consumption at designated times in return for financial compensation) to price-based (such as a reliance on price signals to motivate changes in consumption).

Where there are different specific impacts along the supply chain, parties in those segments will face differing commercial incentives to engage in demand management measures (the so called 'split incentives' problem). Furthermore, as demand management initiatives often have flow on effects throughout the supply chain, there is the possibility that some participants will seek to 'free ride' on the actions of others (that is, benefit from demand management measures without contributing to their costs). Further complicating this scenario are transaction cost and information asymmetry issues that arise in a disaggregated supply chain when different parties along the supply chain seek to:

- negotiate a multilateral resolution of some of these issues, including for example, an appropriate division of the costs and benefits of demand management measures
- negotiate with many dispersed consumers on the implementation of demand management measures.

As part of the current wave of policy reform, a number of measures have been identified as necessary to create more efficient investment incentives for network businesses, improve price signals on the network impacts of demand at certain times, and facilitate multi-lateral negotiations and agreement on demand management actions.

These measures include: more efficient and flexible prices that provide consumers with accurate signals on the costs of their consumption decisions; greater transparency in network planning (which is expected to promote competition for the provision of demand-side solutions to network capacity constraints); and the provision of greater opportunities for firms to negotiate multi-lateral agreements to appropriately allocate benefits and costs associated with demand management measures.

Another coordination issue for rail networks relates to investment and maintenance of track and rolling stock. For example, the efficient operation of a railway requires coordinated decisions on investment in rolling stock and track, as decisions on rolling stock and wheel design affect efficient track design and track maintenance requirements and vice versa (Growitsch and Wetzel 2006). Likewise, inadequate maintenance of rolling stock (or the use of rolling stock that is not suited to the track infrastructure) can lead to track damage and vice versa:

The point where steel wheel meets steel rail is about the size of a dime, but bad profiles on one or both can lead to millions of dollars worth of problems for railroad car and maintenance-of-way people. (Pittman 2005, p. 6)

Similar to the hold-up problem, supply chain coordination problems are more significant and intractable where natural monopoly characteristics are present in the supply chain. Where there is effective competition across the supply chain, competitive pressures will tend to align incentives across the chain. For example, a railway operator might consider constraining rail capacity below mine and/or port capacity (by limiting the number of train paths or by failing to invest in capacity expansion) in order to earn monopoly profits. In a competitive market, a similar attempt to constrain rail capacity would lead to a loss of traffic if, for example, the road network was a good substitute for rail transport services in that market. The potential loss of traffic would assist in aligning the rail operator's decisions on capacity provision with those of the miners and port operator. In contrast, an absence of strong competition in transport services could lead to the railway operator 'holding up' investment to allow it to increase prices and reduce its demand risk.[93]

Moreover, where a monopolist infrastructure operator is vertically integrated, coordination problems may be intensified if it attempts to leverage its market power in the upstream market (for example, the supply of track services) into the downstream market (for example, the supply of haulage transport services). In this case, the infrastructure operator is likely to prioritise its own demands and operational requirements over those of competing downstream businesses.

Gomez-Ibanez (2010) has stated that the experiences of railroads in Australia, Europe and North America with access suggest that coordination costs are likely to be high when the interface between the access provider and the access users is intimate and technically complex, the network is close to capacity, the access users differ in the network services they desire, and there is little reciprocity between providers and users.

Potential solutions to the hold-up and supply chain coordination problems

The literature on transaction cost economics identifies several possible solutions to the hold-up problem, including private arrangements and government intervention. Private solutions can be grouped into 'ownership' and 'contractual' solutions. Similar solutions can be adopted to address supply chain coordination problems.

Private solutions

Ownership solutions include vertical integration, or club or joint ownership. Examples of such ownership structures are found in the rail industry (for example, miners in the Pilbara region owning and operating fully integrated mine to rail to port facilities) and in the telecommunications industry (for example, Telstra's historical position as the operator of the copper network and as a retailer of fixed line telephone and broadband services).

Vertical integration, joint ventures, alliances and other forms of joint ownership can internalise the supply of upstream and downstream services, minimising the risk of hold-up, internalising

[93] Decisions to invest in expanding capacity are subject to the risk of forecasting error, where actual demand (after the investment has been made) falls short of forecast demand. The infrastructure operator is therefore exposed to the risk that it cannot recoup its full cost of investing if capacity has been expanded to meet a higher forecast volume of demand. The infrastructure operator may therefore have an incentive to constrain capacity below capacity in other parts of the supply chain in order to reduce its demand risk.

coordination activities and aligning incentives within a single organisation. For example, a railway operator providing a haulage service (where below-rail and above-rail services are vertically integrated) wears all the costs and benefits that occur at the wheel/rail interface (discussed above). As such, it has an incentive to invest in network infrastructure in order to prevent rolling stock from wear and tear which, in turn, will ensure its below-rail infrastructure is not damaged as a consequence of using rolling stock that may not be best suited to the track infrastructure.

Such ownership solutions tend, however, to reduce competition in the supply chain. A vertically-integrated monopolist infrastructure operator would have an incentive to favour its own downstream operations and restrict or deny access to the monopoly infrastructure by its downstream competitors. In assessing whether private ownership solutions are desirable from an economy-wide efficiency perspective, the trade-off between the benefits of reducing the risk of hold-up and of addressing coordination issues must be weighed against the efficiency losses resulting from less downstream competition.

Alternatively, long-term contracting could potentially mitigate hold-up and coordination issues. Long-term contracts (such as franchises or concessions) are relatively common in monopoly industries; for example, there are toll-road concession contracts and long-term contracts for the provision of water services.

However, uncertainty about future events and about the contingencies that need to be dealt with in the contract creates difficulties for designing effective long-term contracts. As a result, contracts will be incomplete and may need to include mechanisms for adjusting contractual terms in future. Long-term contracts often require a process for adjusting prices and other contractual terms in response to changing supply and demand conditions. The longer the term of the contract, the greater is the need for periodic contract adjustment processes. This is particularly the case where both parties must repeatedly make long-lived sunk investments (for example, to adopt new technologies, offer new products to reflect changing consumer preferences, or cater for growing demand). In designing a long-term contract to avoid the hold-up problem, or to address coordination issues, the central challenge is to ensure a level of predictability and stability which is sufficient for the parties to rely upon when making their sunk investments, but does not hinder excessively their flexibility to adapt to changing circumstances over time.

This challenge may be met by establishing an independent expert dispute resolution body.[94] Such a body can assist in the process of contract adjustment while supporting long-lived sunk investments by establishing rules and precedents over time (thus promoting predictability and stability). Contractual terms can establish a bespoke dispute resolution body or set out the process for referring a dispute to an existing commercial mediator or regulator. As an example of a bespoke body, the London Underground Limited Public-Private Partnership (LUL PPP) contracts established a new role for an entity known as the LUL PPP Arbiter for the purpose of overseeing the price-adjustment processes in the LUL PPP contracts.

[94] The court system, with its tradition of interpreting contracts narrowly (and at a high cost), is not as well-suited to making efficient adjustments to contractual obligations in response to changing economic conditions over time.

Government and regulatory solutions

Where the number of downstream customers is large, a private ownership solution may not be feasible for addressing the hold-up problem. In this case, government ownership of the monopoly infrastructure may provide a credible commitment to customers. The government, as owner representing the customers, in effect makes a commitment (or promise) that the monopolist infrastructure operator will not unreasonably raise its charges (above efficient supply costs) after the customers make their own sunk investments. Examples of government ownership are found in water supply and transport services.

Similarly, where the number of downstream customers is large and/or where some infrastructure is already sunk, it may not be possible to rely entirely on private long-term contracts to address hold-up and supply chain coordination problems. Instead there may be a role for the government to step in to create a long-term contract between the infrastructure operator and its customers. One rationale for regulatory intervention in infrastructure industries is to establish mechanisms and processes that protect the sunk investments of the infrastructure operator and its customers and to align incentives across supply chains. Church and Ware (2000, pp. 766-767) describe the regulator's role as follows:

> *Regulation can be interpreted as an institutional framework that provides a set of rules for negotiation and dispute resolution… the regulator reduces contracting costs associated with incomplete contracts. In particular, it may reduce the costs of monitoring, verification, and enforcement of contractual terms. Secondly, the use of a regulator can be a cost-effective means of determining whether a request for adjustment to the terms of exchange is in fact efficient or simply a manifestation of opportunistic behaviour. Finally, the use of a regulator may directly reduce contracting costs by allowing explicit, detailed, and costly contracts between a firm and its customers to be replaced by an implicit understanding between the firm, its customers and the regulator.*[95]

In addition, efficient private contracting to align the parties' incentives, by establishing contractual rewards and penalties for performance, may be undermined by private information which the parties are unwilling to reveal. In regard to supply chain coordination, bilateral private contracting is unlikely to take into account the incentives and actions of parties in different parts of the chain and transaction costs may rule out multi-lateral contracting. The regulator can play a role in encouraging the parties to reveal private information, for example through the threat of arbitration by the regulator if the parties are not seen to be negotiating in good faith. Further, by highlighting linkages with other parts of the supply chain, the regulator can encourage the parties to consider measures required to optimise productivity across the entire chain.

Access undertakings submitted under Part IIIA are a form of long-term contract, overseen by the ACCC, that can deal with hold-up and supply chain coordination issues. For example, in facilitating the negotiations between the parties on the Hunter Valley access undertaking that was accepted by the ACCC in 2011, the ACCC encouraged the parties to include dispute resolution mechanisms and to address recognised coordination inefficiencies in the supply chain. In doing so, the parties agreed on a direct role for the ACCC in the mechanisms included in the undertaking:

> *For [investment] proposals to proceed, they must be endorsed by users, via a consultative forum known as the Rail Capacity Group (RCG). Where proposals are endorsed, ARTC [the*

[95] See also Joskow 1991, p. 66; Priest 1993, p. 294; Stern 2012.

Australian Rail Track Corporation] may include the capex [capital expenditure] in the RAB [regulated asset base] and recover it via access charges (at the agreed rate of return). If the RCG declines to endorse a project, but ARTC wishes to continue with it, ARTC may seek a ruling from the ACCC as to whether the project is prudent and it would be appropriate to succeed. Additionally, if users seek a particular project but ARTC is unwilling to fund it, the HVAU sets out a 'user-funding' process by which users may pay for the project, and where ARTC is effectively obliged to undertake construction, subject to the project meeting certain safety and technical requirements (Bordignon and Littlechild 2012, p. 182).

In addition, the undertaking provides for recourse to the ACCC to resolve disputes about pricing and contractual volumes. It also provides a role for an industry-funded body, the Hunter Valley Coal Chain Coordinator (HVCCC), in promoting and facilitating coordination across the entire Hunter Valley coal supply chain. Since the establishment of the HVCCC in 2009, coal throughput has increased, vessel queues at the Port of Newcastle have been reduced, significant investments are being made in port and rail capacity, and there is greater reporting and transparency around the use of, and investment in, capacity across the coal supply chain—however, in negotiating the undertaking the parties recognised that there was scope for further improvement.[96]

In assessing whether government ownership or regulatory solutions are appropriate, the potential costs of government ownership (discussed in the Hilmer Report—Independent Committee of Inquiry, 1993, see esp. chap. 10) and the costs of regulating (discussed further in section 3.3) must be weighed up against the expected benefits. Alternative ways to address hold-up and coordination problems must also be considered.

3.2.5 Network externalities

Some networks, typically telecommunications networks, are characterised by network externalities related to the size of the network's customer base. These externalities arise because the value to customers of using the services provided by the network increases as the number of other customers on the network increases. This increase in value reflects the desire by customers to be able to make calls to and receive calls from anyone (known as any-to-any connectivity).

Network externalities can confer market power on an incumbent network operator. This is because customers would generally prefer a larger network because of the benefits from being able to communicate with a larger number of other customers.[97] Interconnection between competing networks, which allows customers to communicate with customers on another network, reduces the market power deriving from network externalities. Interconnection of different networks requires competitors to make use of (that is, have access to) each other's networks for terminating 'off-net' calls.

It has been suggested that network externalities may justify regulatory intervention in the absence of natural monopoly characteristics. For example, the PC (2001b, p. 29) stated: 'Network effects

[96] The Hunter Valley Access Undertaking and the ACCC's decision are available at www.accc.gov.au. Section 3.15 of the undertaking sets out the dispute resolution provisions, including initial negotiation, mediation and finally arbitration.

[97] Frank and Bernanke (2004, p. 225) consider network externalities as 'essentially similar to economies of scale. When network economies are of value to the consumer, a product's quality increases as the number of consumers increase, so we can say that any given quality level can be produced at lower cost as sales volume increases'.

imply that competition policy may be desirable even if the technology of the incumbent would fail the conventional natural monopoly test'. However, the PC (2001b, p. 265) also noted:

> *it is questionable whether withholding any-to-any connectivity is a profitable strategy for carriers where there are multiple carriers and the market is workably competitive—such as in the Australian mobile market.*

Consequently, denial of access for interconnection seems more likely to occur on a sustained basis where a network has enduring market power (either from natural monopoly characteristics or from substantial first mover advantages gained from a previous natural, or government-imposed, monopoly position).

Similar to the hold-up and supply chain coordination problems discussed in section 3.2.4 above, the ACCC does not consider that network externalities, of themselves, represent a primary rationale for access regulation. However, the existence of network externalities may strengthen the case for access regulation of infrastructure facilities where the infrastructure operator has established significant market power from a previous monopoly position. Market power may persist for some time after an infrastructure facility no longer exhibits natural monopoly characteristics (following, for example, demand growth, technological change or the removal of previous legislative restrictions on competition). In some circumstances, therefore, access regulation may be needed temporarily, for example as markets transition to an increasingly competitive environment. [98]

3.2.6 Non-economic justifications for regulation

Traditionally, the primary role assigned to regulators by government is to promote standard economic objectives such as preventing the exercise of monopoly power and promoting competition and economic efficiency. Governments have generally used other policy tools to address social and environmental issues. However, increasingly regulators are being given a broader remit including: addressing climate change and other environmental problems; ensuring low-income and other 'vulnerable' consumers can obtain reasonable access to 'essential' services, like water, electricity and gas; and reducing the 'digital divide'.

Several authors have argued that infrastructure regulators have a concern with 'fairness' that derives from the need to protect the sunk investments of customers. Thus Biggar (2010, p. 26) has proposed that 'the desire to protect and thereby promote these sunk complementary investments can explain much of the notion of fairness as it applies to public-utility regulation and public pricing more generally'. Similarly Meyer and Tye (1985, p. 50) observe that when customers incur 'sunk costs or made commitments that tie them for at least some time to particular vendors … the transition process can involve some aggrieved consumers who perceive themselves as unfairly victimised by the transition'. Such observations have contributed to a debate about whether the

[98] Yarrow (2008) describes four stages of market development and identifies the implications for regulation. Applying Yarrow's framework, infrastructure access regulation may be needed in the 'pre-competitive market' stage until new entrants establish reputations and Incumbents' market power is significantly reduced in the 'established competition (alternatively, 'emerging competitive markets')' stage (p. 9). Similar considerations underlie Cave's (2006) 'ladder of investment' theory, which states that: 'Competitors challenge an incumbent by offering services which rely, as their market share rises, less and less on the incumbent's assets and more and more on their own. Thus, competitors progressively build out their networks closer and closer to their customers' (Cave 2008, p. 1). See also BEREC 2006.

regulator—as well as targeting the goal of economic efficiency—should in addition be concerned with non-economic objectives such as 'fairness'.[99]

In an important contribution to this debate, however, a number of commentators have pointed to problems that arise when supplementing the regulator's economic efficiency objective with other, potentially conflicting objectives. Decker (2010, pp. 3-4) has argued that the addition of non-economic objectives may induce a 'potential loss of clarity in the regulatory remit', noting that 'requirements for regulators and competition authorities to balance diverse objectives can have adverse effects on public accountability which can impact on business certainty, and, ultimately, economic efficiency'. Similarly, Kerin (2012, p. 5) has observed that if the regulator were to be given non-economic objectives in addition to efficiency—such as, say, equity or environmental issues—then it would be unclear how the regulator should trade-off the two objectives. Moreover, in contrast to the concept of economic efficiency, the non-economic objectives are not, as Kerin (2012, p. 3) has observed, 'well defined'.

In addition to highlighting the potential for direct conflicts between competing objectives, Pearson (2012, p. 3) has noted that 'other bodies may be better suited to pursue these types of objectives'.[100] Two additional considerations have been identified by the Infrastructure Consultative Committee (ICC 2009). First, the need to balance competing objectives may be costly in terms of time and resources. Second, competing statutory objectives could potentially leave regulatory decisions more open to appeal.

Based on these considerations, the ACCC has concluded that the primary objective of access regulation should be the promotion of economic efficiency and competition in upstream and downstream markets. These objectives are consistent with the objects of the National Access Regime set out in Part IIIA (section 44AA of the CCA), with the objects of the telecommunications access regime under Part XIC of the CCA, and with the objectives set out in the National Gas and Electricity Laws (see section 3.2.1 above).

Nonetheless, in general, the effect of implementing the regulatory efficiency objective is to promote the long-term interests of consumers.[101] As noted in section 3.2.1, increasing economic efficiency leads to higher productivity, economic prosperity and community welfare. Efficiency improvements are thus directly related to the long-term interests of consumers.

Moreover, the promotion of efficiency need not be inconsistent with inducing what might be regarded as 'fair' outcomes. This is the case for the following four reasons:

- Broadly speaking, in targeting the efficiency objective, the ACCC aims to align regulatory prices with costs, placing downward pressure on any monopoly profits earned by the regulated

[99] As noted in section 3.2.4, protecting sunk investments by reducing the threat of hold-up will promote economic efficiency and productivity by reducing the risks of making efficient sunk investments.

[100] The ACCC's roles in relation to infrastructure regulation and consumer protection should be distinguished. For example, the AER's role as an infrastructure regulator is defined in the *National Gas Law* and *National Electricity Law*, while its consumer protection role is specified in the *National Energy Retail Law*. Thus the AER's responsibilities in relation to the hardship policies of energy retailers, which are defined in the *National Energy Retail Law*, are part of its consumer protection role rather than its role as a regulator of infrastructure.

[101] See Kerin (2012) for a discussion of the relationship between economic efficiency and the long-term interests of consumers. As noted in section 3.2.1, the ACCC's legislated objectives require it to pursue the long term interests of consumers in making regulatory decisions.

businesses. Cost-reflective prices will tend to promote consumer welfare and the long-term interests of consumers.

- More effective competition in downstream markets, facilitated by access to natural monopoly infrastructure facilities, will promote lower prices, higher service quality, and innovative products that better meet consumer' preferences, resulting in higher consumer welfare and improving consumers' ability generally to obtain the services they need and want.
- In facilitating solutions to supply-chain coordination problems, the ACCC aims to improve 'end-to-end efficiency' of supply chains (Bordignon and Littlechild 2012, p. 182). The ACCC does so by adopting the role of a mediator between users and the infrastructure operator. In order to be effective as a mediator, a regulator may take into account considerations of 'fairness'. The regulator's role as an 'even-handed' mediator ultimately serves the function of promoting efficient investment in the supply chain.

3.3 The costs of regulating infrastructure operators

If a market failure is identified, it does not follow necessarily that regulation will provide a solution. Demsetz (1969) criticised the view that a regulatory response is warranted whenever a market failure is perceived. He labels this view the 'Nirvana approach', which is associated with three fallacies:

- 'The grass-is-always-greener fallacy'—This fallacy involves observing an imperfection in the market and then immediately advocating government intervention. This mistake is avoided by not jumping from market failure to intervention without investigating the costs and the benefits of intervention. Regulation might make things worse.
- 'The free-lunch fallacy'—This fallacy involves failing to recognise that intervention is costly and that the costs of the best possible intervention could be greater than the benefits (efficiency gains) that would flow. There may be a *prima facie* case for action but the benefits from an effective solution may be outweighed by the costs.
- 'The people-can-be-different fallacy'—This fallacy rests on an assumption that people suddenly become public-spirited in an idealised state of intervention despite being observed to typically pursue their self-interests in the imperfect real-world market. Realistically people will remain self-seeking in the interventionist state of the world.

Demsetz's broad conclusion is that perceived failings of the market may in fact be failings of the world and, if so, they do not warrant a regulatory response. Joskow (2010, p. 7) has similarly suggested that:

> *Balancing the costs of market imperfections against the (net) costs of regulatory imperfections provides a robust framework for evaluating regulatory reforms. On the other hand, simply characterising the issues as 'regulation' vs. 'markets' is not constructive. As we balance the costs of imperfect markets against the benefits and costs of imperfect regulation we must always come back to the question 'what is the best that we can do in an imperfect world?*

Deciding whether to regulate requires weighing up the costs and benefits of regulation, and alternative measures (including no action), and assessing whether regulation is likely to produce the greatest net benefits (or, indeed, any net benefits) for the community. Consideration of alternative

ways to achieve the desired objectives is essential—even when regulation is expected to produce net benefits, there may be an alternative means of achieving the objectives that generates greater net benefits.

This section describes the main costs associated with regulating infrastructure with natural monopoly characteristics and discusses 'best practice' principles developed to improve decision-making on whether and how to regulate. The aim of these principles is to ensure that regulation is only imposed when it is necessary, well designed and expected to generate the greatest net benefits for the community.

3.3.1 Types of regulatory costs

There is considerable understanding of the costs of regulating infrastructure that exhibits natural monopoly characteristics, including their unintended consequences. In the ACCC's view, it is better to facilitate competition and to avoid price and access regulation whenever possible. Regulation is clearly a second-best approach.

Experience from regulated industries, evidence from public inquiries and a growing body of academic research have demonstrated that a range of costs may be associated with economic regulation of infrastructure that is characterised by natural monopoly. These costs may be borne by businesses, consumers, government, and/or the broader community. Some regulatory costs are unavoidable and these typically comprise:

- administrative costs incurred by:
  - businesses in demonstrating compliance with regulation (such as, through reporting requirements)
  - businesses, consumers and other stakeholders in participating in regulatory processes, such as making submissions, providing information and participating in consultative forums
  - government and regulators in administering regulation, including design, review, stakeholder consultation, implementation, information collection and reporting, and enforcement activities
- compliance costs incurred by businesses, which could include the costs of:
  - understanding and obtaining advice on regulatory obligations
  - additional investments and/or maintenance required to meet regulatory standards
  - changing existing processes or introducing new processes
  - staff training to ensure regulatory compliance
  - producing publications or communicating with third parties, as required by regulation
- legal costs incurred by businesses, governments and sometimes customers or consumer groups in seeking review of regulatory decisions, and the costs to the legal system of those appeals.

Badly designed and poorly implemented regulatory actions will result in higher than necessary administrative and compliance costs. Of typically greater significance, poor regulation leads to unintended negative efficiency consequences with the risk of significant losses for the economy and may include:

- financial losses incurred by businesses, and loss of consumer benefits, resulting from regulatory delays that hold up investment and the introduction of new technologies, processes and products (some of these losses may be opportunity costs)
- allocative and dynamic efficiency losses caused by:
  - market distortions (such as entry barriers) that are created by regulation
  - distortions in consumption patterns induced by regulation
  - adverse changes to investment incentives induced by regulation, including increased investment risks caused by delays and uncertainties associated with regulatory decision-making and under- or over-investment in certain assets induced by regulatory distortions to investment returns.

Where the case for regulating has not been demonstrated, unnecessary regulation will impose avoidable administrative and compliance costs, regulatory delays, and efficiency losses. Where the regulated industry forms part of a broader supply chain, the costs of poor or unnecessary regulation are likely to extend into that supply chain. Consumers are likely to have less choice and lower quality service and may pay higher prices reflecting the higher costs of the regulated business.

Unnecessary or poorly designed and implemented regulation may result from government failure or regulatory failure (or both). The problem of government failure has been extensively discussed in the public choice literature.[102] Government failure occurs when politicians and bureaucrats make decisions based on self-interest, rather than on maximising economic efficiency and total community benefits. Public choice theory also highlights the pervasiveness of rent-seeking behaviour by interest groups, which may lead to regulation being imposed to benefit the regulated industry or the consumers (or suppliers) of that industry.

