



Australian Competition and Consumer Commission

Submission to the Productivity Commission's Inquiry into Price Regulation of Airport Services

May 2001

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Attachments:

- A. Report by KPMG, “Review of Airports Regulatory Accounts”.
- B. Regulation of airports overseas – an overview.
- C. Report by Professor Stephen King, “Market power and airports”.
- D. Report by NECG, “Treatment of New Investment at Regulated Airports”.

Glossary

Airports Act	<i>Airports Act (Cth) 1996</i>
APAC	Australia Pacific Airports Corporation
AR	Average revenue
BAA	British Airports Authority
CAA	Civil Aviation Authority (UK)
Commission	Australian Competition and Consumer Commission
FAA	Federal Aviation Authority (US)
FAC	Federal Airports Corporation
NECG	Network Economics Consulting Group
MC	Marginal cost
ODRC or DORC	Optimised Depreciated Replacement Cost
PS Act	<i>Prices Surveillance Act (Cth) 1983</i>
SACL	Sydney Airports Corporation Ltd
Trade Practices Act	<i>Trade Practices Act (Cth) 1974</i>
WACC	Weighted Average Cost of Capital

EXECUTIVE SUMMARY

In 1997 and 1998 the Federal Government privatised 17 of the 22 airports it owned and operated through the Federal Airports Corporation ('FAC'). The airports were leased for 50 years with an option to renew for a further 49 years. The Government has announced that it will privatise the five remaining airports over the next year or so.

Before privatisation the Government established a comprehensive system of regulation to apply to the private airport operators. This includes:

- prices oversight;
- access arrangements;
- quality of service monitoring; and
- public reporting of financial and other types of performance.

After almost four years of operation the Government has asked the Productivity Commission to review the need for such arrangements and to advise on what form any future regulations should take.

This submission explains the Australian Competition and Consumer Commission's ('Commission's') experience in administering the airport regulatory arrangements and presents the Commission's views on them along with suggestions for improvements.

The submission is structured as follows. Part A provides an overview of the current regulatory framework and how it has operated since its introduction in 1997. Chapters 1 to 5 explain each element of the framework that applies to the privatised airports, while chapter 6 explains the arrangements that apply at Sydney Airport. Part A also provides a brief history of previous regulation of airport services in Australia and a summary of the operation of the main legislative base for the framework, the *Prices Surveillance Act 1983* ('PS Act').

Part B of the submission reviews the experience with the airports regulatory arrangements to date and the lessons learned. Chapter 7 considers the threshold question of whether airports should be price regulated. Chapter 8 considers which airports and which airport services should be regulated. Chapter 9 puts a case for ongoing use of price caps. Issues associated with implementation of price caps, including incentives for new investment, starting point prices, 'X' values and the legislative base are considered in chapters 10 and 11. Chapter 12 reviews the current transparency provisions (accounts reporting and quality of service monitoring).

Why regulate airports?

It is widely accepted that vigorous and effective competition normally provides the best means of promoting economic efficiency. In some markets, however, competition may not be possible. This can be the case with airports. Airports often face limited direct competition in the provision of aeronautical services either from other airports or from

other forms of transport. Furthermore barriers to entry, at least for larger airports, tend to be high. Reasons for high barriers include:

- Planning restrictions and limited availability of large land sites in or near large cities.
- The lumpy and sunk nature of new airport investments.
- Economies of scale and scope in the provision of airport services.
- Network externalities¹ in the provision of airport services.

Combined with limited substitutability on the demand side these barriers to entry can give rise to significant market power. The circumstances in which such market power are likely to arise are discussed in detail in chapter 8 of this submission and in a report by Professor Stephen King to the Commission (see attachment C).

Failure to address the consequences of such market power may have significant implications for economic efficiency. Airlines providing international services to and from Australia generally operate in a competitive environment. New airline entry has increased competitive pressures in the domestic market. In both cases the impact of increased airport charges is likely to be passed through to the travelling public in the form of higher airfares.