As noted in section 3.2.4, there may also be a risk of political or regulatory opportunism after a sunk infrastructure investment has been made. Regulatory failure (also known as regulatory error) arises because the regulator is less knowledgeable than market participants about the cost structures and current and prospective market conditions in the regulated industry. As a result, regulatory decisions may be based on incomplete or inaccurate information. This information asymmetry can also lead to attempts by the regulated business, or by customers of the business, to 'capture' or 'game' the regulator, which, if successful, would result in inefficient regulatory decisions.

In 2006 the Australian Government's Regulation Taskforce (Australian Government 2006, p. 162) noted that:

[102] The extensive public choice literature includes, for example, Gary S. Becker, 'Public Policies, Pressure Groups, and Dead-weight Costs', *Journal of Public Economics*, 28(3), 1985, pp. 329–347; James M. Buchanan, 'Public Choice: The Origins and Development of a Research Program', Center for Study of Public Choice at George Mason University, Fairfax, Virginia, USA, 2003; Anne O. Krueger, 'The Political Economy of the Rent-Seeking Society', *American Economic Review*, 64(3), 1974, pp. 291-303; Dennis C. Mueller, *Public Choice III*, Cambridge: Cambridge University Press, 2003; W. A. Niskanen, 'Bureaucracy', in Charles K. Rowley (ed.), *Democracy and Public Choice*, Oxford, Basil Blackwell, 1987; Christopher H. Schroeder, 'Public Choice and Environmental Policy: A Review of the Literature', Duke Law School Faculty Scholarship Series Paper 175, 2009 (available at lsr.nellco.org/duke_fs/175); William F. Shughart II and Robert D. Tollison (eds.), *Policy Challenges and Political Responses*, (Special issue of *Public Choice* journal), Springer, 2005; Gordon Tullock, *The Economics of Special Privilege and Rent Seeking*, Springer, 1989.

> *Regulators do not have an easy task. Judgements are frequently called for in circumstances of imperfect information and knowledge about the actions or motives of regulated entities. Errors are inevitable. Indeed this should be anticipated in regulatory design, so that regulators are not obliged to over-reach their capabilities.*

A similar view was expressed in the Hilmer Report (Independent Committee of Inquiry 1993), which argued that where unfettered competition is not consistent with economic efficiency, and regulatory restrictions are considered, the costs and benefits of regulation should be evaluated in an open and rigorous way. The Report (p. 271) noted that:

> *Regulated solutions can never be as dynamic as market competition and poorly designed or overly intrusive approaches can reduce incentives for investment and efforts to improve productivity.*

The negative implications of regulatory error for investment incentives has been emphasised by the PC in a number of recent publications, including Banks (2012). The UK Government has also highlighted that the regulatory framework can have a significant impact on investment incentives, particularly where there are significant sunk costs (Department of Business Innovation and Skills 2011). Specifically, 'investors will price any risk of political intervention and demand higher returns for their investment or, in the most extreme cases, might even decline to invest' (p. 7).[103] These impacts have been described as the 'chilling' effect of poor regulation on investment.[104]

3.3.2 Weighing up the benefits and costs of regulating

While regulation is costly, a failure to regulate where there would be net benefits from effective regulation (and regulation is the best policy option) also imposes costs on the community. Not regulating in these cases could be expected to result in consumers paying higher prices and possibly receiving less choice and lower service quality. There may also be negative impacts on the productivity and competitiveness of related industries.

A rigorous weighing-up of the benefits and costs of regulatory intervention is essential both to avoid unnecessary regulation that imposes net costs on the community and to ensure that regulation is implemented when it will be of net benefit to the community.

Further, in deciding whether to regulate, regulatory measures should be assessed against the net benefits from alternative ways of achieving the desired objectives. Policy alternatives can include: using competition (anti-trust) laws to prevent the misuse of market power; public ownership (possibly combined with economic regulation); authorising collective action by customers to promote more effective commercial negotiations by evening up the relative bargaining power of the business and its customers; vertical integration to internalise network externalities; and commercially negotiated long-term contracts (which may be facilitated by the regulator[105]). These alternatives will also have costs that must be weighed against the benefits of the specific measures (which are likely to vary for different alternatives).

---

[103] It should also be recognised that, at times, infrastructure operators may try to 'game' the regulator by asserting that regulatory uncertainty or 'sovereign risk' is deterring investment.

[104] Chapter 4 of this submission provides evidence on infrastructure investment in industries regulated by the ACCC and AER.

[105] See, for example, Littlechild 2009, 2011.

The Hilmer Report (Independent Committee of Inquiry 1993, p. 242) highlighted that a statutory obligation to provide infrastructure access must be clearly justified in the public interest:

> *As a general rule, the law imposes no duty on one firm to do business with another. The efficient operation of a market economy relies on the general freedom of an owner and/or supplier of services to choose when and with whom to conduct business dealings and on what terms and conditions. This is an important and fundamental principle based on notions of private property and freedom to contract, and one not to be disturbed lightly.*

These considerations underline the need for a careful weighing-up of the benefits and costs of regulatory intervention in the provision of access to infrastructure.

Recognition of the costs of unnecessary, poorly designed and poorly implemented regulations has prompted governments to develop 'best practice' regulatory principles, sometimes following independent reviews of regulatory practices.

3.3.3 Best-practice regulatory principles

Best-practice regulatory principles adopted in OECD countries, including Australia, have much in common. There is general agreement that robust processes for assessing whether to regulate and then, if necessary, for considering how to regulate are essential to ensure that regulating will generate the greatest net benefits. Establishing a clear case for regulation, effective stakeholder consultation, and transparent, understandable and consistent decision-making are expected to promote confidence in regulatory regimes.

Further, increasing the predictability and accountability of regulatory decision-making will reduce the risks associated with infrastructure investments. The UK government has stated that the potentially 'chilling' effect of regulation on investment can be reduced by designing 'regulatory frameworks that prevent unexpected changes to the rules of the game, thus offering a credible commitment to investors (Department of Business Innovation and Skills 2011, p. 7). In a paper for the OECD, Égert (2009, p. 29) found that 'coherent regulatory policies can boost investment in network industries', particularly where they are implemented by an independent regulator (based on evidence that regulatory uncertainty is lessened by reducing political interventions in regulatory decision-making).

The OECD *Guiding Principles for Regulatory Quality and Performance* (2005) reflect the view that a coherent, whole-of-government approach is needed to create a regulatory environment favourable to the creation and growth of businesses, productivity gains, competition, investment and international trade. The Australian Government endorsed these principles in its Best Practice Regulation Handbook (Australian Government 2010).

The OECD principles emphasise that regulations should meet their intended objectives efficiently and effectively, taking into account the changing and complex economic and social environment. Further, regulatory processes should be transparent and non-discriminatory. The principles highlight the need for economic regulation to stimulate competition and efficiency and the importance of effective and appropriately enforced competition policy.

On 10 February 2006, the Council of Australian Governments (COAG) made a commitment to establish and maintain effective arrangements to maximise the efficiency of new and amended regulation and to avoid unnecessary compliance costs and restrictions on competition. Consistent

with this commitment, COAG agreed that all Australian governments will ensure that regulatory processes in their jurisdiction are consistent with best-practice principles.

COAG's best-practice principles (Council of Australian Governments 2007) are consistent with the OECD Guiding Principles. They also reflect the six regulatory principles recommended by the Australian Government's Regulation Taskforce. As the taskforce concluded, the 'pre-condition for achieving better regulation boils down to ensuring that the case for it is well made and tested, both at the outset and over time' (Australian Government 2006, p. 182).

3.4 Conclusions

Third party access regulation is likely to be appropriate in industries with natural monopoly characteristics where an infrastructure facility forms a bottleneck for firms operating in upstream or downstream markets. The ACCC considers that such natural monopoly characteristics typically underpin the rationale for the economic regulation of infrastructure industries like energy and telecommunications. Regulation aims to achieve the productive efficiency benefits of a single infrastructure operator while preventing or minimising the economic efficiency and welfare losses that result from the use of monopoly power. Infrastructure access regulation also aims to:

- ensure effective competition can occur in markets upstream and downstream of the natural monopoly infrastructure facility
- promote efficient investment in natural monopoly infrastructure and related sunk investments upstream and downstream of the natural monopoly infrastructure
- align incentives for efficient operations and investments across supply chains characterised by natural monopoly elements.

Regulating access to an infrastructure operator's services is only one way of addressing market power issues and the risks associated with investments in long-lived sunk infrastructure assets. Alternatives include private litigation, private ownership and contracting solutions, regulatory actions to deter or prosecute misuses of market power under competition law provisions, and other government policy approaches. The appropriate government response (including no action) will depend on the relative benefits and costs of alternative approaches to achieving the government's objectives, including the promotion of competition and economic efficiency.

Establishing a clear rationale and role for regulation—the decision whether to regulate—involves identifying the objectives of regulating, assessing the costs and benefits of regulating, and considering other policy responses (including no action) that may achieve the government's objectives more efficiently and effectively. When the decision is made to regulate, a clear, consistent and predictable regulatory framework is likely to minimise the costs of regulating (including negative impacts on investment incentives) and to promote confidence in the regulatory regime.

Applying 'best practice' principles when deciding whether and how to regulate will increase the likelihood that regulation is only imposed when it is necessary, is well designed and is expected to generate the greatest net benefits for the community. The key features of such principles comprise robust cost-benefit analyses of regulatory and alternative measures, open and transparent decision processes including effective stakeholder consultation, and regular review to ensure regulation is still required and appropriate.

Chapter 4: Investment in industries with infrastructure access regimes

The ACCC's views on the implications of the National Access Regime for infrastructure investment are discussed in chapter 2. This chapter provides a more detailed discussion of those implications and evidence on infrastructure investment in industries subject to access (and/or price) regulation.

The potential for infrastructure access regulation to distort investment incentives has long been of concern to governments, regulators and independent researchers. While there is an extensive body of research on this issue, empirical studies tend to yield inconclusive results.

This outcome reflects the common difficulty in separating the impacts of regulation from other influences, such as changes in economic conditions, in expectations about future demand levels, and in other government policies. However, another confounding factor is that the nature of regulation and how it is implemented in practice will affect whether the investment incentive effects are positive or negative—that is, regulation may promote over- or under-investment. In addition, regulation may have different effects on investments in different parts of the supply chain.

The PC's issues paper (pp. 20-21) identified some potential ways in which the National Access Regime could have an impact on investment decisions:

> *For example, regulated access has the potential to act as a disincentive to investment in infrastructure that is subject to declaration. This could occur if declaration (or the threat of declaration) exposes infrastructure service providers to the risk that they will be disadvantaged by the terms and conditions of regulated access. As a consequence, investment decisions could be affected in greenfield infrastructure projects, as well as in expansions of existing infrastructure.*
>
> *On the other hand, regulated access could encourage investment in dependent markets, or more efficient investment in infrastructure facilities themselves. Investments in upstream and downstream markets might be enabled when firms have greater certainty that they will be able to obtain access to infrastructure facilities under reasonable terms and conditions. The efficiency of investment in infrastructure could be improved where duplication of natural monopoly infrastructure is avoided, leading to greater productive efficiency. The efficiency of investment could also be improved where infrastructure service providers no longer have an incentive to delay capacity expansion in order to profit from higher prices where there is congestion.*

In its issues paper, the PC indicates that it is particularly seeking comments and evidence on possible 'chilling' effects of access regulation on infrastructure investment 'or apparent strategic responses relating to investment decisions, including infrastructure capacity, to limit competitor access' (p. 21).

The first section in this chapter outlines the different perspectives on how access regulation might alter investment incentives. The remaining sections set out recent empirical evidence on infrastructure investments in regulated industries, using aggregate industry-wide data and more detailed evidence on infrastructure investment by specific infrastructure operators subject to regulated access arrangements administered by the ACCC.

It is important to bear in mind the qualifications on the use of this evidence to draw conclusions on the relationship between investment and access regulation. The limitations of the data require that caution is exercised in interpreting the empirical evidence. Further, a correlation between infrastructure investment levels in a particular industry and changes in access regulation applying to that industry does not prove that there is a causal relationship. In fact, it is impossible to establish a definite causal relationship between the two variables as there is no quantifiable counterfactual to compare against.[106]

4.1 Potential impacts of access regulation on infrastructure investment

Efficient investments in infrastructure are essential to maintain and improve economic efficiency and productivity, which in turn increase the total welfare of Australians. Investment will be efficient when the risk-adjusted rate of return on the infrastructure investment is positive and better than the next best alternative use of the capital employed.

In assessing the impacts of access regulation, the analysis should consider investments by the infrastructure operator and related investments in upstream and downstream markets. Investments include capital expenditures on:

- maintaining, expanding and upgrading facilities
- adopting new technologies and production methods
- improving service quality and adapting existing facilities to produce new products demanded by customers
- building facilities required to interconnect with essential (bottleneck) facilities
- investing in equipment and other facilities required to make best use of the services provided by the bottleneck facility That is, to use these services to provide the products demanded by customers at lowest cost
- constructing new infrastructure facilities.

4.1.1 Improving the efficiency of infrastructure investment

It is generally accepted that an unregulated monopoly tends to produce lower quantities and charge higher prices than would be required by efficiency and welfare maximisation (see chapter 3). This implies that the monopolist may under-invest in network capacity relative to the efficient level because it plans to charge monopoly prices by constraining output. It will also have an incentive to delay investments in capacity expansions to meet demand growth in order to obtain higher prices. In

106106 The PC (2011, p. 118) expressed a similar view in its inquiry into the economic regulation of airport services, stating that: 'In practice, it is difficult to assess whether what is observed at an airport is an efficient outcome. The primary difficulty is the lack of a quantifiable counterfactual—that is, what would be the prevailing investment levels and timing, prices and rates of return if there were multiple airports competing in the same location?'

some cases, monopoly prices will take the form of 'congestion pricing' where the congestion is caused by the monopolist's failure to invest in sufficient capacity to meet demand.[107]

A vertically-integrated monopolist will have an added incentive to constrain capacity or delay investments in capacity expansion because it can obtain a competitive advantage in downstream markets by denying access to an essential input to its downstream competitors. Such strategic behaviour would allow it to profit from monopoly prices in both the bottleneck and downstream markets (a form of 'double marginalisation').

Alternatively, where the market is contestable, an unregulated monopolist may have an incentive to over-invest in network capacity as a strategy for sustaining, or increasing, its market power. Unused network capacity gives the monopolist the ability to deter new entry by increasing output and engaging in predatory pricing in response to entry. Excess capacity also provides a signal (or credible commitment) to potential entrants of the monopolist's intentions and the threat of predatory pricing may be sufficient to deter entry. This problem is more appropriately addressed through the ACCC's powers to deal with misuse of market power, including predatory pricing, under s. 46 of the CCA (rather than through *ex ante* regulation of infrastructure access).

Where the monopolist's infrastructure expenditure is largely sunk, as for infrastructure with natural monopoly characteristics, the monopolist may have an incentive to constrain network capacity to reduce demand risk. For example, without long-term contracts that minimise its financial exposure to changes in the demand for rail services, a railway operator may have an incentive to under-invest in track capacity to minimise the risk that a decline in world demand for the minerals produced by its main customers will result in lower than expected rail traffic and a consequent inability to recover its investment costs. For new infrastructure services where the level and nature of demand have yet to be proven, a monopolist will have an incentive to under-invest, and delay capacity expansions, to reduce its financial risk until demand is established. An incentive to under-invest may also be created by the risk of hold-up in the absence of an effective long-term contract (see chapter 3).

The objectives of Australian access regimes highlight the need for efficient investment to promote broader economic efficiency, competition and the welfare of consumers.

- The legislative objects of the National Access Regime include 'promot[ing] the economically efficient operation, use of and investment in the infrastructure by which services are provided, thereby promoting effective competition in upstream and downstream markets' (s. 44AA).
- Similarly, the objectives of the National Gas Law (Rule 23) and the National Electricity Law (Rule 7) provide that: 'The objective of this Law is to promote efficient investment in, and efficient operation and use of' natural gas and electricity services 'for the long-term interests of consumers of' those services.

[107] Such 'congestion pricing' should be distinguished from efficient congestion pricing, designed to allocate limited capacity to its most highly valued uses while investment in capacity expansion is taking place, and from peak pricing, which is designed to smooth demand and avoid over-investment in peak capacity that is rarely used (and which customers are not willing to pay for when peak prices that reflect the costs of providing this extra capacity are charged) .

- Part XIC of the CCA also requires regard to be had to 'the objective of encouraging the economically efficient use of, and the economically efficient investment in' infrastructure' (s. 152AB(2e)) for providing telecommunications services.

Access regulation aims to prevent wasteful duplication of investment (chapter 3). It can also reduce the risk that investment in network infrastructure will be made too early, that is, before it is economically efficient to undertake the investment. A 'race' to invest can occur where constructing natural monopoly infrastructure is contestable and the first to invest will obtain a 'first mover advantage' in achieving the economies of scale needed to undercut subsequent entrants (Gans and King 2003, p. 174).

Access regimes aim to promote efficient investment by providing a level of certainty (or credible commitment) that the infrastructure operator will, over time, be able to recover its efficient costs. In addition, by allowing the monopolist to charge prices that reflect the efficient costs of providing access, but prevent monopoly profits being earned, the regulator attempts to remove or reduce the monopolist's incentive to under-invest in network capacity in order to constrain output so that it can charge monopoly prices.

For vertically-integrated monopolies, access regulations often prescribe non-discrimination in infrastructure access terms and conditions between access seekers and the infrastructure operator's downstream business arm. Non-discrimination can blunt the infrastructure operator's incentive to constrain capacity or delay investments in capacity expansion because its own downstream customers will suffer from a degradation in service quality (such as results on congested telecommunications and rail networks) or a failure to obtain the service (such as when an electricity network experiences a 'brownout' or 'blackout').

Downstream service providers will have stronger incentives to invest in their own infrastructure if they are assured of obtaining access to essential network services on reasonable terms and conditions. Thus access regulation aims to promote efficient investment in the complementary infrastructure required to make efficient use of network services and to provide services to their own downstream customers.

While access regulation aims to improve the efficiency of investment, there may be potential for unintended consequences. These are discussed below.

4.1.2 Potential for under-investment

By distorting the returns to, or risks associated with, infrastructure investments, a poorly designed regulatory framework can have negative impacts on investment incentives, particularly where there are significant sunk costs. These impacts have been described as the 'chilling' effect of poor regulation on investment (see, for example, Banks 2012). The ACCC accepts that poorly designed or implemented regulatory approaches can distort investment incentives and lead to under-investment in infrastructure, with negative implications for economic efficiency and productivity.

There are four main ways in which access regulation is considered to weaken incentives to invest in infrastructure that exhibits natural monopoly characteristics.

First, regulatory opportunism occurs when the regulator (possibly in response to a government direction) sets access charges too low to allow full cost recovery after the sunk investment has been made. If an infrastructure operator considers regulatory opportunism to be a significant risk, it will be reluctant to make sunk investments. For example, the UK Government has noted that 'investors will price any risk of political intervention and demand higher returns for their investment or, in the most extreme cases, might even decline to invest' (Department of Business Innovation and Skills 2011, p. 7). Yarrow (2012, pp. 2-3) has stated, based on the potential for regulatory opportunism, that:

> *the most basic problem is one of potential under-investment, at least in the context of regulation of privately owned or financed network by a regulatory agency with discretion to choose its preferred, price-setting methodology. If government, whether directly or via delegated regulation, controls (ie. has the discretion to set) prices, investors will necessarily be wary of investing large amounts in specific assets (ie. of incurring sunk costs).*

While recognising that poor regulation can weaken investment incentives, the ACCC is also aware that there may be a potential for infrastructure operators to try to 'game' the regulator by asserting that regulatory uncertainty or 'sovereign risk' is deterring investment. It is important therefore to exercise some caution in reaching a conclusion that regulatory opportunism, or the threat of such opportunism, has had a major impact on infrastructure investment in regulated industries.

Yarrow (2008, p. 14) considers that under-investment is more likely under incentive regulation because this type of regulation provides 'less explicit guarantees than cost-of-service regulation as to future recovery of capital expenditures, including recovery of a reasonable return on capital'. Yarrow (2008, p. 14) identifies pressures from consumer groups to set prices at below cost-recovery levels as a potential cause of regulatory opportunism.

Égert (2009, p. 9) has noted that, as well as leading to under-investment, the risk of regulatory opportunism can distort the nature and timing of infrastructure investments:

> *Uncertainty about the regulator's actions poses a non-negligible threat to investment in network industries. If the regulator is unable to make a credible commitment that it will not change prices after the firm invests, the firm will tend to under-invest. The regulated firm may either delay investment or invest sequentially to see the outcome at the next regulatory review. Regulatory uncertainty does not only generate under-investment but will also affect the composition of the investment, as the regulated firm may choose a technology with lower fixed costs.*

Second, the regulated rate of return could be set below the commercial risk-adjusted cost of capital for the investment as a result of regulatory error. The regulator does not have as much information as the infrastructure investor about the expected risks and returns associated with the project or the cost of capital for the project. Consequently, the regulator could under-estimate the required rate of return. Related to this, delays and uncertainties associated with regulatory decision-making could increase the investment risks perceived by infrastructure investors. If the regulator does not take these risks into account in setting the regulated rate of return, the risk-adjusted rate of return will be too low and some infrastructure investment may be deterred.Third, regulatory truncation of returns occurs when the regulatory rate of return does not fully compensate the infrastructure investor for the *ex ante* risk that the project fails. The PC (2001) has termed this risk the 'truncation problem'.

The risk of regulatory truncation of returns is more significant for greenfields investments where there may be substantial demand uncertainty. As Gans and King (2003, p. 163) note:

> *The potential problem of project failure is most relevant for high-risk infrastructure investments. Augmentations to existing gas pipelines or fixed telephone systems often carry little risk. But investments in infrastructure facilities that involve new products or service new areas may involve considerable risk.*

However, the potential negative impacts on investment of the potential for truncation of returns should not be over-stated. Infrastructure investors can take actions to manage the risk of project failure, such as through hedging or diversification. Where necessary, regulatory approaches can be modified to address the risk of truncation where this problem is likely to be significant. These approaches are discussed below.

Fourth, incentive regulation (in contrast to cost-of-service regulation) can create an incentive for under-investment (in capacity, new technologies or innovative methods of improving services) that reduces costs by lowering service quality. Cutting costs by reducing service quality can be a way to earn monopoly profits—at least in the short term until the regulator resets prices to take account of the reduction in service quality—since, under incentive regulation, there is not a direct flow-through of costs to prices.

The PC has highlighted the risks generated by access regulation for investment incentives in a number of its reports and concluded that the risk of under-investment typically exceeds the potential for over-investment as a result of access regulation. That is, the PC has indicated that its view is that, in general and on balance, assess regulation is likely to have a 'chilling effect' on investment.

For example, in its previous inquiry in the National Access Regime (PC 2001, pp. 68-69), the PC stated that:

> *conceptual arguments which suggest that access regulation could conceivably improve the efficiency of investment in essential infrastructure ... rely on there being well informed regulators with access to regulatory instruments that permit clinical isolation of monopoly 'rents' accruing to successful projects through inefficient pricing or the denial of access. If this is not the case, then access regulation clearly has the potential to discourage investment. ... [I]n the Commission's view, the concerns about the potential for access regulation to deter investment appear to be well-founded. This in turn means that minimising the potential for such effects should be an important consideration in the design of access regimes.*

In its assessment of the national gas regime, the PC (2004, p. 107) concluded that regulation was likely to both create disincentives for infrastructure investment and distort the nature and timing of such investment:

> *If regulatory risk, asymmetric truncation or regulatory error reduce expected profits and/or increase risk, then some riskier projects might no longer have an expected profit that investors consider is sufficient to compensate for the associated risk. Investors could respond by abandoning such projects. Alternatively, investors could modify projects so they are unlikely to be regulated (enabling a higher expected rate of return than allowed by regulators) or are lower risk (to match the low expected rate of return allowed by regulators).*

> *Thus, regulatory risk, regulatory error and asymmetric truncation have the potential to distort not only the level of investment but also its timing, thereby favouring less risky projects. Investors in regulated pipelines will proceed only with projects that deliver the relatively low expected rate of return allowed by a regulator if those projects are also low risk. A distortion thus arises because some risky projects, which have the potential to generate economywide benefits, do not proceed as early as they might have otherwise.*

In the report, the PC highlighted the potential for regulation to cause a firm's profit distribution to be asymmetrically truncated, resulting in its (in net present value terms) falling below zero. The PC (2004, p. 105) attributed this, in part, to the 'regulator's mistrust of regulated businesses [which] might ... cause it to mistakenly interpret high profits as evidence of monopolistic behaviour' and concluded that: 'A regulator is unlikely to adjust regulated prices upwards to take account of this problem, since it would be an admission that it mistakenly truncates the profits of businesses that behave competitively' (2004, p. 103).

The ACCC considers that the concerns raised by the PC (and others) in the past about the potential for access regulation to reduce investment incentives and distort investment decisions are now widely known and well-understood. Further, the ACCC considers that regulators are well-aware of these conceptual risks and have implemented practical measures to adapt their regulatory approaches to reduce these risks.

For example, potential truncation resulting from demand fluctuation can be dealt with through an appropriate choice of regulatory approach, such as price cap regulation instead of revenue cap regulation. Similarly, for greenfields projects, where initial demand uncertainty can be greater, cost recovery can be deferred to encourage initial service take-up. The ACCC has in the past implemented this approach by adopting a 'loss capitalisation' approach, such as that used in the Hunter Valley Access Undertaking accepted by the ACCC in 2011. The ACCC is currently considering the use of this approach in its assessment of the Special Access Undertaking submitted to the ACCC in late 2012, in which NBN Co proposes the use of a loss capitalisation model during the initial period following the roll-out of the National Broadband Network (NBN).

Other investment risks, such as any perceived stranding risk, have been dealt with by regulators adopting a range of other mechanisms, such as acceleration of depreciation or using expected economic asset lives (as opposed to physical or useful asset lives) in determining depreciation allowances for those assets.

In determining the appropriate approach to addressing any truncation problem, care must be taken to ensure that investors will be appropriately compensated for bearing legitimate risks, without creating an expectation of, or opportunity to receive, excess returns. Over-compensating for potential truncation of returns would increase the risk of inefficient over-investment.

The key point is that, as Vogelsang (2010) has argued, truncation risk depends on the 'tightness' of regulation and on the way regulation is implemented by an individual regulator. Vogelsang also argues that, in making judgements about the impact of regulation upon investment, it is important to consider the empirical evidence.

The ACCC agrees with Vogelsang's point about the importance of considering the empirical evidence. As argued in this chapter, the ACCC considers that there is no evidence to support the theories discussed above about the negative impact of regulation upon investment.

4.1.3 Potential for over-investment

A poorly designed regulatory framework can cause distortions to the returns to, or risks associated with, infrastructure investments, and create incentives for over-investment in network infrastructure.

It has long been recognised (Averch and Johnson 1962) that if the allowed rate of return exceeds the cost of capital, it leads to a bias towards over-capitalisation in order to increase the regulated asset base and therefore the regulated business' allowable revenues. Rate-of-return regulation tends to generate this type of distortion to investment incentives.

Where the regulator has insufficient information to accurately identify inefficient investments, cost-of-service regulation can also prompt over-investment to increase costs and therefore regulated prices. Yarrow (2008, p. 13) states that the infrastructure operator may decide to 'gold plate' service quality in order to increase demand, knowing that it will be able to recover the additional costs from a higher regulated price. For example, investments may be made to ensure an excessively high standard of reliability that customers would not be willing to pay for if they had the choice.

Where the infrastructure operator has substantial freedom to set price structures, as distinct from the average level of prices, distortions in price structures may ensue and lead to over-investment. For example, peak prices may be set too low (relative to off-peak prices) in order to increase demand at the peak so as to justify additional investment and (hence) additional allowable revenue.

The PC (2011b, p. 118) has identified these risks of over-investment in relation to airports, stating:

> *airports may over-invest, either in excess capacity or excessive quality. This could occur where an airport with market power is price restrained by regulation, but is allowed to extract a sufficiently high rate of return on additional facilities once constructed (and pass through of the investment has increased prices), even if they are not strictly needed. Such over-provision of aeronautical capabilities can be as inefficient as under-provision.*

4.1.4 Reducing adverse impacts on investment incentives

Due to information constraints and limitations on the regulator's ability to foresee all potential consequences of its decisions, it is not possible to design access regulation that avoids creating any distortions to infrastructure investment incentives. In regulating infrastructure access, some balancing will be needed of the impacts of regulatory measures on the efficiency of investment, both by the infrastructure operator and by access seekers, and on the efficiency benefits from facilitating competition in downstream markets by regulating access to the essential input.

Measures to reduce the adverse impacts of access regulation on the efficiency of infrastructure investments have been identified. These measures involve improving regulatory frameworks and the design and implementation of access regulations to reduce the adverse impacts of regulation on investment incentives.

Increasing the predictability and accountability of regulatory decision-making will reduce the risks associated with infrastructure investments. The potentially 'chilling' effect of access regulation on investment can be reduced by designing 'regulatory frameworks that prevent unexpected changes to the rules of the game, thus offering a credible commitment to investors' (Department of Business Innovation and Skills 2011, p. 7). The UK Government has also stated that predictability requires economic regulation to form a coherent part of the Government's broader policy in relation to infrastructure industries—in taking account of changing markets and technologies, the Government 'has a legitimate role to play, defining a strategic vision of the likely needs and priorities over the long term and providing a policy context for regulatory decisions in the medium and short term' (Department of Business Innovation and Skills 2011, p. 8).

The perceived risk of regulatory opportunism can be reduced in three ways. First, a history of rational regulatory decisions, which can be objectively justified, fosters an expectation that future regulatory decisions will be made in the same way. Second, establishing an independent regulator with clear efficiency and competition-based objectives is likely to reduce political pressures to make opportunistic regulatory decisions and improve investor confidence in the regulatory system. In a paper for the OECD, Égert (2009, p. 29) found that 'coherent regulatory policies can boost investment in network industries', particularly where they are implemented by an independent regulator. Third, public consultation, transparency about the reasons for regulatory decisions, and effective review mechanisms will reduce the likelihood of opportunistic regulatory decisions.

Timely regulatory decision-making is also important, given that infrastructure investments have long lead times and delays to key decisions can cause uncertainty, increase costs to industry, and increase investment risks.

The type of access regulation applied will have a significant impact on investment incentives. As noted in sections 4.1.2 and 4.1.3 above, rate-of-return regulation and, to a lesser extent, cost-of-service regulation have been associated with generating incentives for over-investment while incentive regulation has been linked to incentives for under-investment. Égert (2009, p. 6) states, however, that: 'Theory suggests that none of the existing regulatory regimes is immune to the danger of over- or under-investment in network infrastructure. Whether a particular regime provides firms incentives to invest depends to a large extent on the particular set-up of the system.' The negative impacts on investment efficiency from access regulation can be reduced by ensuring best practice regulatory principles are applied and decisions are based on the best available information.

Regulatory error that results from information asymmetry between the regulator and the infrastructure operator can be reduced by undertaking appropriate consultation and by creating incentives for the infrastructure operator to reveal private information to the regulator. In addition, the regulator can seek expert advice and information to assist it in identifying whether infrastructure investments proposed by the infrastructure operator are likely to be efficient and prudent. Expert advice may also be sought on the appropriateness of the proposed regulated rate of return—that is, whether it reflects efficient levels of financing costs and whether these financing costs are commensurate with the investment risks for the proposed capital expenditure.

Access holidays have been advocated as a means to reduce the impact of regulatory truncation on investment returns, and the consequent disincentive to invest in high-risk infrastructure projects. An

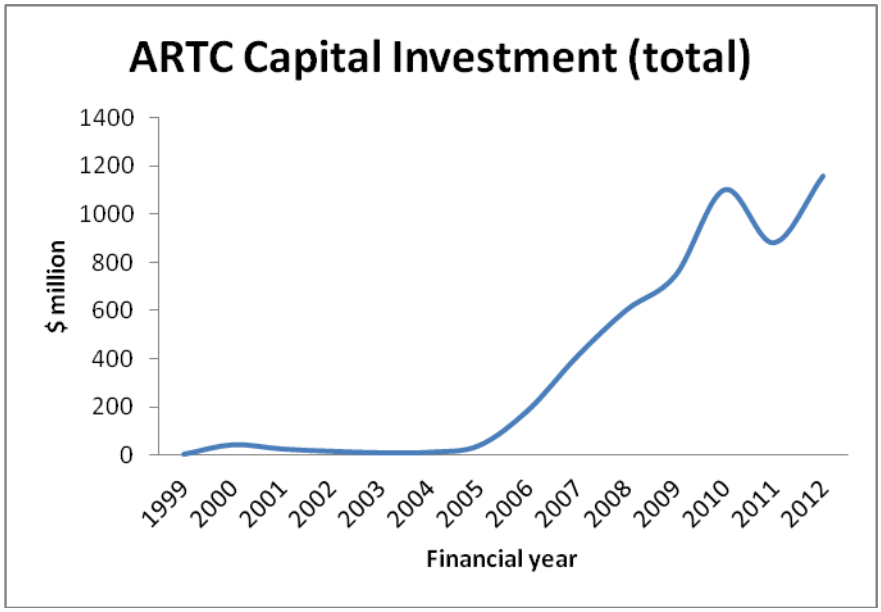
access holiday is a period of time, approved by the government or the regulator, during which a new infrastructure facility would not be subject to regulated access. During the access holiday, the infrastructure operator is free to decide whether to supply or deny access and the terms and conditions of any access provided to access seekers (including charging monopoly prices).[108] (The ACCC's views on access holidays are set out in chapter 2.)

4.2 Railway and related infrastructure investment

The interstate and Hunter Valley rail freight network are operated by the Australian Rail Track Corporation (ARTC), a federal government owned corporation providing access to below-rail (that is, rail track) services.

On an aggregate basis, capital investment in the Hunter Valley and interstate networks has almost tripled over the past six years, increasing from $406 million in 2007 to $1.153 billion in 2012, the highest level of capital investment since ARTC's establishment (figure 4.1). The large increase in capital expenditure reflects a number of factors described below.

Figure 4.1: ARTC total capital investment



Source: ARTC 2012, 'Payments for property, plant and equipment' item in Consolidated Statement of Cash Flows, p. 58.

In September 2004, the New South Wales Government leased its interstate and Hunter Valley lines to ARTC for a period of 60 years. As part of this agreement, ARTC agreed to a program of capital works worth $872 million, including upgrades to the Hunter Valley network, and construction of a number of new tracks (including South Sydney Freight Line). In addition, ARTC received a grant of $450 million from the Australian Government in May 2004. Under AusLink (an Australian Government land transport funding program, established in June 2004 and replaced by the Nation Building program in 2009), funding was provided for an investment program of $550 million in

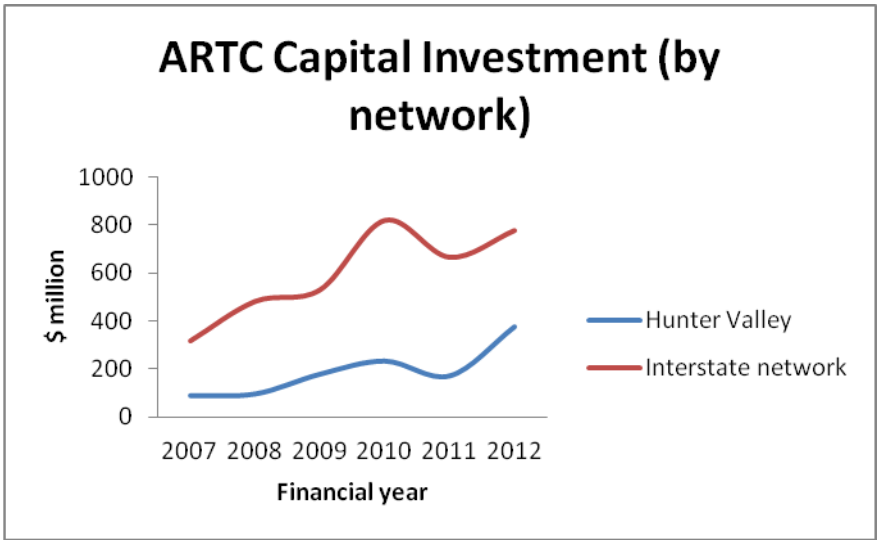
[108] An access holiday does not necessarily mean that no access will be provided. However, there is no right to negotiate access and the bargaining power of the infrastructure operator is strengthened during the period of the access holiday.

national rail infrastructure. This brought ARTC's forecast capital expenditure for the following five years to $1.8 billion (ARTC 2004).

ARTC received further substantial investment funding from the Australian Government's *Nation Building—Economic Stimulus Plan*, announced in 2009 in response to the Global Financial Crisis. As part of this plan, the Government provided an equity injection of $1.2 billion for ARTC to improve freight and passenger transport. Seventeen projects were identified for implementation, including a number of upgrades, extensions and duplications to the Hunter Valley network (Australian Government 2009. A further $996 million equity investment was announced in the 2010-11 Australian Government budget, earmarked for a series of upgrades to modernize and improve capacity of the interstate rail network (Australian Government 2011).

The majority of investment has been undertaken on the interstate network, which accounts for 67 per cent of total investment since 2007 (figure 4.2). Investment was particularly high in the interstate network in 2010 and in the Hunter Valley network in 2012 as projects from the Australian Government's Economic Stimulus Plan commenced.

Figure 4.2: ARTC capital investment by network



Source: ARTC 2012, p. 18.

An additional factor underlying ARTC's greater investment in network infrastructure, particularly on the Hunter Valley network, is increased demand for rail services resulting from the mining boom. Access revenue from coal traffic makes a significant contribution to ARTC's business. ARTC reported access revenues for 2010-11 of $432.9 million, of which coal revenues (mainly associated with the Hunter Valley network) comprised $227.3 million (ARTC 2011, p. 14).

In recent years, ARTC has undertaken significant infrastructure investments to increase network capacity, improve reliability and reduce congestion. Further substantial investments in expanding capacity are planned. ARTC's 2012–2021 Hunter Valley Corridor Strategy forecasts investment projects totalling $3.5 billion over the period from 2012 to 2021.

Significant investment has also occurred, and is scheduled to continue, across the entire coal chain. In the period 2006 to 2011, a total of $3.1 billion was invested in track, port terminal and above-rail infrastructure. For the period 2011 to 2014, infrastructure investment across the supply chain has

been forecast at $4.5 billion. These investments are intended to accommodate a forecast increase in coal volumes from around 138 million tonnes per annum (Mtpa) in 2010 to around 210 Mtpa by 2014 (Bordignon and Littlechild 2012, p. 180).

The Hunter Valley access undertaking sets out a detailed framework for determining ARTC's investment program. Proposals may be instigated by ARTC, by the Hunter Valley Coal Chain Coordinator Ltd (HVCCC) (which includes all coal producers as well as service providers), or by individual users. For proposals to proceed they must be endorsed by users, via a consultative forum known as the Rail Capacity Group (RCG). Where proposals are endorsed, ARTC may include the capital expenditure in its regulated asset base and recover it through access charges. In the event that the RCG does not endorse a project proposed by ARTC, ARTC may seek a ruling from the ACCC as to whether the project is prudent and it would be appropriate to proceed.

Where users propose an infrastructure investment that ARTC is unwilling to fund, the undertaking sets out a 'user-funding' process by which users can pay for the project to undertaken by ARTC (provided certain safety and technical requirements are met). This 'user-funding' option seeks to 'avoid the possibility of hold-up by a monopoly infrastructure owner not investing in new capacity. It also facilitates private investment in the rail network and reduces the risk to ARTC' (Bordignon and Littlechild 2012, p. 182).

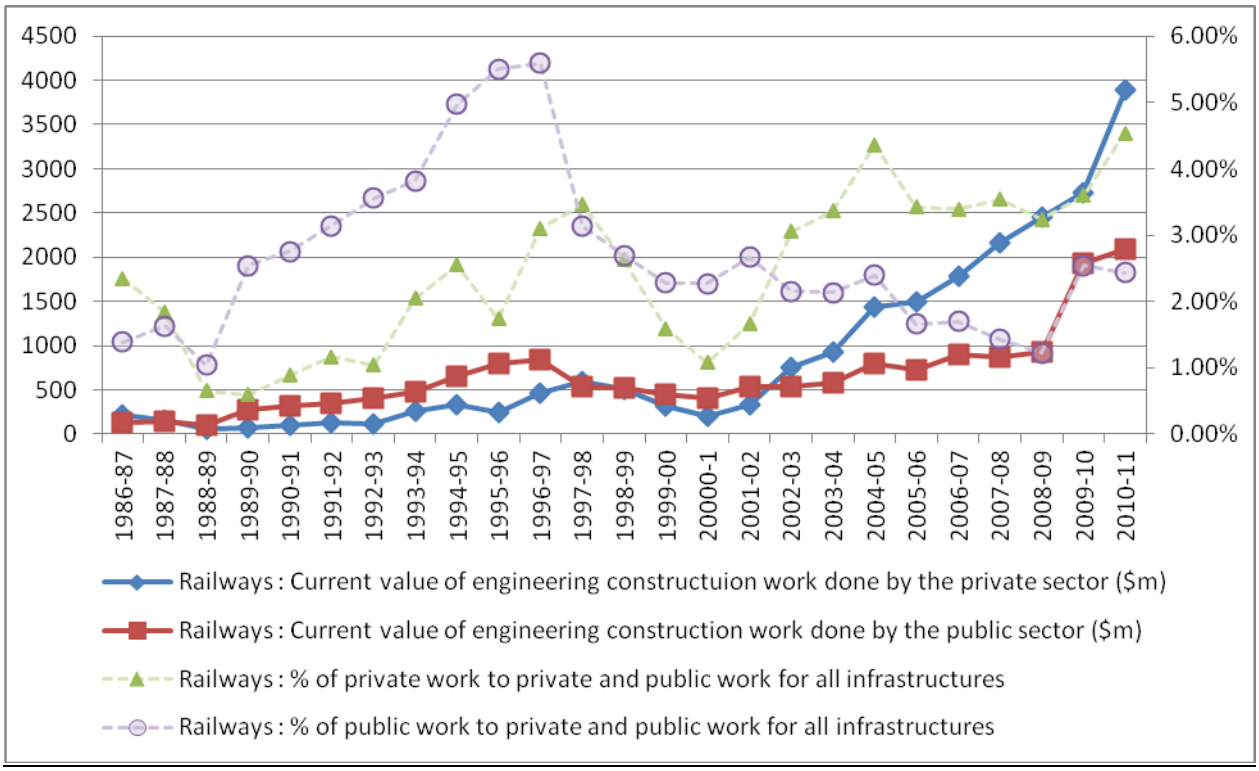
To further promote efficient investment by ARTC, the undertaking includes 'loss capitalisation' in parts of the network (to facilitate new investment in assets where there is limited initial demand, by allowing for recovery of initial revenue shortfalls in subsequent periods when demand has increased) and a 'premium' on the regulated rate of return, which was negotiated between ARTC and the major users of the network.

Other aspects of the undertaking further mitigated ARTC's investment risks: the use of long-term take-or-pay contracts; the ability for ARTC to require access seekers to demonstrate financial viability prior to entering contracts; and the use of reduced asset lives in valuation calculations. In addition, coal producers had committed to significant sunk investment in complementary assets, including mine and port expansions.

Broader data on construction activity in the railway sector is available from ABS Cat. No 8762.0—Engineering Construction Activity, which gives data by type of construction and by public/private sector. For the 'Railways' sector, engineering construction is defined as including tracklaying, overhead power lines and signals, platform, tramways, tunnels for underground railways, and fuel hoppers. The data (in figure 4.3) show strong growth in the nominal value of private sector engineering construction from 2000-01 and steady growth in the value of public sector engineering construction from the same year, with a sharp increase from 2008-09 (reflecting the Government's economic stimulus funding).

There are significant limitations on using this data to assess the impact of access regulation on rail network investment; however, the trends in total construction activity are consistent with the strong growth in infrastructure investment by ARTC during the period.

Figure 4.3 Engineering construction for railways, by private and public sector

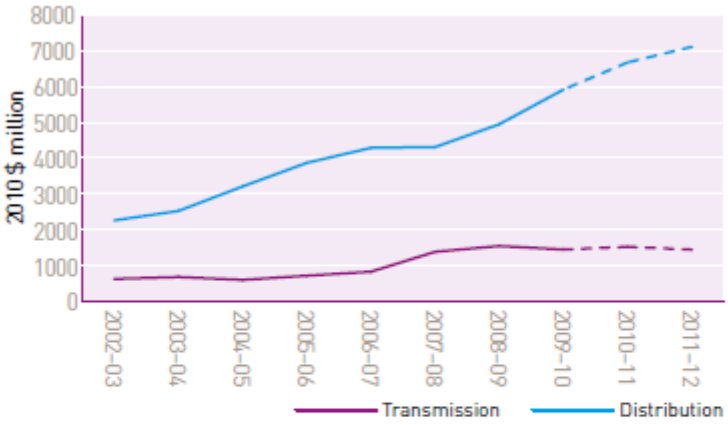


Source: ABS Cat. No 8762.0—Engineering Construction Activity.

4.3 Energy network infrastructure investment

Energy network investment in the current five year regulatory cycle is at historically high levels—over $7 billion in electricity transmission, $35 billion in electricity distribution and $3 billion in gas distribution. These forecasts represent a real increase on investment in the previous regulatory periods of around 82 per cent in electricity transmission, 62 per cent in electricity distribution and 74 per cent in gas distribution (AER 2011, p. 5). These increases follow a sustained period of growth in electricity network investment (figure 4.4). Infrastructure investment, and the increase from previous periods' investment, is greatest in New South Wales and Queensland (AER 2011, p. 6).

Figure 4.4: Total electricity network investment



Notes:

Actual data (unbroken lines) are used when available; forecast data (broken lines) are used for other years.

Transmission investment excludes private interconnectors.

All data are converted to June 2010 dollars.

Sources: Regulatory determinations by the AER and OTTER (Tasmanian distribution).

Source: AER 2011, p. 62.

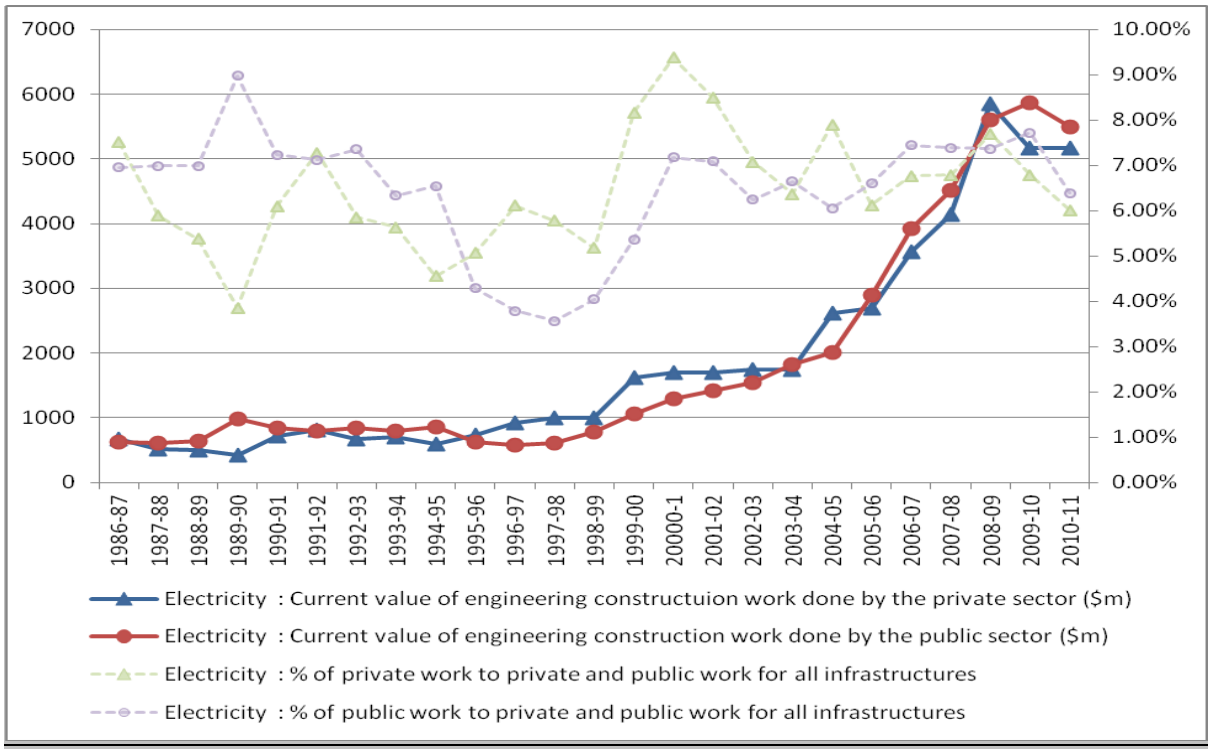
Using data from ABS Cat. No 8762.0—Engineering Construction Activity, a longer data series for the value of engineering construction shows similar trends. While the data for electricity construction activity[109] is not directly comparable to the investment figures in figure 4.4, the trend is similar (figure 4.5). There was a sharp increase in the value of engineering construction in both the public and private sector since the mid-2000s, with some easing off at the end of the decade. The current regulatory framework came into effect in 2006.

Engineering construction data for 'Pipelines' (defined to include oil and gas pipelines, urban supply mains for gas, pipelines for refined petroleum products, chemicals, foodstuffs, etc.) recorded large increases in private sector construction activity, but with a high degree of volatility, during the 2000s (figure 4.6).

As noted previously, there are significant limitations on using the ABS data to assess the impact of access regulation on energy network investment; however, the trends in total engineering construction activity are consistent with strong growth in energy network infrastructure investment based on the AER's data.

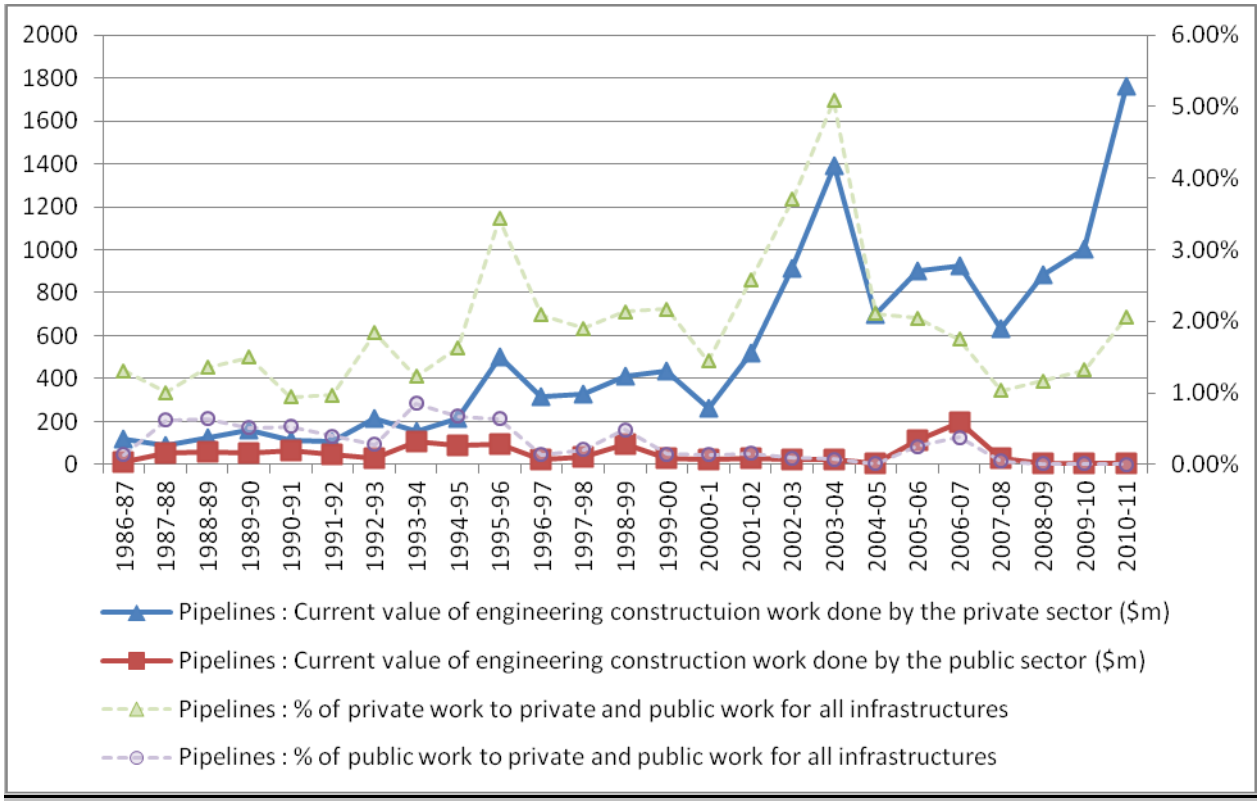
[109] 'Electricity generation, transmission and distribution' is defined as including power stations, substations, hydro-electric generating plants, associated work i.e. towers, chimneys, and transmission and distribution lines.

Figure 4.5 Engineering construction for electricity generation, transmission and distribution, by private and public sector



Source: ABS Cat. No 8762.0—Engineering Construction Activity.

Figure 4.6 Engineering construction for pipelines, by private and public sector



Source: ABS Cat. No 8762.0—Engineering Construction Activity.

A number of factors have influenced the level of capital investment in energy. These include load growth and rising peak demand (driven by the use of air conditioners during summer heatwaves), ageing assets requiring replacement and reinforcement capital expenditure, new connections, and more rigorous licensing conditions and other obligations related to network security, safety and reliability (including new bushfire safety standards in Victoria) (AER 2011, p. 6).

Concerns have been expressed that the current National Electricity Rules provide incentives for over-investment in the electricity industry. The AER sought a rule change by the Australian Energy Market Commission (AEMC) to create stronger incentives for network service providers to incur efficient levels of capital expenditure, expressing concern that all capital expenditure undertaken to date may not have been efficient. The set of amendments to the rules for network regulation announced in 2012 by the AEMC (as part of its Transmission Frameworks Review) significantly improve the rules and should improve incentives for efficient investment.

In its submission to the PC's inquiry into electricity network regulation, the Australian Energy Market Operator (AEMO 2012, p. 4) suggested that:

> *The 'building block' method for setting network revenues creates an incentive to over-invest in network assets. The growth in capital expenditure over the past five years demonstrates the strength of the rewards for building assets. Jurisdiction by jurisdiction comparisons indicate that much of this expenditure is not required by the age of network assets or the growth in demand.*

The PC (2012c, pp. 27-28) has suggested a number of possible reasons why network operators may have incentives to over-invest in energy networks. These include: inefficient management of peak demand (highlighting that a large proportion of capacity expansion is required to meet a few hours of high temperatures each year); excessive reliability standards that mean that systems have levels of redundancy that do not match customers' preferences; and high regulated rates of return on assets. However, the PC also recognised that significant investment may be required to replace infrastructure that is reaching the end of its economic life and noted that many network businesses dispute that their demand management and reliability standards are inefficient.

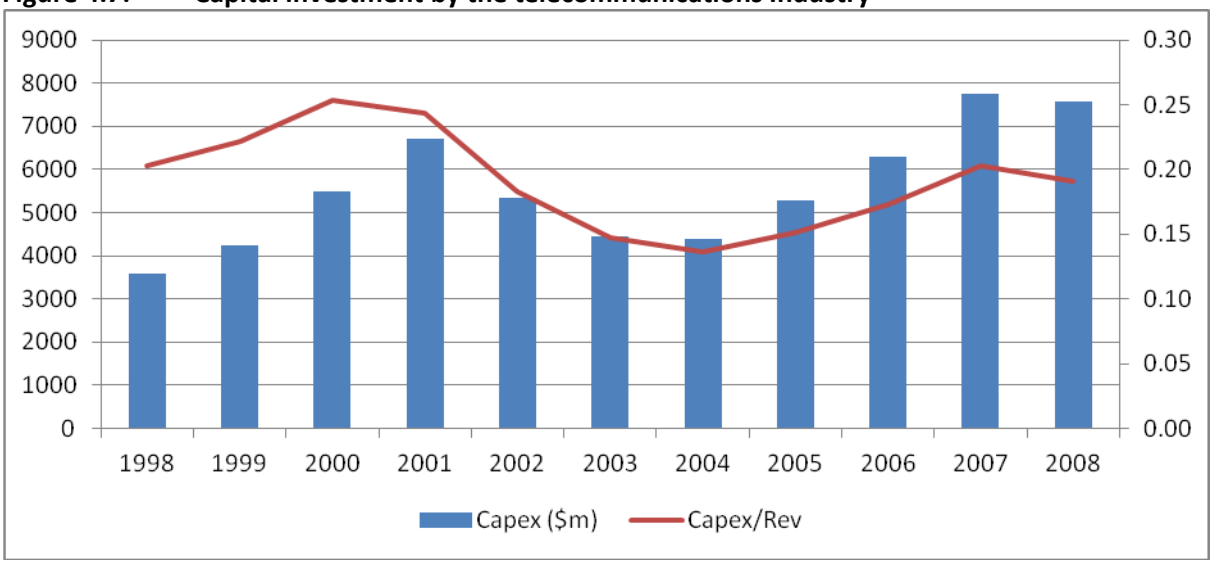
4.3 Telecommunications industry infrastructure investment

Figure 4.7 shows the total annual capital expenditure for 13 telecommunications service providers (Telstra, Optus, Vodafone, Hutchison, AAPT, iiNet, PowerTel, Amcom, Primus, Commander, Macquarie Telecom, SP Telemedia, Unwired) over the period 1998 to 2008.[110]

The figure demonstrates that investment in telecommunications infrastructure is lumpy. Telecommunications investment often coincides with technological innovation, for example, the emergence of mobile phones, ADSL, ADSL2+, pay TV networks, moving from 2G to 3G mobile, moving from circuit switched to packet switched networks, and the present roll-out of 4G mobile technology (which post-dates the data in figure 4.7). This investment pattern contrasts to other more stable industries like electricity and gas.

[110] Optus was not included in the data set until 2001.

Figure 4.7: Capital investment by the telecommunications Industry



Source: UBS Australian Telco Tracker data set.

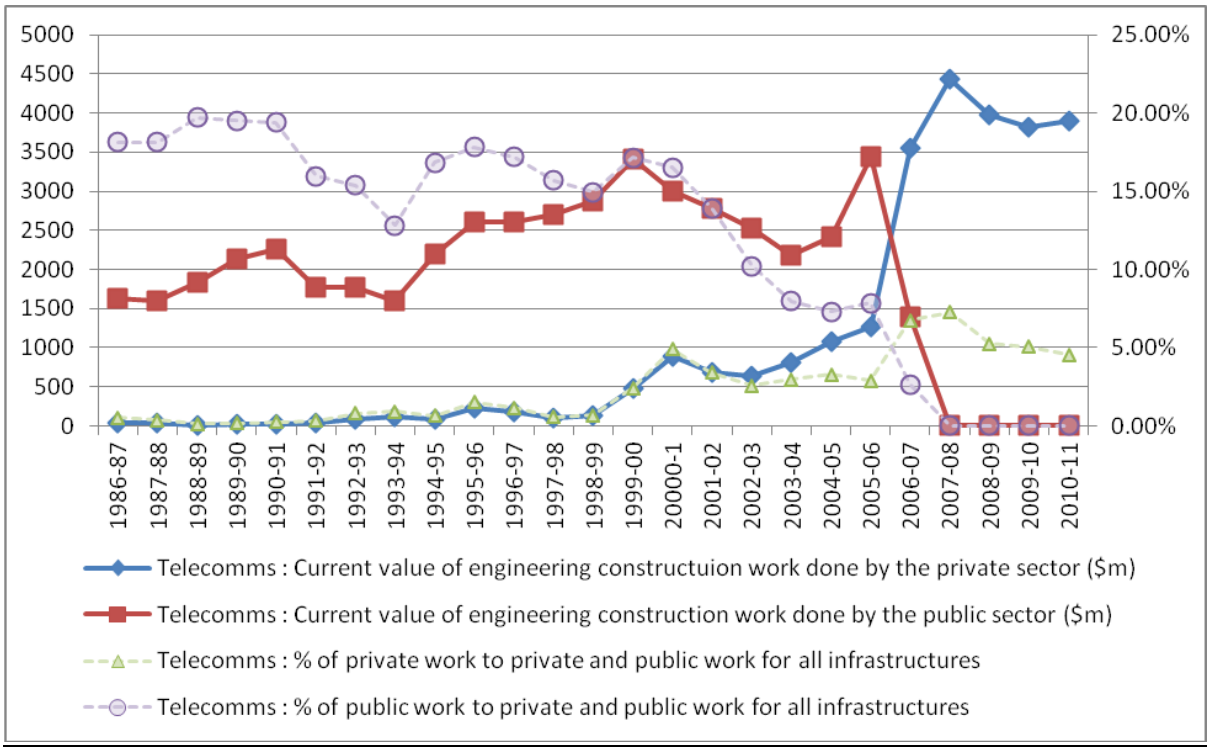
Capital expenditure peaked in 2001 reflecting a number of improvements to the Telstra network, including investment in a national CDMA network and the commencement of ADSL rollout. In addition, new operators such as Hutchison, AAPT and Primus emerged as a result of the introduction of full competition in 1997. Investment peaked again in 2007 reflecting Telstra's investment in its 'NextG' mobile network and 'Next IP' national data network, combined with competing firms investing in their own DSLAMs and backhaul networks. The roll-out of the National Broadband Network is expected to keep telecommunications infrastructure investment high over much of the coming decade. Further investments in rolling out 4G technology and addressing congestion on mobile networks are also forecast.

Data from ABS Cat. No 8762.0—Engineering Construction Activity gives a consistent picture of regular periods of high investment over a longer time period, although it should be noted that the data for 'Telecommunications' construction activity (defined as including mobile phone, radio, television, microwave and radar transmission towers; telephone lines and underground cables; and coaxial cables) is not directly comparable to the data in figure 4.7.

The significant shift from public to private engineering construction in the mid-2000s reflects the privatisation of Telstra. Since the data only covers the period to 2010-11, recent large investments in constructing the National Broadband Network are not captured in the data.

As noted previously, there are significant limitations on using the ABS data to assess the impact of access regulation on telecommunications network investment; however, the data provides a longer history and shows broadly consistent trends as other data series.

Figure 4.8 Engineering construction for telecommunications, by private and public sector



Source: ABS Cat. No 8762.0—Engineering Construction Activity.

Infrastructure access regulation in the telecommunications industry has had a key objective of promoting downstream competition by allowing retail service providers to share the use of Telstra's copper network. The pricing principles adopted for the declared wholesale fixed line services, and applied in arbitration decisions on pricing disputes, aimed to encourage efficient 'build/buy' decisions by access seekers, that is, whether they should invest in their own equipment or purchase wholesale resale services from Telstra. Unbundling access to Telstra's network—via the unbundled local loop service (ULLS), introduced in 1997, and subsequently the line sharing service (LSS)—allowed access seekers to provide retail services using their own equipment in conjunction with access to Telstra's copper network. Such investments, where they were efficient, could enable access seekers to compete more effectively with Telstra by differentiating their retail service offerings. Since 1997, there has been strong growth in access seekers' own investments in equipment to provide services over Telstra's copper network although there is evidence that this investment has slowed in recent years (ACCC 2011, 2012).

Some carriers invested in their own network infrastructure, such as Optus' and TransACT's cable networks. These networks are geographically limited and serve relatively small numbers of customers.

4.4 Infrastructure investment in bulk wheat export terminals

Since the abolition of the Australian Wheat Board (single wheat desk) and the requirement for vertically integrated port operators to have an access undertaking, there have been a number of entrants into the wheat export market. At June 2012, there were 26 accredited exporters. Consequently, bulk handlers have invested in upgrading their assets in order to meet growth in

demand for their services. While good public data is not readily available, some details on investment by the regulated bulk handlers is set out below.

Co-operative Bulk Handling Ltd (CBH): CBH was established in 1933 and operates in Western Australia. Between 1995 and 2006, CBH invested a total of $895 million in its entire bulk handling network. Since then, it has invested the following amounts each year:

Financial year	Investment ($ million)
2006	80.5
2007	30.9
2008	90.7
2009	73.9
2010	67.0
2011*	97.3
2012**	175

Notes: * $3.78 million minor shareholding in Newcastle Agri Terminal ** Locomotives and wagons.

Viterra: Viterra commenced operations in Australia in September 2009 when it combined operations with ABB Grain. While Viterra operates in most states, the bulk of its business is in South Australia. In its first 18 months of operation, Viterra invested $35 million in storage, transport, logistics and port infrastructure, in addition to $4 million in machinery (testing equipment) and commitments to invest $10 million in grain receival facilities to improve access to ports and $3 million in road upgrades.

ABA/Emerald: ABA was founded in 1999 and became a wholly owned subsidiary of Emerald Group Australia in March 2012. ABA operates grain storage facilities located across southern New South Wales and Victoria and the export terminal at the Port of Melbourne. In December 2011, ABA announced a $120 million upgrade to significantly enhance its supply chain capability and become an integrated grain marketing and logistics group with new grain storage sites and the ability to lease and run trains.

GrainCorp: GrainCorp has operated under various names in Australia since the early 1900s, with its business concentrated on various ports along the eastern seaboard. In GrainCorp's April 2012 submission to the House of Representatives committee inquiry into the Wheat Export Marketing Act Bill, GrainCorp states that it has invested over $1 billion in country and port assets.

Chapter 5: The ACCC's experience with arbitrations

Section 2.4 of this submission sets out the ACCC's views on negotiate-arbitrate frameworks, based on its experiences with the National Access Regime and the previous telecommunications access regime (which operated prior to the legislative amendments passed in 2010). This chapter provides more detailed information on those arbitrations.

Before describing these arbitrations, the arbitration provisions and processes under Part IIIA of CCA are described. Where a service has been declared under Part IIIA, and an access seeker and provider cannot agree on the terms and conditions of access to that service, either party may request the ACCC to arbitrate the dispute. To engage in arbitration, an access seeker and/or an access provider must notify the ACCC in writing.

Unless it terminates the arbitration, the ACCC must make a final determination on the dispute, which may deal with any matter relating to access by the third party to the service. In reaching its determination, the ACCC must take into account the relevant matters set out in the Act.

The CCA states that the ACCC must make a final determination within 180 days from the day an arbitration application is received. The 180 day period may in effect be extended by 'clock stoppers' (that is, certain periods of time that are not counted when calculating the 180 period). These occur where:

- the ACCC and the parties to the dispute agree to stop the clock
- the ACCC gives a direction requesting further information or submissions in relation to the dispute
- the ACCC publishes a decision to defer consideration of the dispute while it considers an access undertaking
- the ACCC defers arbitrating the dispute while a declaration is under review by the Australian Competition Tribunal.

Except where otherwise agreed by the parties to a dispute, arbitration hearings are to be conducted in private. The ACCC therefore does not generally make any public comment on disputes during the course of arbitration except to announce when a dispute has been notified. Before making a determination, the ACCC must give a draft determination to the parties. The ACCC is required to publish a written report about a final arbitration determination.

5.1 Services Sydney Pty Ltd and Sydney Water Corporation Ltd

5.1.1 Background

In 1999, Services Sydney, a private company, began negotiations with Sydney Water, the New South Wales Government-owned corporation providing water and sewerage services in Sydney, the Illawarra and the Blue Mountains. Services Sydney sought access to Sydney Water's sewerage pipeline services. Services Sydney intended to compete with Sydney Water in providing retail sewage collection services within the Sydney area using Sydney Water's sewerage reticulation

network to transport sewage from customers' premises to new trunk main sewers that it would construct to interconnect with Sydney Water's sewage reticulation network.

Services Sydney planned to construct a new state-of-the art water reclamation plant to treat the sewage and produce tertiary treated recycled water that it eventually planned to return to Sydney's catchment dams or sell for other uses, such as agricultural uses or environmental flows. Services Sydney's business model involved competing for customers principally on the basis that its effluent treatment would be more environmentally friendly than the ocean outfall system used by Sydney Water.

When access negotiations with Sydney Water proved to be unsuccessful, Services Sydney applied in March 2004 to the National Competition Council (NCC) to declare the services. In December 2004, the NCC (2004) recommended that the services be declared for a period of 50 years. However the relevant New South Wales Government Minister did not declare the services by the due date and was deemed to have decided not to declare them. Services Sydney sought review of the decision by the Australian Competition Tribunal. In December 2005, the Tribunal handed down its decision to declare the services.

5.1.2 Arbitration of the access dispute

In November 2006, Services Sydney notified the ACCC of an access dispute with Sydney Water in relation to the methodology for pricing access in respect of the declared sewage transportation services. Services Sydney proposed a building-block methodology while Sydney Water proposed a retail-minus methodology (with avoidable costs calculated using a building-block approach).

In conducting the arbitration, the ACCC held a preliminary case management meeting with the parties in November 2006 to discuss the issues in dispute. The ACCC decided that the arbitration would be limited to the access pricing methodology to be used to determine the price at which Sydney Water was to provide the three declared sewage transportation services to Services Sydney. While the parties had also advised a dispute in regard to the declared interconnection services (that is, services for the connection of new sewers to Sydney Water's reticulation network at certain points of interconnection), the ACCC was not satisfied that the parties had conducted negotiations such that it would be appropriate for the ACCC to arbitrate in relation to those services at that stage (ACCC 2007, pp. 8-9).

In December 2006, the ACCC issued Orders and Directions asking the parties to provide submissions on matters to assist the ACCC in making a final determination. Initial submissions were received from the parties in January 2007 and submissions in response were received in February 2007. The Commission held a hearing with the parties on 26 February 2007 at which an opportunity was provided to the parties to make verbal submissions and further comments on written submissions. The ACCC provided its Draft Determination to the parties in April 2007 and submissions in response were received in May 2007. The parties also provided supplementary information throughout the course of the arbitration. The ACCC also sought information from the Independent Pricing and Regulatory Tribunal (IPART) and the Environmental Protection Authority of New South Wales (the EPA). The information provided by IPART and the EPA was copied to the parties.

In June 2007, the ACCC (2007) determined that the access price that Services Sydney should pay Sydney Water in respect of the customers supplied by Services Sydney would be Sydney Water's

regulated retail price for those customers minus Sydney Water's 'avoidable costs', plus any 'facilitation costs' associated with providing access. The ACCC considered that the decision 'provides scope for entry so long as the access seeker is more productively efficient than Sydney Water in undertaking the contestable activities associated with the provision of sewerage services' (ACCC 2007, p. 3).

The ACCC (2007, p. 80) noted that it understood 'that the parties propose to use the Commission's determination regarding access pricing methodology in order to inform the parties' negotiations on access prices'. The ACCC stated in its final decision (pp. 10-11) that:

> *Application of the access pricing methodology so as to determine actual final access prices and other terms and conditions will require the parties to undertake further negotiations. If the parties are unable to agree on actual final access prices and other terms and conditions, either party will be able to seek arbitration by the ACCC subsequent to such negotiations.*

The ACCC decided that the duration of the determination would be 20 years to provide an appropriate timeframe for Services Sydney to undertake the significant investment involved with entry into the sewage treatment market, while also allowing for review within an appropriate period of time.

Services Sydney subsequently made the decision not proceed with its proposal for commercial reasons.

5.1.3 Key points from Services Sydney arbitration

The key points to be drawn from this case are:

- The time taken from initially seeking to negotiate access to obtaining the right to access and a methodology to be applied in negotiating access prices was lengthy (around eight years). Once the dispute was notified, the arbitration process was relatively short (eight months).
- A significant part of the time involved in the arbitration process was used by the parties to prepare their initial submissions, supplementary submissions, and submissions on the ACCC's draft determination.
- The ACCC had an expectation that the parties would attempt to resolve the dispute themselves before seeking arbitration. Hence the ACCC declined to arbitrate in relation to the interconnection services until there had been adequate negotiations between the parties.
- The parties intended that the ACCC's determination on the pricing methodology would provide the basis for further negotiations to settle the access prices to be paid. The ACCC's arbitration determination can be seen as facilitating the access price negotiations by determining the fundamental issue of the pricing methodology—on which the parties had been unable to reach agreement.

5.2 Virgin Blue and Sydney Airport Corporation Limited (SACL)

5.2.1 Background

Sydney Airport Corporation Limited (SACL) is the owner and operator of Sydney Airport and the lessee of the land upon which Sydney Airport is situated. Virgin Blue began operation as a domestic airline in Australia on 31 August 2000, operating on a low fare airline business model.

On 1 October 2002, Virgin Blue applied to the NCC for declaration of the Airside Service[111] at Sydney Airport. Virgin Blue sought declaration of the Airside Services at Sydney Airport to ensure that in the event that SACL imposed what Virgin Blue considered unreasonable charges upon it, Virgin Blue may dispute those charges and have that dispute determined by the ACCC.[112] In November 2003, the NCC recommended that the Airside Service should not be declared. On 29 January 2004, the Parliamentary Secretary to the Treasurer made the decision not to declare the Airside Service.

On 18 February 2004, Virgin Blue applied to the Australian Competition Tribunal for a review of the Minister's decision. On 9 December 2005, the Tribunal set aside the Minister's decision not to declare the Airside Service and declared Airside Services at Sydney Airport for a period of five years.[113] The Tribunal's decision was then subject to an unsuccessful appeal by SACL to the Full Court of the Federal Court[114] and an unsuccessful application for special leave to appeal to the High Court.[115] The declaration expired in December 2010.

5.2.2 Arbitration of the access dispute

On 29 January 2007, Virgin Blue notified the ACCC of an access dispute with SACL in relation to the provision of the Airside Service. The dispute related to the basis for pricing access to the Airside Service. Virgin Blue contended the price of access should be based on maximum take off weight (MTOW) of the aircraft using the service, whereas SACL was charging an access price on a per-passenger basis. SACL changed to a per passenger based charge on 1 October 2003. SACL had previously charged for the Airside Service on the basis of MTOW.

Virgin Blue considered that SACL's change from an MTOW-based charge for domestic flights to the Domestic PSC was discriminatory and would have a disadvantageous effect on Virgin Blue. This disadvantage was based on Virgin Blue's higher load factors and configuration of Boeing 737 aircraft.[116] SACL considered the per passenger charge encouraged a more efficient use of the services and facilities provided at Sydney Airport than did the former MTOW-based charge, and that efficient pricing principles warranted the use of a per-passenger charge.

---

111 "Airside Service" covers all movement in relation to aircraft between runways and passenger arrival and departure gates and the servicing, maintenance, equipping and re-equipping of aircraft at the start and end of a flight (*Re Virgin Blue Airlines Pty Ltd* (2005) 195 FLR 242; (2006) ATPR 42-092; [2005] ACompT 5, para 8)

112 "Application to NCC under Part IIIA of Trade Practices Act Requesting Recommendation that Airside Services Be Declared", Virgin Blue, page 5.

113 *Re Virgin Blue Airlines Pty Ltd* (2005) 195 FLR 242; (2006) ATPR 42-092; [2005] ACompT 5.

114 *Sydney Airport Corp Ltd v Australian Competition Tribunal* (2006) 155 FCR 124; (2006) 232 ALR 454; (2007) ATPR 42-142; [2006] FCAFC 146.

115 *Sydney Airport Corp Ltd v Australian Competition Tribunal* [2007] HCATrans 98.

116 *Re Virgin Blue Airlines Pty Ltd* (2005) 195 FLR 242; (2006) ATPR 42-092; [2005] ACompT 5, [186]

Arbitration of the dispute began in February 2007. The ACCC had been following the Tribunal hearing closely and were aware of the arguments for and against MTOW and price per-passenger pricing. Further, ACCC staff were also familiar with the general issues in dispute as a result of its airport price notification and price monitoring role.

A preliminary case management meeting was held with parties on 22 February 2007 to discuss issues relevant to the conduct of the arbitration. The ACCC decided the arbitration was to be conducted by a two stage process as a result of the two issues within the dispute that needed to be resolved. The first stage of the arbitration process would involve consideration of the appropriate price methodology. The ACCC would then provide parties the opportunity to negotiate and agree on an appropriate charge. The second stage of the arbitration, if needed, would focus on the access price that should be applied.

In April 2007, the ACCC accepted an application by Qantas to be made a party to the access dispute. Initial submissions by SACL, Virgin Blue and Qantas were received on 13 April 2007 and submissions in reply from all parties were received on 11 May 2007.

On 27 April 2007, the ACCC was advised of commercial negotiations between Virgin Blue and SACL and potential settlement. At the parties request dates for submissions and the oral hearing were postponed. The oral hearing was subsequently rescheduled from 4 May to 24 May 2007.

5.2.3 Withdrawal of the access dispute

On 22 May 2007, Virgin Blue formally withdrew its notification of an access dispute as the dispute had been settled commercially by the parties. The agreement reached between parties, of an undisclosed amount, provided for airport charge pricing to be based on MTOW, rather than a price per passenger, and a new Virgin Blue lounge to be established within the Sydney Airport T2 terminal.[117]

Virgin Blue noted in their submission to the Productivity Commission inquiry into Economic Regulation of Airport Services in 2010 that the credible threat of an arbitrator making a binding decision in relation to a dispute can be a very effective mechanism in facilitating truly commercial negotiations between parties where there is a significant imbalance in market power.[118]

5.2.4 Key points from the Virgin Blue dispute

It is clear that the prospect of arbitration by the ACCC of the dispute between Virgin Blue and Sydney Airport was a key driver in facilitating a commercial settlement between the parties.

5.3 Telecommunications access disputes

5.3.1 Telecommunications regime arbitration provisions

Under the *Trade Practices Act 1974* (TPA), an access seeker or access provider could notify an access dispute in relation to a declared service and seek arbitration of the dispute by the ACCC. The *Telecommunications Legislation Amendment (Competition and Consumer Safeguards) Act 2010*

---

117 '*SACL sign "sensible" new commercial agreement*', Virgin Blue, 23 May 2007.

118 *Productivity Commission Inquiry: Economic regulation of airport services*, Submission by Virgin Blue, 18 April 2011.

(CACS Act) repealed the arbitration provisions in the *Competition and Consumer Act 2010* (CCA) (formerly the *Trade Practices Act 1974*) from 1 January 2011. No further access disputes can be notified in relation to the declared services.[119]

Under the previous arbitration provisions, the ACCC could make a binding final determination to resolve access disputes relating to declared services. The ACCC's powers to arbitrate an access dispute applied when:

- a declared service was supplied or proposed to be supplied by a carrier or carriage service provider
- one or more standard access obligations applied or would apply to the carrier or carriage provider regarding the declared service
- an access seeker was unable to agree with the carrier or carriage service provider regarding the terms and conditions under which the carrier or carriage service provider was to comply with the standard access obligations.

In addition, the *Telecommunications Act 1997* (Telco Act) provides carriers with general rights to request access to the facilities of other carriers (pursuant to Parts 3 and 5 of Schedule 1). The Telco Act regime provides for a general right of carriers to request access to telecommunications infrastructure (irrespective of whether it is used to provide declared services). If parties are unable to agree as to the terms and conditions of access to the facilities then they may seek arbitration by an agreed arbitrator, or failing that the ACCC may act as arbitrator.

This section provides information about the access disputes notified to the ACCC under the repealed provisions in Part XIC of the TPA (and transitional provisions) and under the Telco Act. Further information (including published arbitration decisions) is available at www.accc.gov.au/content/index.phtml/itemId/635059.

5.3.2 Notified access disputes and arbitrations in telecommunications

Initially the ACCC strongly encouraged parties in the telecommunications industry to seek to resolve access issues through commercial negotiations, supported when necessary by commercial mediation and/or by expert determination by an independent expert. The ACCC considered it preferable that it should arbitrate in a dispute after the parties had made reasonable attempts to resolve their issues through negotiation. The ACCC's 2002 *Resolution of telecommunications access disputes —a guide* (ACCC 2002, pp. 15-17) stated that:

> *Arbitration is not the only method used to resolve a dispute and may not always be the most efficient means for doing so. Moreover, arbitration involves imposing an arrangement on the parties that the Commission has determined rather than one for which they have 'ownership'. Therefore, where possible the Commission will facilitate alternative methods of dispute resolution—including commercial negotiation. ... The parties will be given every opportunity to conclude commercial negotiations, or engage in alternative dispute resolution processes for particular issues when they are more likely to efficiently resolve the dispute.*

[119] Some transitional provisions were included in the CACS Act.

The ACCC also published pricing principles, model terms and conditions, and (from 2006) indicative prices to provide guidance as to what the arbitration outcome was likely to be. Providing this guidance was intended to assist parties to reach commercial agreement through negotiation. However, for a number of reasons (discussed in section 5.3.3 below), there was very limited success in resolving disputes via commercial negotiations and a significant number of access disputes proceeded to arbitration.

In addition, section 152BBA of the CCA provides parties seeking to negotiate commercial access terms and conditions with the opportunity to request that the ACCC give written directions to the parties 'for the purposes of facilitating those negotiations'. Such directions could include: the provision of information relevant to resolving the dispute; the removal of unreasonable procedural conditions on a party's participation in negotiations; requirements to respond to the other party's proposals in relation to resolving the dispute; and requirements to attend mediation or conciliation. An important purpose of section 152BBA was to allow the ACCC to assist in re-starting stalled negotiations and thereby increase the likelihood of successful commercial resolution. The ACCC has not received any requests for such directions.

In total, more than 150 access disputes have been notified since 1997, most under the Part XIC provisions. Large numbers of disputes were notified in 1999 (mostly relating to the mobile terminating access service (MTAS)), 2000 (mostly relating to the PSTN originating and terminating service (PSTN OTA) and the local carriage service (LCS)), and from 2005 to 2009 (mostly the ULLS, MTAS and the line sharing service (LSS)). From 2009 to 2012, the number of access disputes notified to the ACCC declined significantly because the ACCC now has the power to make access determinations.

While the majority of disputes involved Telstra as the access provider, a significant number of disputes involved other access providers, particularly Optus and Vodafone (now VHA), generally in relation to MTAS.

Prior to 2006, the proportion of notified disputes resulting in a final arbitration determination was relatively low, mainly due to the settlement of reciprocal terms for MTAS. From 2006, most disputes proceeded to final arbitration determination and a significant proportion were appealed, generally without success.

5.3.3 Key points

Several points can be drawn from the ACCC's experience with access disputes and arbitrations in the telecommunications industry:

- There were a significantly higher number of access disputes under Part XIC than in other sectors (182 compared to three).
- Telstra held relevant information about its facilities, services and efficient costs, to which access seekers did not have general or uninhibited access. Reaching a commercially negotiated agreement was more difficult in these circumstances and this increased recourse to arbitration.
- In addition to its incentives to use its monopoly position to maximise its profits, Telstra's vertical integration reduced its commercial incentives to provide access and created an incentive to deny

or delay the provision of access in order to provide a commercial advantage to its own downstream business. Telstra had an incentive to use every procedural opportunity available to it to delay providing access to its downstream competitors on reasonable terms and conditions.[120]

- The mobile network operators and other vertically integrated network operators (such as Optus) had similar incentives to seek to avoid or delay providing interconnection to their retail competitors on reasonable terms.

- Refusing to negotiate reasonable terms, and then proceeding to arbitration, could be used as a means of delaying the provision of access on reasonable terms and conditions. Until a final arbitration decision was made, access seekers would face uncertainty about the terms and conditions of access. This uncertainty created difficulties and risks for access seekers' decisions on setting retail terms and conditions, particularly in regard to long-term retail plans.[121]

- By submitting a series of unreasonable undertakings after an arbitration process had commenced, Telstra could delay the finalisation of an arbitration determination. The ACCC was required to suspend arbitrations while it assessed an undertaking related to the service the subject of the dispute. This extended the period of uncertainty about regulated terms and conditions (ACCC 2009).

- Where there are multiple issues and multiple parties all simultaneously negotiating access to services, reaching agreement on reasonable commercial terms and conditions becomes more difficult. This is a further factor likely to lead to increased recourse to arbitration.

- A high percentage of arbitration determinations were appealed, despite the low rate of success in overturning the ACCC's decisions. These appeals imposed substantial costs and uncertainty on the parties. This is likely to have adversely affected access seekers' ability to compete effectively for retail customers and may have deterred new entry, with negative implications for downstream competition. In addition, it appears to have damaged the relationship between the parties during the relevant period and had a negative impact on subsequent commercial negotiations.

The ACCC notes that similar points were made by a 2002 independent consultants' report to the ACCC (Phillips Fox 2002, pp. 9-10). The consultants stated that:

> *It is clear that telecommunications access disputes are commonly more complex than standard commercial arbitrations. The consultants consider that this arises due to four key distinguishing characteristics:*
>
> *4.1.1 the parties commonly lack a mutual commercial incentive to reach a settlement, particularly where the service to which access is being sought is provided by infrastructure*

[120] Delaying the provision of access while negotiating terms and conditions, or imposing unreasonably high access prices or unreasonable non-price terms, could hinder an access seeker's ability to compete effectively for retail customers. Anti-competitive impacts could be sustained after regulated terms and conditions were determined via arbitration in circumstances where retail customers incur substantial switching costs. In addition, access seekers could suffer financial losses while waiting for a final arbitration decision on regulated terms and conditions and the risk of such losses could deter new entry.

[121] The potential for the arbitration decision to be backdated did not remove this uncertainty.

which has natural monopoly characteristics and where the infrastructure owner competes in a downstream service market;

4.1.2 telecommunications access arbitrations can involve the creation of rights, as well as the adjudication of rights;

4.1.3 the existence of the public benefit requirements under the Act; and

4.1.4 the complexity associated with access pricing.

Chapter 6: International experience of regulating infrastructure access

The ACCC's views on the design and operation of the National Access Regime, set out in chapter 2 of this submission, have been informed by the ACCC's research into regulatory regimes in other countries.

This chapter summarises findings from an ongoing research program by the ACCC into general issues in the practice of regulation across different infrastructure sectors and a broad range of OECD countries. The purpose of the research, which was initially undertaken under the guidance of the Infrastructure Consultative Committee (ICC),[122] is to identify potential improvements in regulatory design and processes. The findings of this research will contribute to identifying more efficient and effective processes and decision-making frameworks for facilitating third party access to infrastructure.

The terms of reference (TOR) for the PC's inquiry into National Access Regime include a requirement for the PC 'to provide advice on ways to improve processes and decisions for facilitating third party access to essential infrastructure' (TOR 4).

6.1 Overview of the ACCC/AER's international regulation research program

In regulating infrastructure industries, the ACCC/AER aims to implement effective regulatory measures (that improve the efficiency of the economy and increase the welfare of Australians) using least-cost methods—that is, to achieve best-practice regulation. Regular review of regulatory practices and processes is, in the ACCC's view, an essential element in maintaining a focus on best-practice regulation. Economic regulation of third-party access to infrastructure is a relatively recent policy. Consequently, regulatory approaches are evolving and changing based in part on learning by doing, but also by learning from the experiences of regulators in other jurisdictions (Pearson 2012).

In 2009 the ACCC completed the first stage of its research into international regulatory and competition design and practices. The first report (ICC 2009) compared regulatory processes and practices in eleven OECD countries in seven infrastructure areas (energy—gas and electricity, telecommunications, postal services, water and wastewater, rail—national and inter-city, airports, and ports and port-related services). The report set out some insights on issues relating to institutional design, objectives, consultation practices, information collection and dissemination, timeliness, decision-making and reporting, and appeals against regulatory decisions.

A new research project, titled *Better Economic Regulation of Infrastructure – International Insights*, updates the ACCC's 2009 research by surveying current practices and processes in the same seven infrastructure areas. It expands the scope of the research to seventeen countries (including additional Asian countries and South Africa). The new research looks more closely at issues such as

[122] The current project, which updates and expands on the 2009 research, is under the guidance of an internal ACCC/AER advisory committee and includes an ICC representative. Regular reports will be made to the ICCC during the course of the project.

the impact of ownership (private versus government) on the regulatory approach adopted and the potential to improve the appeals process by considering relationships along the entire 'regulatory supply chain', including levels of prescription, the extent of consultation, and discretion within the decision-making process. The ACCC expects to publish the results of its current study in 2013.

The themes emerging from the ACCC's new research largely build on the findings from the 2009 research. An overarching theme is that, while principles of best-practice regulation tend to be widely agreed upon, it is a more difficult and complex exercise to determine where trade-offs will be made. Thus the focus of the 2009 report was on identifying alternative ways to balance competing regulatory objectives, including timeliness, transparency of decision-making, effective consultation, and overall effectiveness. This remains a key issue for regulators in Australia and internationally.

In regard to the PC's terms of reference, this finding highlights that trade-offs need to be made between 'promoting best practice regulatory principles, such as those pertaining to regulatory certainty, transparency, accountability and effectiveness' (TOR 4a) and 'measures to improve flexibility and reduce complexity, costs and time for all parties' (TOR 4b).

The remainder of this chapter sets out the ACCC's findings in relation to key issues for best-practice regulatory processes and decision making.

6.2 Regulatory design and institutions

Regulatory design is a key driver of processes and practice and is influenced by a range of geographic, economic, political, legal and cultural factors. While regulatory design is strongly context driven (and therefore specific to an individual country), some broad generalisations can be made from the country comparisons:

- Countries, like Australia, that practise regulation based on a carefully constructed set of regulatory principles generally have a more coherent and consistent approach to regulation than countries that have not followed this path.
- Many regulatory regimes aim to promote consumer interests, with the underlying view that promoting competition and economic efficiency is the best way to achieve that aim. However, adding additional objectives such as the protection of disadvantaged and low-income consumers, and the abatement of climate change, can create the potential for conflict with the pursuit of competition and efficiency.
- Regulatory responsibility for economic infrastructure may rest with the national government, sub-national governments or be shared by national and sub-national governments. This is an important issue in all the federations and for Member States of the European Union.
- As private ownership of economic infrastructure increases, the perceived need for independent regulatory decision making and procedural fairness increases. Similarly, the potential dampening effect of regulation on infrastructure investment becomes a bigger issue.

The most common organisational structure for infrastructure and competition regulation is to have separate institutions for competition regulation and for infrastructure (often 'utility') regulation. Infrastructure regulators are usually organised on a sectoral basis (such as across energy or

communications) or an industry basis (especially for transport areas like rail and airports).[123] A small number of countries have a relatively high degree of institutional integration—New Zealand (Commerce Commission (NZCC)), Australia (ACCC), the Netherlands (the Netherlands Competition Authority (NMa) that regulates energy and some transport infrastructure) and Germany (multi-sectoral regulator, BNetzA).[124] In recent years there has been a clear international trend towards combining regulatory, competition and consumer functions in a single institution (a multi-sectoral regulator).[125]

The reasons for these trends seem clear: the need for consistency and a coordinated approach across different infrastructure areas; a pro-competitive approach to regulation;[126] the desirability of a broader analytical approach along the supply chain; and the synergies from the sharing of scarce legal, economic and technical skills.

The ability of an integrated, multi-sectoral regulator to provide coordinated regulation and to deliver consistency across sectors is of particular importance to promoting efficient investment incentives. Given that all industries compete for investment capital, inconsistent approaches to issues such as the valuation of capital could lead to inefficient investment patterns. Where decision making is spread across industry-specific regulators, there is a potential for inconsistent regulatory decisions that inadvertently distort investment decisions. Investment might be attracted to infrastructure assets where regimes were applied more 'generously'. This risk is a consideration in assessing 'options to ensure that, as far as possible, efficient investments in infrastructure are achieved' (TOR 4c).

Another reason for merging regulatory, competition and consumer functions may be to reduce the risk of 'regulatory capture' (Stigler 1971), which may be more likely to occur with an industry-based regulatory body (which lacks the broader perspective possible with the multi-sectoral regulator).

However, some potential shortcomings of greater integration of regulatory decision making have become apparent. With a concentration in decision making within a single multi-sectoral regulator, a mistake in one area, or a failure to make headway in a difficult area, will potentially have a bigger

[123] There has been a trend away from industry-based and sub-sector-based regulators towards sectoral ones; especially in energy and communications, but also in transport. For example, in the UK, Ofcom (the Office of Communications, formerly Oftel, the Office of Telecommunications) has broadened its responsibilities from telecommunications to include spectrum, broadcasting and postal services. Similarly, Ofgem (the Office of the Gas and Electricity Markets) was formed by combining the UK electricity and gas regulators. In Sweden, transport regulatory functions have been brought together under the Swedish Transport Agency.

[124] The German Federal Network Agency, BNetzA, was formed in 2006 by combining sectoral and industry regulators. In the Netherlands, the competition body (the NMa, which regulates energy and transport) will be merged with the OPTA (the current regulator of postal services and telecommunications) on 1 January 2013 to form the Authority for Consumers and Markets (ACM).

[125] Competition bodies are being merged with one or more consumer agencies (Finland, Denmark, Italy and the Netherlands), with each other (the UK Competition Commission and the Office of Fair Trading are to be merged into a single Competition and Markets Authority (CMA)) and with regulatory bodies (the Netherlands, and prospectively, Spain).

[126] The Hilmer Report (Independent Committee of Inquiry 1993) favoured the establishment of a national independent statutory authority (that came to be the ACCC) with economy-wide responsibility for economic regulation in addition to competition law and consumer protection. Chief amongst the arguments for favouring this structure was the importance of a focus on competition. If competition law/anti-trust and economic regulation were separated, the competition focus could be lost, distorted or relegated to a secondary position.

impact than a set-back for an industry or sectoral regulator, where the consequences are more likely to be confined to that industry or sector.

6.3 Consultation, timeliness and decision-making processes

Consultation about regulatory arrangements is one way in which the interests of all stakeholders can be taken into account in regulatory decision making. It also helps improve the transparency of regulatory decision making. However, consultation can also lengthen the time taken to reach a regulatory decision. The ACCC has found an inverse relationship between the extent of consultation undertaken by a regulator and the time taken to reach a decision.

Regulators in most of the surveyed countries have statutory duties to consult. However, the nature of the consultation process, the time period over which consultation is conducted and the level of involvement of different interested parties vary. Consultation occurs at different stages of the regulatory process through formal or informal mechanisms (or a combination). While the impact on regulatory processes of consultation is difficult to assess, some evidence was found that higher levels of consultation in setting access conditions, for example, have been linked with a reduced incidence of access disputes.

The ACCC's international research has provided some interesting insights into two of Australia's problematic issues—achieving timeliness in regulatory decision making and facilitating commercially negotiated outcomes.

With regard to timeliness, regulated firms in particular have argued to government that regulatory decisions need to be made more quickly. The time taken for a regulator to make a decision can increase uncertainty for regulated firms and their customers. The costs of delay can be large, especially in infrastructure areas such as telecommunications and electricity where technological change is rapid. Decision-making timeframes can be influenced by the requirements to consult, as well as the availability of, and timeframes for, appeals against regulatory decisions.

While the time commonly taken to conduct regulatory processes appears to generally have been reduced, there remains a continuing issue as to how to balance timeliness with the other objectives of effectiveness, transparency and sufficient consultation. There is evidence that regulated firms may have incentives to extend timeframes—to delay price reductions or deter competition—by providing incomplete or unnecessary information or delaying submission of requested information. Thus it may be appropriate to place time limits on decision making. However, the desirability of doing so must be carefully balanced with the desirability of the regulator having sufficient time to consider often large amounts of complex information and issues in consultation with stakeholders.

Based on the ACCC's international research, the main ways in which decision-making timeframes can be reduced are where an effective pre-lodgement process exists, where the matter is relatively simple or where government retains ownership and control of the infrastructure operator. In its 2009 report, the ACCC concluded that: 'As a general observation, it appears that formal requirements that a more sophisticated regulatory process be shorter than four months can only be achieved by the curtailing of consultation and transparency' (ICC 2009, p. 84).

In relation to facilitating commercial negotiations, Australian governments agreed in 2006 that, in the first instance, terms and conditions for access to infrastructure services should be commercially

agreed between the access seeker and infrastructure provider.[127] Of note in this regard are that some countries required higher hurdles to be met before the regulator became involved; these hurdles included requirements for a party to consult the industry or to exhaust alternative dispute resolution avenues before the regulator commences its processes. There are no such hurdle requirements in Australia.

However, in comparing timeliness with and without pre-lodgement negotiations and mediations, the duration of pre-lodgement processes needs to be included in overall timeframes for dispute settlement. The ACCC has found that hurdle requirements do not necessarily reduce the *overall* time taken to achieve an outcome. Expedition could, however, occur where the issues for resolution are more precisely delineated by pre-lodgement mediation and negotiation. Further, mediation processes may be more streamlined than the formal process that followed dispute lodgement. While mediation decisions are non-binding, the ACCC has found an apparent high willingness among parties to participate in the mediation process.

In some countries, the involvement of end users in regulatory processes is established or recognised by industry-specific or sector-specific legislation. International practice indicates that one way of improving the input of key stakeholders in regulatory decision-making is through the establishment of industry councils comprised of a broad range of interests; however, there are obvious risks and trade-offs to be made—bodies composed of diverse interests may provide for unwieldy processes and unfocused engagement while narrower representations may be at risk of undue influence or 'capture'.

6.4 Information collection, disclosure and confidentiality

Regulators in the surveyed countries typically have a range of information-collection powers to facilitate the performance of their duties and enforcement of relevant laws. These powers are derived from general administrative law or from industry-specific or sector-specific legislation. The timely provision of information by regulated entities has been identified as an issue in a number of countries, in particular because of the incentives that incumbents may have to delay determinations on access matters. The ability to prevent delays is considered by many regulators to be difficult to prevent, but some initiatives can be identified, such as the regulator making a decision on the basis of available facts if parties do not provide information within specified timeframes.

A trend is observable across the surveyed countries for more transparency and greater public access to documents used in regulatory decision making. In some cases, tensions have been identified between the goals of making as much information publicly available as possible and providing that information in a manner that is most useful for stakeholders (such as in shorter, more readable documents).

The amount of information collected from a regulated entity appears to be influenced, in part, by the provisions for merits review process, in particular whether the review was limited to the material before the initial decision maker.

[127] *Competition and Infrastructure Reform Agreement*, 10 February 2006, Clause 2.2.

6.5 Appeals

There are two basic forms of appeals: a determination of the legality of a regulatory decision (sometimes called 'judicial review' that is only concerned with whether the decision has been lawfully made); and a review of a regulatory decision on its merits (sometimes called 'merits review' that enables the review of all aspects of a decision including findings as to facts and the exercise of due discretion).[128]

Appeal avenues, appeal 'triggers' and remedies differ greatly across countries. As observed by the Limited Merits Review Panel (Yarrow, Egan and Tamblyn 2012, p. 2) in relation to review arrangements in other regulatory areas and in overseas jurisdictions:

> *[It] suffices to note that (a) for major regulatory decisions such as price or revenue control determinations, some or other form of merits/administrative review is a common feature of regulatory systems, and (b) the comparisons indicate considerable diversity in institutional arrangements.*

While the type of appeal mechanism varies widely across the surveyed countries, appeal arrangements seem to be driven by two key factors:

- The country's model of government—Where there is a high separation of judicial power, merits review is in certain circumstances available as an intermediate step in which appeals could go to an executive body (such as the Australian Competition Tribunal).[129]
- The extent to which an industry or sector is privatised and open to competition, particularly where investors operate multi-nationally.

In establishing appeal mechanisms, policy makers have recognised the importance of broad reviews of regulatory decisions for securing improvements in decisions and decision-making processes. Effective appeal mechanisms are of particular importance when regulatory decisions involve 'high levels of discretion, complex economic concepts and many layers of small, inter-related judgments' (Administrative Review Council quoted in Yarrow, Egan and Tamblyn 2012, p. 3).

Effective appeal mechanisms are expected to promote confidence in the regulatory regime by infrastructure investors. The return on infrastructure investments depends upon the terms and conditions of access. Arguably, unless a government allows for review of regulatory decisions, the investment risks associated with the potential for regulatory error or unreasonable decisions may deter private investment in infrastructure. Merits review can provide a credible commitment by government that regulatory decisions will be 'correct' and 'preferable' (that is, correct in law and the best decision based on the facts), unbiased, based on relevant evidence, and not subject to regulatory opportunism.

However, there are drawbacks to appeal processes—they can cause uncertainty and increase the time and cost of regulatory decision making.

---

[128] In the Australian context, the judicial review powers are vested in the court while the merit review powers are vested in the Commonwealth merits review tribunals.

[129] Countries where merits review is available include Germany, the United States, New Zealand, the Netherlands and Ireland.

The tension between timely processes and providing opportunities for merits review has clearly been recognised in Australia. Review processes have had a complex history across the different regulated sectors and finding the right balance continues to be a critical issue in regulatory policy. Recently, concerns about large electricity and gas price rises and shortcomings in the rules for setting prices for energy network businesses have prompted several inquiries, including a review of the limited merits review regime (AER 2012, p. 2).

The ACCC's current research project is examining more closely the relationships along the entire 'regulatory supply chain', including levels of prescription, the extent of consultation, and discretion within the decision-making process, to identify any international lessons in how to improve appeal processes and outcomes.

Appendix 1: Evaluating infrastructure reforms and regulation

The ACCC/AER has published two working papers in the ACCC/AER Working Paper Series on methodologies and evidence for evaluating infrastructure reforms and the economic regulation of infrastructure.

The first working paper (ACCC/AER 2010) aims to provide a comprehensive coverage of the issues that can arise, and the methods that can be used, in conducting *ex post* evaluations of competition, institutional and regulatory reforms affecting economic infrastructure in key areas including energy, communications, water and transport. It was released in August 2010.

The second paper, which is a companion paper to the first working paper on this issue, contains an account of how institutional and governance arrangements have evolved in each infrastructure area over its relevant reform era. It combines the available methods of evaluation with a discussion of the available data to assess the extent to which *ex post* evaluations of competition and regulatory reforms affecting economic infrastructure are possible. It was released in December 2011.

Since either the ACCC or the AER has a role as regulator of much of the economic infrastructure considered in the research, the evaluation role itself is best undertaken by others. The ACCC/AER's intention in publishing this research is to provide useful information for independent researchers—in government, universities or the private sector—interested in evaluating the effects of competition and regulatory reforms. In particular, the aim is to provide an overview of the reforms that have occurred, the data that are available, and the methods that might be applicable to evaluative research in key infrastructure areas.

The research also identifies some limitations of existing data and methods and thus advocates a cautious approach to evaluations in some areas. It also makes suggestions for improving the potential for ex post evaluations in the future.

The ACCC submits both papers as part of its submission to the PC's inquiry:

Evaluating infrastructure reforms and regulation—working paper no. 2

Evaluation of Australian Infrastructure Reforms: An Assessment of Research Possibilities – working paper No. 5

Other papers in the ACCC/AER Working Paper Series are available on the ACCC's website www.accc.gov.au.

Appendix 2: Access undertakings and codes considered by the ACCC pursuant to Part IIIA

Part IIIA of the CCA provides for access undertakings to be submitted to the ACCC. While the provisions allow voluntary undertakings, in some industries, legislative or contractual obligations have required providers to submit an undertaking to the ACCC. Some examples of industries in which undertakings have been assessed by the ACCC include:

- **Electricity transmission and distribution networks:** Prior to 2005, owners of electricity transmission and distribution networks were required to submit access undertakings in a specific form to the ACCC under the *NEM Access Code* (which had been accepted by the ACCC in 1998 following the establishment of the National Electricity Market through COAG).

- **Gas distribution:** The only access undertaking considered by the ACCC in the gas distribution industry (Duke Eastern Gas Pipeline) was submitted to the ACCC because Duke Eastern considered that Part IIIA provided more flexibility, compared to an access arrangement under the National Third Party Access Code for Natural Gas Pipeline Systems (Code), to achieve the aims of the Code.

- **Airports:** Under the *Airports Act* 1996, some airport services would be automatically declared if access undertakings were not accepted by the ACCC by a certain date. Access undertakings were lodged by Melbourne and Perth Airports.

- **Rail:** As part of a 1997 Inter-Governmental Agreement, the Australian Rail Track Corporation (ARTC) was required to submit an undertaking to the ACCC for its Interstate Rail Network once it secured the necessary arrangements with the states. In addition, as a condition of its lease arrangement with the NSW Government, ARTC was required to have an undertaking accepted by the ACCC for its Hunter Valley network.

- **Wheat:** Bulk-grain port terminal operators who have verticality integrated wheat exporting operations are required to have an access undertaking accepted by the ACCC to pass an 'access test' under industry-specific legislation (the *Wheat Export Marketing Act* 2008).

The following section summarises the undertakings and access codes assessed by the ACCC in these different industries, being:

I. Electricity

II. Gas

III. Airports

IV. Rail (Hunter Valley and Intestate Rail Networks)

V. Wheat ports.

The ACCC's role in assessing access undertakings for each of these industries is summarised in the sections **I-V** below.

The ACCC also assessed undertakings for telecommunications services – however, this assessment was conducted under the industry-specific provisions in Part XIC, rather than Part IIIA.

I. ELECTRICITY

In a process coordinated through COAG, the National Electricity Market (NEM) was established in southern and eastern Australia. COAG utilised both state legislation and the voluntary undertaking process under Part IIIA to establish the regime.

In September 1998, the National Electricity Code Administrator (NECA), as a prescribed industry body, submitted to the ACCC the *National Electricity Market Access Code (NEM Access Code*) under s 44ZZAA of the TPA. The ACCC accepted the *NEM Access Code* (with the exception of Chapter 3) under Part IIIA of the TPA.

After the acceptance of the NEM Access Code, in order to protect their facilities from the possibility of declaration under Part IIIA individual facility owners still needed to submit access undertakings. However, having the *NEM Access Code* in place allowed the ACCC to waive the requirement to perform separate public assessments of individual access undertakings where undertakings submitted complied with the *NEM Access Code*. This approach was aimed at ensuring that the access regime comprehensively covered the NEM and provided a streamlined process for assessing individual access undertakings, by avoiding unnecessary duplication of assessment procedures for conforming access undertakings.

In 2001, the ACCC authorised participation of unregulated interconnectors in the NEM, because it considered that the participation of market network service providers (MNSPs) in the NEM would deliver a net public benefit. This change to the NEM allowed MNSPs to submit access undertakings to the ACCC. The ACCC was required to assess the Basslink and Murraylink undertakings in accordance with s 44ZZA of the TPA, and not the *NEM Access Code*.[130]

[130] Schedule 5.9 of the *NEM Access Code* established a pro-forma access undertaking that required MNSPs to provide access to code participants in accordance with Chapter 3 of the Code. However, this Schedule had not been included in the version of the Code that had been accepted by the Commission.

Amendments to the *National Electricity Law* were made in 2005 which provided for the NEC to be replaced by the *National Electricity Rules* (NER).

Under the NER, network service providers are regulated by the Australian Energy Regulator (AER), and are no longer required to submit access undertakings to the ACCC.

Year	Service provider	Scope of Undertaking/code	Outcome	Term of undertaking
1998	National Electricity Code Administrator (NECA)	Transmission and distribution networks (National Electricity Market – southern and eastern Australia) The *NEM Access Code* consisted of all aspects of the National Electricity Code (NEC) other than chapter 3	The *NEM Access Code* was submitted to the ACCC by NECA as a prescribed industry body. The ACCC accepted the *NEM Access Code* on 16 September 1998.[131] A number of subsequent variations to the Code were accepted by the ACCC. The Code was replaced by the National Electricity Rules with the commencement of the National Electricity Law in 2005.	***Accepted:*** 16 September 1998 ***Varied:*** 20 January 1999, 3 March 2004, 1 June 2005, 31 August 2005 **Expired**
1998	AGL Electricity	Victorian distribution network	AGL Electricity submitted its access undertaking in the form given by Schedule 5.8 of the NEM Access Code. The ACCC accepted AGL's access undertaking.[132]	***Accepted:*** 11 December 1998 **Expired**
1998	Australian Inland Energy	New South Wales transmission and distribution networks	Australian Inland Energy submitted its access undertaking in the form given by Schedule 5.8 of the NEM Access Code. The ACCC accepted Australian Inland Energy's access undertaking.[133]	***Accepted:*** 26 October 1998 **Expired**

131 The code can be accessed at http://www.accc.gov.au/content/index.phtml/itemId/271185.
132 AGL Electricity's undertaking can be accessed at http://www.accc.gov.au/content/index.phtml/itemId/566351.
133 Australian Inland Energy's undertaking can be accessed at http://www.accc.gov.au/content/index.phtml/itemId/566556.

Year	Service provider	Scope of Undertaking/code	Outcome	Term of undertaking
1998	CitiPower	Victorian distribution network	CitiPower submitted its access undertaking in the form given by Schedule 5.8 of the NEM Access Code. The ACCC accepted the access undertaking.[134]	***Accepted:*** 7 December 1998 **Expired**
1998	Eastern Energy Limited	Victorian transmission and distribution networks	Eastern Energy Limited submitted its access undertaking in the form given by Schedule 5.8 of the NEM Access Code. The ACCC accepted the access undertaking.[135]	***Accepted:*** 30 October 1998 **Expired**
1998	Energy Australia	New South Wales transmission and distribution networks	Energy Australia submitted its access undertaking in the form given by Schedule 5.8 of the NEM Access Code. The ACCC accepted the access undertaking.[136]	***Accepted:*** 3 November 1998 **Expired**
1998	ETSA Utilities	South Australian distribution network.	ETSA Utilities submitted its access undertaking in the form given by Schedule 5.8 of the NEM Access Code. The ACCC accepted the access undertaking.[137]	***Accepted:*** 27 October 1998 **Expired**
1998	ETSA Transmission Corporation (trading as ElectraNet SA)	South Australian transmission and distribution networks	ETSA Transmission submitted its access undertaking in the form given by Schedule 5.8 of the NEM Access Code. The ACCC accepted the access undertaking.[138]	***Accepted:*** 27 October 1998 **Expired**

134 CitiPower's undertaking can be accessed at http://www.accc.gov.au/content/index.phtml/itemId/566585.

135 Eastern Energy's undertaking can be accessed at http://www.accc.gov.au/content/index.phtml/itemId/573207. Eastern Energy changed its name to TXU Electricity in 2000: http://www.accc.gov.au/content/index.phtml/itemId/573213.

136 Energy Australia's undertaking can be accessed at http://www.accc.gov.au/content/index.phtml/itemId/568720.

137 ETSA's undertaking for its distribution network can be accessed at: http://www.accc.gov.au/content/index.phtml/itemId/574335.

138 ETSA's undertaking for its transmission and distribution networks can be accessed at: http://www.accc.gov.au/content/index.phtml/itemId/568610.

Year	Service provider	Scope of Undertaking/code	Outcome	Term of undertaking
1998	Integral Energy Australia	New South Wales transmission and distribution networks	Integral Energy Australia submitted its access undertaking in the form given by Schedule 5.8 of the NEM Access Code. The ACCC accepted the access undertaking.[139]	***Accepted:*** 28 October 1998 **Expired**
1998	New South Wales Electricity Authority trading as TransGrid	New South Wales transmission and distribution networks	TransGrid submitted its access undertaking in the form given by Schedule 5.8 of the NEM Access Code. The ACCC accepted the access undertaking.[140]	***Accepted:*** 3 November 1998 **Expired**
1998	North Power	New South Wales transmission and distribution network	North Power submitted its access undertaking in the form given by Schedule 5.8 of the NEM Access Code. The ACCC accepted the access undertaking.[141]	***Accepted:*** 30 October 1998 **Expired**
1998	Powercor Australia Limited	Victorian distribution network	Powercor Australia submitted its access undertaking in the form given by Schedule 5.8 of the NEM Access Code. The ACCC accepted the access undertaking.[142]	***Accepted:*** 25 November 1998 **Expired**
1998	Queensland Electricity Transmission Corporation	Queensland transmission and distribution networks	Powerlink Queensland submitted its access undertaking in the form given by Schedule 5.8 of the NEM Access Code. The ACCC accepted the access undertaking.[143]	***Accepted:*** 20 November 1998 **Expired**

139 Integral Energy's undertaking can be accessed at: http://www.accc.gov.au/content/index.phtml/itemId/571513.
140 TransGrid's undertaking can be accessed at: http://www.accc.gov.au/content/index.phtml/itemId/573123.
141 North Power's undertaking can be accessed at: http://www.accc.gov.au/content/index.phtml/itemId/568605.
142 Powercor's undertaking can be accessed at: http://www.accc.gov.au/content/index.phtml/itemId/571544.
143 Powerlink Queensland's undertaking can be accessed at: http://www.accc.gov.au/content/index.phtml/itemId/573105.

Year	Service provider	Scope of Undertaking/code	Outcome	Term of undertaking
	Limited (Powerlink Queensland)			
1998	South East Queensland Energy Corporation (Energex)	Queensland transmission and distribution networks	Energex submitted its access undertaking in the form given by Schedule 5.8 of the NEM Access Code. The ACCC accepted the access undertaking.[144]	***Accepted:*** 28 October 1998 **Expired**
1998	United Energy Limited	Victorian transmission and distribution networks	United Energy submitted its access undertaking in the form given by Schedule 5.8 of the NEM Access Code. The ACCC accepted the access undertaking.[145]	***Accepted:*** 14 December 1998 **Expired**
1998	Victorian Power Exchange Pty Ltd	Victorian transmission network.	Victorian Power Exchange submitted its access undertaking in the form given by Schedule 5.8 of the NEM Access Code. The ACCC accepted the access undertaking.[146]	***Accepted:*** 3 November 1998 **Expired**
2000	Bluemint Pty Ltd (acquirer of ElectraNet SA assets)	South Australian transmission and distribution networks	Bluemint submitted its access undertaking in the form given by Schedule 5.8 of the NEM Access Code. The ACCC accepted the access undertaking.[147]	***Accepted:*** 11 October 2000 **Expired**
2000	HQI Australia Ltd Partnership	Directlink's market network services between New South Wales and	HQI and EMMLINK are the owners of Directlink.	***Accepted:*** 11 February

144 South East Queensland Energy's undertaking can be accessed at: http://www.accc.gov.au/content/index.phtml/itemId/568674.
145 United Energy's undertaking can be accessed at: http://www.accc.gov.au/content/index.phtml/itemId/573218
146 Victorian Power Exchange's undertaking can be accessed at: http://www.accc.gov.au/content/index.phtml/itemId/573751.
147 Bluemint's undertaking can be accessed at: http://www.accc.gov.au/content/index.phtml/itemId/573131.

Year	Service provider	Scope of Undertaking/code	Outcome	Term of undertaking
	(Directlink)	Queensland	HQI submitted its access undertaking for Directlink's market network services in the form given by Schedule 5.8 of the NEM Access Code. The ACCC accepted the access undertaking.[148]	1999 **Expired**
2000	EMMLINK Pty Ltd (Directlink)	Directlink's market network services between New South Wales and Queensland	HQI and EMMLINK are the owners of Directlink. EMMLINK submitted its access undertaking for Directlink's market network services in the form given by Schedule 5.8 of the NEM Access Code. The ACCC accepted the access undertaking. [149]	***Accepted:*** 11 February 2000 **Expired**
2000	SPI Powernet	Victorian transmission and distribution networks	SPI Powernet submitted its access undertaking in the form given by Schedule 5.8 of the NEM Access Code after it changed its name from GPU Powernet to SPI Powernet.[150] The ACCC accepted the access undertaking.	***Accepted:*** 9 November 2000 **Expired**
2002	Basslink Pty Ltd	Basslink interconnector between Tasmania and Victoria	Basslink's access undertaking for its market network services was initially lodged in May 2001. The Commission, in consultation with Basslink, decided not to assess Basslink's undertaking until after a final determination on Tasmania's NEM entry had been made. After the Commission issued its final determination on Tasmania's NEM entry, Basslink agreed to revise its undertaking to the form given by Schedule 5.9 of the	***Lodged:*** 23 May 2001 ***Revised version lodged:*** 22 May 2002 ***Accepted:*** 11 September 2002 **Expired**

148 HQI's undertaking can be accessed at: http://www.accc.gov.au/content/index.phtml/itemId/568634.
149 EMMLINK's undertaking can be accessed at: http://www.accc.gov.au/content/index.phtml/itemId/574300.
150 SPI's undertaking can be accessed at: http://www.accc.gov.au/content/index.phtml/itemId/573107.

Year	Service provider	Scope of Undertaking/code	Outcome	Term of undertaking
			National Electricity Code. The ACCC accepted the access undertaking, noting that it had taken into account the matters in section 44ZZA and the extensive public consultation process that had been undertaken in respect of Tasmania's entry into the NEM.[151]	
2002	Murraylink Transmission Company Pty Ltd	Murraylink interconnector between Victoria and South Australia	Murraylink submitted an undertaking for its market network services to the Commission in the form given by Schedule 5.9 of the National Electricity Code. The ACCC accepted the access undertaking.[152]	***Lodged:*** 6 February 2002 ***Revised version lodged:*** 25 September 2002 ***Accepted:*** 6 November 2002 **Expired**
2004	TransEnd Networks	Tasmanian transmission network	TransEnd submitted its access undertaking in the form given by Schedule 5.8 of the NEM Access Code. The ACCC accepted the access undertaking.[153]	***Lodged:*** 27 May 2004 **Expired**

II. GAS

Prior to the commencement of the National Gas Law and the National Gas Rules in 2008, the *National Third Party Access Code for Natural Gas Pipeline Systems* (Gas Code) was certified by the NCC as an effective regime in all states and territories except Queensland.

Eastern Gas Pipeline

[151] Basslink's undertaking can be accessed at http://www.accc.gov.au/content/index.phtml/itemId/1098491
[152] Murraylink's undertaking can be accessed at http://www.accc.gov.au/content/index.phtml/itemId/1098499
[153] TransEnd's undertaking can be accessed at: http://www.accc.gov.au/content/index.phtml/itemId/573796.

On 18 November 1999, Duke Eastern Gas Pipeline Pty Ltd, DEI Eastern Gas Pipeline Pty Ltd and Duke Australia Operations Pty Ltd (collectively known as DEI EGP) submitted an undertaking to the ACCC under Part IIIA.

On 7 January 2000, while the ACCC was considering DEI EGP's undertaking, the National Competition Council (NCC) received an application from AGL Energy Sales and Marketing Ltd (AGL) to recommend coverage of the Eastern Gas Pipeline (EGP) under the *National Third Party Access Code for Natural Gas Pipeline Systems* (Gas Code).

DEI EGP submitted an access undertaking because it considered it provided more flexibility, compared to an access arrangement under the *National Third Party Access Code for Natural Gas Pipeline Systems* (Code), to achieve the aims of the Code. In particular, DEI EGP stated that it wished to avoid the 'cost of service' approach to tariff setting, short tariff review periods and focus on the maintenance of revenue streams. It also wished to avoid high incremental tariffs for capacity enhancement, the use of prudent discounts and differentiation between shipper classes, all of which it considered were discriminatory.

The Commission had concerns about the lack of information provided by DEI EPG and decided to not accept the undertaking.

On 3 July 2000 the NCC released its *Final Recommendation* in which it recommended coverage of the whole pipeline. The Minister for Industry, Science and Resources (being the relevant Minister under the Code) made the decision on 16 October 2000 that the Eastern Gas Pipeline should be a covered pipeline under the Gas Code. In May 2001 the Australian Competition Tribunal set aside the Minister's decision.[154]

The National Gas Law and National Gas Rules commenced in 2008. The AER became the economic regulator for covered natural gas transmission and distribution pipelines in all states and territories (except WA).

Year	Service provider	Scope of Undertaking	Outcome	Term of undertaking
1999	Duke Eastern Gas Pipeline Pty Ltd, DEI Eastern Gas Pipeline Pty Ltd and Duke Australia	***Eastern gas pipeline*** The proposed undertaking was to cover access to transmission services along the Eastern Gas Pipeline between Longford in Victoria and Horsley Park in NSW.	On 18 November 1999 Duke Eastern Gas Pipeline Pty Ltd, DEI Eastern Gas Pipeline Pty Ltd and Duke Australia Operations Pty Ltd submitted an access undertaking for transmission services along the Eastern Gas Pipeline. The access undertaking describes the terms and	***Lodged:*** 18 November 1999 ***Decision to reject:*** 28 August 2000

[154] *Duke Eastern Gas Pipeline Pty Ltd, Re* (2001) 162 FLR 1; (2001) ATPR 41-821; [2001] ACompT 2.

Year	Service provider	Scope of Undertaking	Outcome	Term of undertaking
	Operations Pty Ltd.		conditions on which the service providers propose to make access to this pipeline available to third parties, the process for determining access and the dispute resolution process. The proposed term of the undertaking was 20 years. In July 2000, the ACCC released a draft decision not to accept the undertaking. On 28 August 2000, the ACCC rejected the undertaking.[155] ***The ACCC's concerns with the undertaking:*** The ACCC had concerns about the lack of information provided by DEI EPG and decided to not accept the undertaking.	

III. AIRPORTS

Melbourne and Perth airports

Under section 192 of the *Airports Act 1996,* some airport services would be automatically declared if access undertakings were not accepted by the ACCC by July 1998. Declaration would give current and potential airport users the right to negotiate terms of access with the airport operator first, and, if the negotiations prove unsuccessful, the opportunity to have the ACCC arbitrate the access dispute.

Both Melbourne and Perth Airports submitted undertakings to the ACCC under Part IIIA. The ACCC had concerns with both of the airports' proposals (as summarised below) and issued draft decisions to not accept the undertakings. The undertakings were later withdrawn.

[155] The ACCC's decision and related documents can be accessed at: http://www.accc.gov.au/content/index.phtml/itemId/353234.

In May 2002 the government indicated that airport-specific access regulation would not continue to apply. Accordingly, section 192 of the Airports Act was repealed on 6 September 2003 by the *Civil Aviation Legislation Amendment Act 2003*. Airports remain subject to the general access provisions of Part IIIA of the CCA.

Year	Service provider	Scope of Undertaking	Outcome	Term of undertaking
1998	Australia Pacific Airports Melbourne (Melbourne Airport)	***Airport services at Melbourne Airport (withdrawn)***	On 11 May 1998, Australia Pacific Airports Melbourne submitted an undertaking for airport services at Melbourne Airport. In May 1998 the ACCC issued a draft determination to reject the Undertaking.[156] The undertaking application was subsequently withdrawn. ***The ACCC's main concerns with the undertaking*** The ACCC concluded that as a whole the undertaking was weighted too heavily towards the interests of the service provider with the interests of third parties and the public interest not adequately served. In addition, the ACCC expressed specific concerns about: • **Enforceability:** Insufficient clarity in number of areas including pricing and service standards to be provided by Melbourne Airport. • **Pricing:** Concern maximum prices proposed would not be effective in constraining prices. The ACCC concluded that the 'maximum level' pricing principles in the undertaking for non capped services provide scope for Melbourne	***Lodged:*** 11 March 1998 ***Draft determination to reject:*** May 1998 ***Undertaking withdrawn***

[156] The ACCC's draft determination can be accessed at: http://www.accc.gov.au/content/index.phtml/itemId/753082.

Year	Service provider	Scope of Undertaking	Outcome	Term of undertaking
			Airport to charge monopoly prices. • **Scope for negotiation:** Concern about the limited scope for access seekers to negotiate with Melbourne Airport.	
1998	Westralia Airports Corporation (Perth airport)	***Airport services at Perth Airport (withdrawn)***	On 7 April 1998, Westralia Airports Corporation submitted an undertaking for airport services at Perth Airport. In May 1998 the ACCC issued a draft determination to reject the undertaking.[157] The undertaking application was subsequently withdrawn. ***The ACCC's main concerns with the undertaking*** • **Enforceability:** Insufficient clarity in a number of areas including the process for negotiating access, service standards to be provided by Perth Airport and the conditions under which the parties have recourse to dispute resolution. • **Information provision:** The ACCC was of the view the undertaking does not provide adequate information to enable effective access negotiations between users and the airport operator. • **Dispute resolution:** Concerns surrounding the dispute resolution provisions included: • potential for unreasonable delays • the limited scope for parties to negotiate on who	***Lodged:*** 7 April 1998 ***Draft Determination to reject:*** May 1998 ***Undertaking withdrawn***

[157] The ACCC's draft decision can be accessed at http://www.accc.gov.au/content/index.phtml/itemId/753082.

Year	Service provider	Scope of Undertaking	Outcome	Term of undertaking
			should determine the dispute. • no scope for mediation or alternative forms of dispute resolution. Expert determination specified as dispute resolution process.	

IV. RAIL

Interstate and Hunter Valley

ARTC was established out of a 1997 Inter-Governmental Agreement entered into between the Commonwealth, New South Wales, Victoria, Queensland, Western Australia and South Australia. It was intended that ARTC was to provide a single point of rail access for parties seeking to use the standard gauge interstate rail network.

Interstate Rail Network

The Agreement provided for ARTC to submit an undertaking to the ACCC in respect of access to the entire interstate network once it secured the necessary arrangements with the states.

Under the Agreement, if the ACCC accepted an undertaking from ARTC then the terms and conditions in the undertaking would form the basis on which rail operators could obtain access to ARTC's Interstate Rail Network. Once accepted the services covered by the Undertaking could not be declared.

Rail operators and other interested parties had the option of seeking declaration of the rail Network if the ACCC did not accept the undertaking. Declaration would allow current and potential rail track users the right to negotiate terms of access with ARTC in the first instance, and if the negotiations proved unsuccessful, the opportunity to have the ACCC arbitrate the access dispute.

In 2002 the ACCC approved an access undertaking from ARTC for the interstate rail network. The 2002 undertaking expired on 1 June 2007.

Upon expiration of the 2002 undertaking, ARTC submitted a replacement undertaking that extended to the leased tracks on the interstate network in NSW, as well as to tracks on the interstate network in Victoria and South Australia. The ACCC accepted this undertaking in 2008 and it applies for a ten year term.

Hunter Valley Access Undertaking (HVAU)

In 2004, ARTC entered into a 60-year lease arrangement with the State Government of NSW for parts of the NSW intra-State rail network, including the Hunter Valley lines.

The ARTC first lodged an access undertaking application for the Hunter Valley Rail Network with the ACCC on 23 April 2009. The ACCC's preliminary view was to reject the undertaking, and it was subsequently withdrawn by ARTC. The ACCC accepted a revised access undertaking from ARTC for the Hunter Valley rail network in June 2011. This undertaking applies for a 5 year term.

Year	**Service provider**	**Scope of Undertaking**	**Outcome**	**Term of undertaking**
2002	Australian Rail Track Corporation	***Below-rail services on the Interstate Rail Network*** The Undertaking covered terms and conditions of access to below-rail services on part of the interstate rail network. The Network comprised the interstate mainline standard gauge track linking Kalgoorlie in Western Australia, Adelaide, Wolseley and Crystal Brook in South Australia, Broken Hill in New South Wales, and Melbourne and	On 22 February 2001, ARTC submitted a below-rail services access undertaking for the Interstate Rail Network. The Interstate Access Undertaking was submitted to the Commission pursuant to the Inter-Governmental Agreement (IGA) signed by all governments in Australia in November 1997. The undertaking was revised a number of times before it was accepted by the ACCC on1 May 2002.[158] A amendment to the undertaking was accepted in May 2003 in which ARTC advised that there is a small section of one segment of the network for which it does not meet the	***Lodged:*** 22 February 2001 ***Revised versions lodged:*** 14 September 2001, 21 September 2001, 30 January 2002 ***Accepted:*** 1 May 2002 ***Commenced:*** 1 June 2002 ***Varied:*** May 2003

[158] The ACCC's final decision can be accessed at http://www.accc.gov.au/content/index.phtml/itemId/770158. The undertaking that was accepted by the ACCC is available at: http://www.accc.gov.au/content/index.phtml/itemId/759531.

Year	Service provider	Scope of Undertaking	Outcome	Term of undertaking
		Wodonga in Victoria.	definition of an access provider under Part IIIA and requested that the definition be altered.[159] ***Key features of undertaking:*** • Negotiating for access • Pricing principles • Capacity management • Performance indicators	***Term:*** 5 years **Expired**
2008	Australian Rail Track Corporation	***Below-rail services on the Interstate Rail Network*** Replacement of the expired 2002 undertaking. The scope of the network was extended to incorporate the leased tracks on the interstate network in NSW, including Cootamundra, Albury, Macarthur, Moss Vale, Unanderra, Newcastle (to the QLD border) and Parkes.	On 8 June 2007, ARTC submitted a below-rail services access undertaking for the Interstate Rail Network. The undertaking was revised on 6 January 2012 before it was accepted by the ACCC on 30 July 2008.[160] The ACCC accepted a subsequent variation of the undertaking on 6 January 2012.[161] The variation provided for the inclusion of ARTC's estimates of capital expenditure proposed for the period 1 July 2012 to 30 June 2018 in a Schedule to the Undertaking.	***Lodged:*** 8 June 2007 ***Revised versions lodged:*** 6 January 2012 ***Accepted:*** 30 July 2008 ***Commenced:*** 1 July 2008 ***Varied:*** 6 January 2012 ***Term:*** 10 years

[159] The ACCC's decision on the variation can be accessed at http://www.accc.gov.au/content/index.phtml/itemId/830088

[160] The ACCC's final decision can be accessed at: http://www.accc.gov.au/content/index.phtml/itemId/789738. The final undertaking that was accepted by the ACCC is available at: http://www.accc.gov.au/content/index.phtml/itemId/844436.

[161] The ACCC's decision on the variation can be accessed at: http://www.accc.gov.au/content/index.phtml/itemId/1061475.

Year	Service provider	Scope of Undertaking	Outcome	Term of undertaking
2011	Australian Rail Track Corporation	***Below-rail services on the Hunter Valley rail network***	On 23 April 2009, ARTC submitted a below-rail services access undertaking for the Hunter Valley rail network. The ACCC's preliminary view, which was issued in March 2010, was to reject the April 2009 undertaking. On 19 April 2010 ARTC withdrew the undertaking.[162] A revised version of the undertaking was submitted on 7 September 2010. On 21 December, the ACCC issued a position paper setting out the required amendments. The ARTC submitted a revised undertaking on 7 April 2011. This undertaking was withdrawn on 23 June 2011, when ARTC submitted the 2011 undertaking (below).[163] The ACCC accepted the Hunter Valley Access Undertaking in June 2011.[164] The ACCC accepted a variation to the 2011 HVAU on 17 October 2012 in order to implement the Initial Indicative Service.[165] ***Key features of undertaking accepted by ACCC:*** • Negotiating for access • Access pricing principles	***Lodged:*** 23 April 2009 ***Revised undertakings lodged:*** 7 September 2010, 7 April 2011, 23 June 2011 ***Accepted:*** 29 June 2011 ***Commenced:*** 1 July 2011 ***Varied:*** 17 October 2012 ***Term:*** 5 years

[162] The ACCC's draft decision and 2009 Hunter Valley Access Undertaking can be accessed at: http://intranet.accc.gov.au/content/index.phtml/itemId/1038627

[163] The ACCC's Position Paper and the 2010 Hunter Valley Access Undertaking can be accessed at: http://intranet.accc.gov.au/content/index.phtml/itemId/1205463.

[164] The ACCC's decision on the Hunter Valley Access Undertaking can be accessed at http://intranet.accc.gov.au/content/index.phtml/itemId/1329860. The undertaking that was accepted by the ACCC is available at http://www.accc.gov.au/content/index.phtml/itemId/1000939.

[165] The Initial Indicative Service variation and the ACCC's decision can be accessed at: http://intranet.accc.gov.au/content/index.phtml/itemId/1533181.

Year	Service provider	Scope of Undertaking	Outcome	Term of undertaking
			• Capacity management • Network connections • Capacity investment framework • Network transit management • Performance measurement and incentives ***ACCC's main concerns with the 2009 undertaking*** • **Facilitating access arrangements:** The ACCC considered that there was ambiguity and uncertainty around the operation of the framework, particularly the scope of matters subject to negotiation between ARTC and an access seeker in negotiations. • **Specific supply chain alignment considerations:** The ACCC considered that provisions relating to capacity management should be centralised in the Undertaking and mirrored in access arrangements to ensure effective alignment of the supply chain overall. • **Capacity expansion:** The ACCC considered that Additional Capacity provisions were vague and uncertain with respect to the consultation process ARTC would undertake in the development of new capacity. • **Capacity resumption:** The ACCC considered that	

Year	Service provider	Scope of Undertaking	Outcome	Term of undertaking
			capacity resumption provisions appeared to be weakened in the 24 December Indicative Access Holder Agreement and may not have allowed for effective enforcement of the capacity resumption provisions by ARTC. ***ACCC's main concerns with the 2010 undertaking:*** • **Features of the proposed undertaking:** The ACCC considered that further revisions were required to address a number of outstanding issues. • **Transition and implementation:** The ACCC considered that there was a lack of clarity and certainty around how current users would be transitioned to the new access arrangements. • **Liability and performance accountability:** The ACCC considered that liability provisions considerably limited ARTC's liability. • **Investment and capacity expansion:** The ACCC considered that further revisions were required to ensure the framework operated effectively. • **Pricing certainty – determination of the efficient train configuration:** The ACCC considered that there should be appropriate grandfathering arrangements for users to transition to the new service. • **Rate of return:** The ARTC proposed a rate of return	

Year	Service provider	Scope of Undertaking	Outcome	Term of undertaking
			of 9.16% (real pre-tax WACC). The ACCC considered that a rate of return of 8.57% (real pre-tax WACC) was more likely to be appropriate.	

V. WHEAT EXPORT TERMINALS

2009 Access Undertakings

It was necessary for port terminal operators who also exported wheat to have access arrangements in place by 1 October 2009 if they were to retain accreditation to export bulk wheat under the *Wheat Export Marketing Act 2008* (Cth) (WEMA). The WEMA provided two pathways for parties to meet the access test:

i. to have a port terminal services access undertaking accepted by the ACCC under Part IIIA and comply with continuous disclosure rules as prescribed by WEMA, or alternatively,

ii. a state or territory access regime that provided for access to a port terminal service would need to be certified by the Commonwealth Minister under section 44N of Part IIIA as an effective access regime.

Given that there were no certified state regimes for the relevant service in place, the relevant port terminal operators submitted access undertakings to the ACCC. In September 2009, the ACCC accepted undertakings from the following port terminal operators with associated wheat exporting arms:

1. Co-operative Bulk Handling Limited (CBH), which operates four bulk-grain terminals in Western Australia – Albany, Esperance, Geraldton and Kwinana;

2. GrainCorp Operations Limited, which operates seven bulk-grain terminals in Queensland (Fisherman Islands, Gladstone and Mackay), NSW (Carrington and Port Kembla) and Victoria (Geelong and Portland); and

3. AusBulk Ltd/ABB Grain Ltd (acquired by Viterra Operations Limited in 2009, which was then acquired by Glencore International plc in December 2012), which operates six bulk-grain terminals in South Australia: Port Adelaide, Outer Harbor, Port Giles, Wallaroo, Port Lincoln and Thevenard.

The three undertakings expired on 30 September 2011.

2011 Access Undertakings

In 2011, the ACCC accepted replacement undertakings from CBH, GrainCorp and Viterra and also a first access undertaking from Australian Bulk Alliance Pty Ltd (ABA) in relation to the bulk-grain terminal at Port Melbourne. After ABA's undertaking was accepted by the ACCC, wheat exporter Emerald Group Australia Pty Ltd acquired ABA.

Current situation

In response to recommendations in the Productivity Commission's report into wheat export marketing arrangements[166], amendments have been recently made to the WEMA to transition the wheat export industry to further deregulation by, among other things, abolishing the Wheat Export Accreditation Scheme on 31 December 2012 and removing the access test requirements from 1 October 2014.

The WEMA amendments modified the access test from 10 December 2012 to require port terminal operators to have an access undertaking accepted by the ACCC that includes an obligation to comply with Continuous Disclosure Rules (CDRs). The access test also requires port terminal operators to comply with the CDRs. The CDRs are set out in the WEMA and relate to the publication of ship booking information. The ACCC is now monitoring ABA, CBH, GrainCorp and Viterra's compliance with the CDRs, a role previously conducted by Wheat Exports Australia.

In addition, the WEMA now provides that from 1 October 2014 port access in the bulk wheat export industry will be regulated by a mandatory code of conduct prescribed under the CCA, rather than by access undertakings.

	Service provider	**Service description**	**Outcome**	**Term of undertaking**
2009	Viterra (then ABB/	Port terminal services for the export of bulk wheat	On 16 April 2009, ABB submitted a port terminal services access undertaking. On 6 August 2009, the ACCC issued a draft decision to not accept the April	***Lodged:*** 16 April 2009 ***Revised:*** 24 September

[166] Productivity Commission, *Inquiry Report – Wheat Export Marketing Arrangements,* 2010.

	Service provider	Service description	Outcome	Term of undertaking
	AusBulk)	(South Australia)	undertaking. On 23 September 2009, a further draft decision was issued which was aimed at providing clear guidance as to the type of access undertaking that was likely to be accepted by the ACCC. On 24 September 2009, ABB withdrew its April Undertaking and lodged a revised undertaking.[167] The ACCC accepted the revised undertaking on 29 September 2009.[168] ***Key features of undertaking accepted by ACCC:*** • Less prescriptive publish-negotiate-arbitrate framework considered appropriate in contrast to an ex ante pricing approach • Non-discrimination and no hindering access obligations, and associated ACCC audit powers • Transparency measures surrounding the managing of demand (port protocols), certain port terminal information and standard pricing • A first come, first served port terminal capacity allocation mechanism • Clear standard terms including non-price terms and conditions of access • Obligations to negotiate in good faith with access seekers • Where negotiation fails, ability for exporters to seek mediation or	2009 ***Accepted:*** 29 September 2009 ***Commenced:*** 1 October 2009 ***Term:*** 2 years **Expired**

[167] The reason that the undertaking was submitted by AusBulk rather than ABB was that AusBulk was concerned that ABB would not be eligible for accreditation as a bulk wheat exporter under the WEMA unless the undertaking was submitted by AusBulk. AusBulk is ABB's wholly-owned subsidiary and it is also the operator of the facilities used to provide port terminal services.

[168] The final decision and the undertaking can be accessed at http://www.accc.gov.au/content/index.phtml/itemId/894282.

	Service provider	Service description	Outcome	Term of undertaking

			binding arbitration on price and non-price terms
			
			***ACCC's main concerns with April undertaking*:**
			• ABB's proposed ring-fencing rules, in isolation, would not have served as an effective safeguard against anti-competitive discrimination.
			• The proposed undertaking did not contain:
			  • robust non-discrimination and no hindering access clauses
			  • fair and transparent port protocols; and
			  • an appropriate indicative access agreement (standard access terms).
			• The Commission considered that these were all necessary to support the publish-negotiate-arbitrate framework. ABB's undertaking also needed to contain an obligation to publish stocks of grains at port and key shipping information.	

2009	CBH	Port terminal services for the export of bulk wheat (Western Australia)	On 14 April 2009, CBH submitted a port terminal services access undertaking. On 6 August 2009, the ACCC issued a draft decision to not accept the April undertaking. On 23 September 2009, a further draft decision was issued which was aimed at providing clear guidance as to the type of access undertaking that was likely to be accepted by the ACCC. On 24 September 2009, CBH withdrew its April Undertaking and simultaneously lodged a revised undertaking.	***Lodged:*** 14 April 2009 ***Revised:*** 24 September 2009 ***Accepted:*** 29 September 2009 ***Commenced:*** 1 October 2009 ***Term:*** 2 years

	Service provider	Service description	Outcome	Term of undertaking
			The ACCC accepted the revised undertaking on 29 September 2009.[169] ***Key features of undertaking accepted by ACCC:*** Same features as ABB / Viterra's undertaking (above), except that CBH had implemented an auction system to allocate port terminal capacity. ***ACCC's main concerns with April undertaking:*** CBH's proposed undertaking did not contain: • standard access terms and port protocols, and a flexible procedure for varying those protocols • robust non-discrimination and no hindering access clauses (which would make ring-fencing measures unnecessary) • an obligation to publish stocks of grain at port, key port terminal information and key service standards.	**Expired**
2009	GrainCorp	Port terminal services for the export of bulk wheat (Victoria, NSW and Queensland)	On 15 April 2009 GrainCorp lodged a port terminal services access undertaking. On 6 August 2009 the ACCC issued a draft decision that it would not accept GrainCorp's undertaking. On 23 September 2009 the ACCC issued a further draft decision on setting out detailed suggestions on ways that GrainCorp could address the issues identified by the ACCC.	***Lodged:*** 15 April 2009 ***Revised:*** 24 September 2009 ***Accepted:*** 29 September 2009 ***Commenced:*** 1 October

[169] The final decision and the final undertaking can be accessed at http://www.accc.gov.au/content/index.phtml/itemId/894291

	Service provider	Service description	Outcome	Term of undertaking

			On 24 September 2009 GrainCorp withdrew the April undertaking and simultaneously lodged a revised undertaking.
			The ACCC accepted the revised undertaking on 29 September 2009.[170]
			
			Key features of undertaking accepted by ACCC:
			Same features as ABB / Viterra's undertaking (above).
			
			ACCC's main concerns with April Undertaking:
			• The publish-negotiate-arbitrate approach was appropriate but it needed to be underpinned by clear non-discrimination and no hindering access mechanisms.
			• The weak ring-fencing rules GrainCorp proposed, in isolation, would not serve as an effective safeguard against anti-competitive discrimination.
			• The proposed undertaking did not include:
			  • an indicative access agreement (standard terms)
			  • an obligation to publish stocks of grain at port and
			  • a requirement to publish a single set of prices within a specified timeframe.
			• The proposed undertaking was inappropriate in that the services offered to access seekers differed depending on where the grain had
				2009
				Term: 2 years
				Expired

[170] The final decision and the undertaking can be accessed at http://www.accc.gov.au/content/index.phtml/itemId/894325.

	Service provider	Service description	Outcome	Term of undertaking

			been stored.
			• The proposed undertaking was not appropriate as it lacked certainty and clarity in regards to:
			  • the scope of the undertaking
			  • substance of the port terminal service protocols
			• The proposed undertaking also included an ability to unilaterally vary Standard Terms which the ACCC did not consider appropriate.	

2011	Viterra	Port terminal services for the export of bulk wheat (South Australia)	On 23 December 2010 Viterra submitted an undertaking intended to replace its 2009 undertaking. On 10 August 2011, Viterra informally lodged a draft revised undertaking. On 11 August 2011, the ACCC issued a draft decision to not accept the December undertaking. The draft decision stated that the ACCC may accept the revised undertaking provided by Viterra if it were to be formally submitted. On 22 September 2011, Viterra formally withdrew the December undertaking and formally submitted the draft revised undertaking. On 28 September 2011 the ACCC accepted the revised undertaking.[171] The 2011 undertaking required Viterra to introduce an auction system in place of its existing first in, first served capacity allocation system. As required by the undertaking, Viterra published an "auction variation notice" in February 2012. The ACCC determined that the auction proposed was not appropriate and accordingly issued an "auction objection notice" on 11 April	***Lodged:*** 23 December 2010 ***Revised:*** 22 September 2011 ***Accepted:*** 28 September 2011 ***Commenced:*** 1 October 2011 ***Varied:*** 9 May 2012 ***Term:*** 3 years ***Expiry:*** 30 September 2014

[171] The final decision and the 2011 undertaking can be accessed at http://www.accc.gov.au/content/index.phtml/itemId/868800. The 2011 undertaking was varied on 9 May 2012. The key aim of the variation was to extend the timeframes in which Viterra must lodge a revised variation notice to develop an efficient auction system.

	Service provider	Service description	Outcome	Term of undertaking
			2012. Viterra submitted a revised auction proposal on 13 July 2012 and after a joint ACCC consultation process submitted a "revised auction variation notice" notice on 24 August 2012. After assessing the revised auction variation notice, the ACCC withdrew its auction objection notice in September 2012. ***Key features of undertaking accepted by ACCC:*** Building on the features of the 2009 undertakings (above), Viterra's 2011 undertaking also included: • an obligation for Viterra to develop an auction system, with an oversight and objection role for the ACCC in regards to the design of that system • increased transparency with regard to available capacity, specific services provided for fees charged and stocks at port • additional powers and an enhanced role for the ACCC. ***ACCC's main concerns with December undertaking:*** • **Capacity allocation:** The first in, first served capacity allocation system specified in the port loading protocols in the 2009 undertaking did not efficiently allocate capacity. The ACCC determined that a price based allocation system was necessary. • **Publication of information:** The publish-negotiate-arbitrate framework would continue to be appropriate if Viterra's undertaking retained the robust non-discrimination and no hindering access provisions and also provided for increased transparency and	

	Service provider	Service description	Outcome	Term of undertaking

			information relating to available port capacity, stocks at port and pricing.
			• **The ACCC's role:** The ACCC's also requested that mechanisms enhancing its role be included in the replacement undertaking. These mechanisms included:
			  • an ability for the ACCC to object to variations of Viterra's port loading protocols
			  • an information gathering provision
			  • a provision allowing decisions under the undertaking to be made by particular Commissioners and
			  • inclusion of an explicit reference to the ACCC's monitoring role.	

2011	CBH	Port terminal services for the export of bulk wheat (Western Australia)	On 31 March 2011 CBH submitted an access undertaking which sought to substantially alter the method of capacity allocation. On 23 August 2011, the ACCC issued a draft decision to not accept the undertaking. The draft decision stated that the ACCC would not accept the undertaking unless there are some amendments, which largely reflected the amendments proposed by CBH in a draft revised undertaking provided earlier in August 2011. On 20 September 2011 CBH formally withdrew the March 2011 undertaking and submitted a revised undertaking. On 28 September 2011 ACCC accepted the revised undertaking.[172]	***Lodged:*** 31 March 2011 ***Revised:*** 20 September 2011 ***Accepted:*** 28 September 2011 ***Commenced:*** 1 October 2011 ***Varied:*** 5 December 2012

[172] The final decision and the undertaking can be accessed at http://www.accc.gov.au/content/index.phtml/itemId/868802.

	Service provider	Service description	Outcome	Term of undertaking
			Key features of undertaking accepted by ACCC: Building on the features of the 2009 undertaking, the 2011 undertaking includes similar features as Viterra's 2011 undertaking (above), absent the provision to introduce an auction system. ***ACCC's main concerns with April undertaking:*** • The proposed 'Base Load Capacity' two-tiered capacity allocation system was not appropriate – CBH should maintain its existing auction system. • Changes to CBH's standard terms should require ACCC approval via the undertaking variation process. • The proposed undertaking did not contain provision for greater transparency around the specific services that are covered by the pricing imposed by CBH. • Mechanisms relating to the ACCC's role, as mentioned above were also introduced into the accepted undertaking.	***Term:*** 3 years ***Expires:*** 30 September 2014
2011	GrainCorp	Port terminal services for the export of bulk wheat (Victoria, NSW and Queensland)	On 22 September 2010 GrainCorp submitted an access undertaking, which was amended in January 2011. The ACCC issued a draft decision on 24 March 2011 that outlined the ACCC's concerns with GrainCorp's proposed undertaking. On 27 May 2011 GrainCorp provided a draft revised undertaking to the ACCC. On 20 June 2011 the ACCC issued an amendment notice following consultation on its draft decision, which set out a number of changes to the	***Lodged:*** 22 September 2011 ***Revised:*** 20 June 2011 ***Accepted:*** 22 June 2011 ***Commenced:*** 1 October 2011

	Service provider	Service description	Outcome	Term of undertaking
			proposed 2011 undertaking. On 20 June 2011, GrainCorp lodged a final undertaking in accordance with the amendment notice. The undertaking was accepted by the ACCC on 22 June 2011.[173] ***Key features of undertaking accepted by ACCC:*** Building on the features of the 2009 undertaking, the 2011 undertaking includes similar features as Viterra's 2011 undertaking (above), as well as measures to promote efficient capacity utilisation as alternatives to transferability and to increase confidence that the first come, first served system allocates capacity in a non-discriminatory way. The 2011 undertaking retained the main features of the 2009 undertaking including its first come, first served capacity allocation system, but also included: • enhanced role with respect to the ACCC's role and powers • increased transparency regarding stocks • increased flexibility with respect to returning unwanted capacity and moving bookings to ensure that high demand capacity did not go unused. ***ACCC's main concerns with April Undertaking:*** • Limited transferability of capacity bookings which increased the risk	***Term:*** *3 years* ***Expires:*** 30 September 2014

[173] The final decision and the undertaking can be accessed at http://www.accc.gov.au/content/index.phtml/itemId/868801.

	Service provider	Service description	Outcome	Term of undertaking
			that high demand capacity would go unused.	
2011	ABA	Port terminal services for the export of bulk wheat (Melbourne, Victoria)	On 23 December 2010 ABA submitted an access undertaking for port terminal services. On 7 September 2011, the ACCC issued an amendment notice in relation to the December undertaking. On 21 September 2011, ABA formally resubmitted an undertaking in accordance with the amendment notice. On 28 September, the ACCC issued a draft decision stating that it would accept the undertaking subject to amendments it set out in the annexed draft amendment notice. [174] ***Key features of undertaking accepted by ACCC:*** The features of ABA's undertaking included the features adopted in the 2009 undertakings and similar enhanced features as Viterra's 2011 undertaking (listed above), absent the provision to introduce an auction system. ***ACCC's main concerns with December undertaking:*** • The proposed one year term was considered to be too short. The ACCC felt that a two year term would be more appropriate for ABA's first undertaking. • ABA's indicative access agreement was not sufficiently clear as it referred to both port terminal services and up-country storage and handling services. Up country storage and handling services are not	***Lodged:*** 23 December 2010 ***Revised:*** 21 September 2011 ***Accepted:*** 28 September 2011 ***Commenced:*** 1 October 2011 ***Term:*** 2 years ***Expires:*** 30 September 2013

[174] The final decision and the undertaking can be accessed at http://www.accc.gov.au/content/index.phtml/itemId/964331.

	Service provider	Service description	Outcome	Term of undertaking
			covered by the undertaking. • The ACCC considered that ABA should include additional performance indicators in its undertaking to provide a sufficient level of transparency around its operations and to be consist with other port operators' undertakings. • ABA's port protocol was unclear. • Mechanisms relating to the ACCC's role, as mentioned above were also introduced into the accepted undertaking.	

References

ACCC 2002, *Resolution of Telecommunications Access Disputes: A Guide to Dispute Resolution Provisions under Part XIC of the Trade Practices Act 1974 and the Telecommunications Act 1997*, October, available at www.accc.gov.au/content/item.phtml?itemId=753600&nodeId=4d6ea258ca4707a244cf6d0a3df142c0&fn=Guide%E2%80%94resolution%20of%20telecommunications%20access%20disputes.pdf.

– 2007, *Access Dispute between Services Sydney Pty Ltd and Sydney Water Corporation: Arbitration Report*, 19 July, available at www.accc.gov.au/content/index.phtml/itemId/793015.

– 2009, Submission to the Department of Broadband, Communications and the Digital Economy "National Broadband Network: Regulatory Reform for 21st Century Broadband", June, available at www.accc.gov.au/content/item.phtml?itemId=889815&nodeId=54ed3cd392aa9e20df994d16b4a17931&fn=ACCC%20regulatory%20reform%20submission%20(June%202009).pdf.

– 2011, *Inquiry into varying the exemption provisions in the final access determinations for the WLR, LCS and PSTN OA services—Final Report*, December, available at www.accc.gov.au/content/ index.phtml/itemId/1044268.

– 2012, *Australian Telecommunications Report 2010-11*, *Report 1: Telecommunications competitive safeguards for 2010–11*, June, available at www.accc.gov.au/content/index.phtml/itemId/1060713.

ACCC/AER 2010 'Evaluating Infrastructure Reforms and Regulation: A Review of Methods', ACCC Working Paper No. 2, August, available at www.accc.gov.au/content/index.phtml/itemId/943318.

– 2011, 'Evaluation of Australian Infrastructure Reforms: An Assessment of Research Possibilities', Working Paper No. 5, December, available at www.accc.gov.au/content/index.phtml/itemId/1020304.

AEMO (Australian Energy Market Operator) 2012, *Submission to PC Inquiry on Electricity Network Regulation*, April, available at pc.gov.au/projects/inquiry/electricity/submissions.

AER (Australian Energy Regulator) 2011, *State of the Market Report 2011*, December, available at www.aer.gov.au/node/455.

– 2012, *Submission to the Senate Select Committee on Electricity Prices*, September, available at www.aer.gov.au/sites/default/files/AER%20Submission%20-%20Submission%20to%20Senate%20Select%20Committee%20on%20Electricity%20Prices.pdf.

Albon, Rob 1991, 'British Economists and Natural Monopoly Regulation: A Historical Perspective', *Occasional Paper in Industrial Strategy*, No. 2, Birmingham Business School, University of Birmingham.

– 2011, 'Methods and Data for the Evaluation of Infrastructure Reforms', *Network*, 40, June, pp. 1-5, available at www.accc.gov.au/content/item.phtml?itemId=995572&nodeId=95e1c385fa1c80b57241aa983fb5cd71&fn=Network%2040%20June%202011.pdf

ARTC (Australian Rail Track Corporation) 2004, *Annual Report 2004*, available at www.artc.com.au/library/annual_report_2004.pdf.

– 2012, *Annual Report 2011*, available at www.artc.com.au/library/annual_report_2011.pdf.

Australian Government 2006, *Rethinking Regulation: Report of the Taskforce on Reducing Regulatory Burdens on Business*, Report to the Prime Minister and the Treasurer, Canberra, January, available at www.regulationtaskforce.gov.au.

– 2009, *National Building Economic Stimulus Plan—Rail Projects*, available at www.nationbuildingprogram.gov.au/publications/reports/pdf/RAIL_PROJECTS.pdf.

– 2010, *Best Practice Regulation Handbook*, Canberra, June, available at www.finance.gov.au/obpr/proposal/handbook/docs/Best-Practice-Regulation-Handbook.pdf.

– 2011, *Stronger Rural and Regional Communities: Compendium of Priorities and Initiatives—Infrastructure, Transport, Regional Development and Local Government*, Budget 2010-11—Ministerial Statement, www.budget.gov.au/2010-11/content/ministerial_statements/rural_and_regional/html/ms_rural_and_regional-14.htm.

Averch, Harvey and Leland L. Johnson 1962, 'Behavior of the firm under regulatory constraint', *American Economic Review*, 52 (5), December, pp. 1052-1069.

Baker, Jonathan B. 2003, 'The case for anti-trust enforcement', *Journal of Economic Perspectives*, 17 (4), November, pp. 27-50.

Banks, Gary 2010, 'Structural Reform Australian-Style: Lessons for Others?' in G Banks, *An Economy-wide View: Speeches on Structural Reform*, Productivity Commission, Melbourne.

– 2012, *Competition Policy's regulatory innovations: quo vadis?*, Paper presented at the Economists Conference Business Symposium, 12 July and the ACCC Annual Regulatory Conference, 26 July, Productivity Commission, Canberra.

Baumol, William J. 2002, *The Free-Market Innovation Machine: Analyzing the Growth Miracle of Capitalism*, Princeton University Press, Princeton (New Jersey).

BEREC (Body of European Regulators for Electronic Communications) (formerly European Regulators Group) 2006, *Revised ERG Common Position on the approach to appropriate remedies in the new regulatory framework—final version*, May, available at erg.eu.int/doc/meeting/erg_06_33_remedies_common_position_june_06.pdf.

Biggar, Darryl 2009, 'Is Protecting Sunk Investments by Consumers a Key Rationale for Natural Monopoly Regulation', *Review of Network Economics*, 8(2), pp. 128-152.

– 2010, 'Fairness in Public Utility Regulation: A Theory', *Agenda*, pp. 5-29.

– 2011, 'Public Utility Regulation in Australia: Where Have We Got To? Where Should We be Going?', ACCC/AER Working Paper No. 4, August, available at www.accc.gov.au/content/index.phtml/ itemId/1002607.

– 2012, 'Why Regulate Airports? A Re-examination of the Rationale for Airport Regulation', *Journal of Transport Economics and Policy,* 46(3), pp. 367-380.

Bordignon, Stephen and Stephen Littlechild 2012, 'The Hunter Valley Access Undertaking: Elements of a Negotiated Settlement', *Transport Policy,* 24, pp. 179-187.

Butlin, Noel 1994, *Forming a Colonial Economy, Australia 1810-1850*, Cambridge University Press, Melbourne.

Cambini, Carlo and Yanyan Jiang 2009, 'Broadband investment and regulation: A literature review', *Telecommunications Policy*, 33 (10–11), November–December 2009, pp. 559-74.

Carlton, Dennis W. and Randal C. Picker 2013, 'Antitrust and regulation', (draft – 16 January), available at www.nber.org/chapters/c12565.pdf.

Cave, Martin 2006, 'Encouraging infrastructure competition via the ladder of investment', *Telecommunications Policy*, 30 (3-4), pp. 223-37.

– 2008, 'Statement by Professor Martin Cave of Warwick Business School, University of Warwick, UK for Mallesons Stephen Jaques on infrastructure investment consideration in relation to

Telstra's request for LCS and WLR exemptions', March 2008, available at www.accc.gov.au/content/index.phtml/itemId/801246.

Church, Jeffrey and Roger Ware 2000, *Industrial Organization: A Strategic Approach*, McGraw-Hill, Boston.

Council of Australian Governments 2007, *Best Practice Regulation: A Guide for Ministerial Councils and National Standard Setting Bodies*, October, available at www.finance.gov.au/obpr/proposal/coag-guidance.html.

Crew, Michael and Paul Kleindorfer 2012, 'Regulatory Economics and the Journal of Regulatory Economics: A 30–year retrospective', *Journal of Regulatory Economics*, 41, pp.1-18.

Decker, Chris 2010, 'The Objectives of Economic Regulators: Old Tensions and New Challenges', *Network*, 36, June, pp. 1-7, available at www.accc.gov.au/content/index.phtml/itemId/373731.

Decker, Christopher and Gray, Harriet, 'Public Utilities: Competition Litigation versus Regulatory Arbitration', Global Competition Litigation Review (30 October 2012) (submitted for publication).

Demsetz, Harold 1969, 'Information and Efficiency: Another Viewpoint', *Journal of Law and Economics*, 12(1), April, pp. 1-22.

Dupuit, J 1848, 'De la Mesure de l'utilité des travaux publics, Annales des Ponts et Chaussées', Second series, 8, translated by R.H. Barback as 'On the Measurement of the Utility of Public Works', *International Economic Papers*, 1952, 2, pp. 83-110.

Easterly, William 2001, *The Elusive Quest for Growth*, MIT Press, Cambridge (Massachusetts).

Égert, Balázs 2009, 'Infrastructure Investment in Network Industries: The Role of Incentive Regulation and Regulatory Independence', Economics Department Working Paper No. 688, OECD ECO/WKP(2009)29, available at search.oecd.org/officialdocuments/displaydocumentpdf/?doclanguage=en&cote=eco/ wkp(2009)29.

Exports and Infrastructure Taskforce 2005, *Australia's Export Infrastructure*, Report to the Prime Minister, Canberra, May.

Frank, Robert H. and Ben S. Bernanke 2004, *Principles of Microeconomics*, McGraw-Hill.

Fuhr, Johannes and Thorsten Beckers 2006, 'Vertical governance between airlines and airports—a transaction cost analysis', *Review of Network Economics*, 5(4), pp. 386-412.

Gans, Joshua and Stephen King 2003, 'Access holidays for network infrastructure investment', *Agenda*, 10 (2), pp. 163-78.

Goldberg, Victor 1976, 'Regulation and Administered Contracts', *Bell Journal of Economics*, 7, pp. 426-448.

Gomez-Ibanez, Jose 2003, *Regulating Infrastructure: Monopoly, Contracts, and Discretion*, Harvard University Press, Cambridge (Massachusetts).

– 2010, *The Simple Analytics of Open Access with Illustrations from Railroads*, Paper presented to the 2010 ACCC Regulatory Conference, Gold Coast, Queensland, 29-30 July, available at www.accc.gov.au/content/index.phtml/itemId/940988.

Gray, Harriet 2009, 'Evolution of Infrastructure Regulation', ACCC/AER Working Paper No. 1, July, available at www.accc.gov.au/content/index.phtml/itemId/878998.

Gray, Harriet, Craig Malam & A Naughtin 2007, *Facilitating Access Negotiations: A Report for the Infrastructure Consultative Committee*, June.

Growitsch, Christian and Heike Wetzel 2006, *Economies of Scope in European Railways: An Efficiency Analysis*, University of Lüneburg.

Hannah, Leslie 2009, *One Hundred Years of Government Control over Utilities*, Paper presented to the ACCC Regulatory Conference, , Gold Coast, Queensland, 30-31 July, available at www.accc.gov.au/content/index.phtml/itemId/883570.

ICC (Infrastructure Consultative Committee) 2009, *International Insights on Design and Process for Better Economic Regulation of Infrastructure*, Final report, Project on Benchmarking International Regulatory Processes and Practice, available at www.accc.gov.au/content/index.phtml/itemId/875207.

Independent Committee of Inquiry (Hilmer Report) 1993, *National Competition Policy*, AGPS, Canberra, August.

Joskow, Paul 1991, 'The role of transactions cost economics in antitrust and public utility regulatory policies', *Journal of Law, Economics and Organization*, 7, pp. 53-83.

– 2010, 'Market imperfections versus regulatory imperfections', CESifo DICE Report 3/2010, available at www.cesifo-group.de/pls/guestci/download/CESifo%20DICE%20Report%202010/CESifo%20DICE%20Report%203/2010/dicereport310-forum1.pdf.

Kerin, Paul 2012, 'In Whose Interest?', *Network*, 43, March, pp. 1-7, available at www.accc.gov.au/content/index.phtml/itemId/1042569.

Kovacic, William E. and Carl Shapiro 2000,'Antitrust policy: a century of economic and legal thinking', *Journal of Economic Perspectives*, 14, pp. 43–6.1

Laffont, Jean-Jacques and Jean Tirole 2000, *Competition in Telecommunications*, MIT Press, Cambridge (Massachusetts).

Littlechild, Stephen 2009, 'Regulation, Over-regulation and Some Alternative Approaches', *European Review of Energy Markets*, 9, pp. 153-159.

– 2011, 'The Process of Negotiating Settlements at FERC', Electricity Policy Research Group Working Papers, No. EPRG1105, University of Cambridge, Cambridge.

McCraw, Thomas 1984, *Prophets of Regulation*, Harvard University Press, Cambridge, (Massachusetts).

Macfarlane, Ian 2006, 'The Search for Stability', *Boyer Lectures*, ABC Books, Sydney.

Meyer, John and William Tye 1985, 'The Regulatory Transition', *American Economic Review*, 75 (2), pp. 46-51.

NCC (National Competition Council) 2004, *Application by Services Sydney for Declaration of Sewage Transmission and Interconnection Services Provided by Sydney Water: Final Recommendation*, 1 December.

OECD 2005a, *Economic Survey of Australia—2004*, Paris, available at www.oecd.org/eco/surveys/34333216.pdf.

– 2005b, *Guiding Principles on Regulatory Quality and Performance*, OECD, Paris, available at www.oecd.org/fr/reformereg/34976533.pdf.

Olson, Mancur 1982, *The Rise and Decline of Nations*, Yale University Press, New Haven and London.

Pearson, Mark 2012, 'The importance of an international perspective', *Network*, Issue No. 45, September, pp. 1-6, available at www.accc.gov.au/content/index.phtml/itemId/1081029.

Phillips Fox 2002, *Review of Telecommunications Arbitration Processes*, Report commissioned by the ACCC, 18 April, available at www.accc.gov.au/content/item.phtml?itemId=753608&nodeId=59148afb767ecd946b5b633834c9e2fb&fn=Phillips%20Fox%20review.pdf.

Pittman, Russell 2005, 'Structural separation to create competition? The case of freight railways', *Review of Network Economics*, 4 (3), pp. 181-96.

Priest, George 1993, 'The Origins of Utility Regulation and the 'Theory of Regulation' Debate', *Journal of Law and Economics*, 36, pp. 289-323.

PC (Productivity Commission) 2001, *Review of the National Access Regime*, Report no. 17, AusInfo, Canberra.

- 2004, *Review of the Gas Access Regime*, Report no. 31, Canberra.

- 2010, *Wheat Export Marketing Arrangements,* Inquiry Report no 51, Canberra

– 2001b, *Telecommunications Competition Regulation*, Report no. 16, AusInfo, Canberra

– 2011a, *Identifying and Evaluating Regulation Reforms*, Research Report, Canberra.

– 2011b, *Economic Regulation of Airport Services*, Inquiry Report no. 57, Canberra.

– 2012a, *Impacts of COAG Reforms: Business Regulation and VET*, Research Report, Volume 1 – Overview, Canberra.

– 2012b, *Regulatory Impact Analysis: Benchmarking: Draft Research Report*, Canberra, August.

– 2012c, *COAG's Regulatory and Competition Reform Agenda: A High Level Assessment of the Gains*, Research Report, Canberra.

– 2012d, *Electricity Network Regulatory Frameworks*, Draft Report, Canberra.

Ross, L and C Stillinger 1991, 'Barriers to conflict resolution', *Negotiation Journal*, 7 (4), pp. 389–404.

Simatupang, Togar M, R Sridharan and Alan C Wright 2000, 'Information and incentives in a supply chain', *Proceedings of the 7th Annual New Zealand Engineering and Technology Postgraduate Conference*, Massey University, Palmerston North (New Zealand), 23-24 November, pp. 269-274.

Soames, Leo, Donald Brunker and Tala Talgaswatta 2011, Competition, *Innovation and Productivity in Australian Businesses*, Research Paper, Australian Bureau of Statistics and Productivity Commission, Canberra.

Stern, Jon, 2012, 'The relationship between regulation and contracts in infrastructure industries: Regulation as ordered renegotiation', *Regulation and Governance*, 6 (4), December, pp. 474-98.

Stigler, George 1971, 'The theory of economic regulation', *Bell Journal of Economics*, 2, pp. 3-21.

UK Department for Business Innovation and Skills 2011, *Principles for Economic Regulation*, April, available at www.bis.gov.uk/assets/biscore/better-regulation/docs/p/11-795-principles-for-economic-regulation

Vogelsang, Ingo 2010, *Incentive Regulation, Investments and Technological Change*, CESifo Working Paper Series No. 2964 Centre for Economic Studies and Ifo Institute for Economic Research, February.

Williamson, Oliver 1976, 'Franchise Bidding for Natural Monopoly', *The Bell Journal of Economics*, 7, pp. 73-104.

– 1983, 'Credible Commitments: Using Hostages to Support Exchange', *American Economic Review*, 73(4), pp. 519-38.

Yarrow, George 2008, *Report on the impact of maintaining price regulation* (with the assistance of Chris Decker and Tim Keyworth), Prepared for the AEMC, available at www.aemc.gov.au/Media/docs/Prof%20Yarrow%20Report-80834941-a50a-4bcd-8b0c-184b30791b18-0.pdf

– 2012, *Consultant's Report—Preliminary views for the AEMC*, Economic Regulation of Network Service Providers: Directions Paper documents, available at

www.aemc.gov.au/Media/docs/Professor-George-Yarrow-c4794217-ac6d-4927-a9fb-1a55d09b38cd-0.PDF.

Yarrow, George, Michael Egan and John Tamblyn 2012, 'Review of the Limited Merits Review Regime: Stage One Report', 29 June, available at www.scer.gov.au/files/2012/06/Stage-One-Report-to-SCER-29-June2.pdf.