These higher airfares can result in allocative inefficiency. As explained by the Productivity Commission in its Review of the National Access Regime:

In the first instance, these effects stem from a higher price for, and lower use of, the final service, relative to the situation in which prices were set to encourage efficient use of that service. In the simple monopoly model, lower use of the final service is a cost to 'allocative' efficiency.²

There are further allocative efficiency implications where the service is also an intermediate input. High prices can distort production and consumption patterns of the goods and services using air travel as an input. For example:

- Air travel is a business input for many companies. Higher prices can affect business input costs and the ability of such companies to compete in Australia and overseas.
- Air travel is critical to the development of the tourism industry. Tourism is a major contributor to the Australian economy. High airport charges have the potential to damage both domestic and international tourism.

¹ Network externalities arise when the value of a service to a customer is positively related to the number of users of the service. As an example, a telephone service is more valuable to a user if more people can be called using the service.

² Productivity Commission, *Review of the National Access Regime*, Position Paper, March 2001, page 42.

The major role played by the aviation industry in Australia makes regulation of airport charges particularly important.

One of the arguments advanced in favour of deregulating airports is that demand for airport services is inelastic³. The argument seems to be that the allocative efficiency losses from increases in prices are limited when demand is inelastic – in other words that price rises would do little to change the behaviour of airlines and their passengers.

This argument misses the point. While it is true that the welfare losses associated with a *given* price increase will be lower the less elastic is demand, the real issue is what prices might be in the absence of regulation. A rational company will set prices to maximise profits. The less elastic is demand the higher the profit maximising price – and the larger the allocative efficiency losses. In setting prices firms trade off the additional revenue and profit from higher prices against the reduction in revenues and profits as customers stop using the service. If, as is argued, the demand for airport services is relatively inelastic the resulting profit maximising prices will be high, well above the charges currently levied.

Standard economic theory is clear about one thing – the less elastic is demand the stronger the case for regulation.

Having said this, if airports are in a position to price discriminate between different customers, the allocative efficiency losses resulting from monopoly pricing might be mitigated. At the limit, if they were able to perfectly price discriminate, the deadweight welfare losses to society could be eliminated altogether.

However, the Commission considers this irrelevant given practical realities. The evidence to date suggests that airlines and airports have little capacity to price discriminate in relation to aeronautical services⁴. Furthermore even if they could, the information requirements to enable such pricing behaviour are likely to be extremely high⁵.

Economic regulation is not new to airports or the airport privatisation process. In Australia and overseas Governments have recognised the potential for market failure in the provision of airport services. In every developed country Governments have responded by regulating prices at privatised airports – except in New Zealand. There the outcomes of the so called ‘light handed’ approach have been disappointing. Airport charges in New Zealand are considerably higher than Australia, and airport operators and their customers have been bogged down in lengthy and costly litigation processes. The results to date have prompted the Government to reconsider the ‘light handed approach’ to regulation. It is moving to re-regulate services in the energy and

³ See for example, Peter Forsyth, *Airport Price Regulation: Rationales, Issues and Directions for Reform*, Submission to the Productivity Commission Inquiry into Price Regulation of Airport Services, March 2001.

⁴ See for example Network Economics Consulting Group’s report to the Commission, *‘Dual Till’ at Sydney Airport*, May 2000. A copy of this paper is available at www.accc.gov.au

⁵ See discussion in chapter 8 of this submission.

telecommunications sectors. In relation to airports it has instructed the New Zealand Commerce Commission to determine whether price controls should be implemented.

Market power of airport operators

The Commission engaged Professor Stephen King to provide advice on an approach to determining the extent of market power at airports in Australia.⁶ Professor King proposed a six-step iterative framework for considering this issue. These steps are:

1. define the problem;
2. determine the potential market participants;
3. determine the potential time-frame(s) and functional levels for analysis;
4. consider the substitution possibilities on both the demand and supply sides;
5. re-examine the underlying assumptions; and
6. examine the airport's market power.

Professor King's report is at attachment C. The report concludes that larger Australian Airports have significant market power in relation to a range of services.

A number of airport operators argue that they are not in a position to take advantage of market power because airlines have countervailing power. The argument seems to be that airlines may be in a position to withdraw or curtail services in response to price increases, or to change their existing or planned use of non-aeronautical services at the airport.

The Commission rejects this argument. Professor Forsyth describes countervailing power as a "mirage"⁷. He states that "airlines cannot credibly threaten to leave airports because they do not have substitute sources of supply". Professor King also rejects the argument, at least in relation to larger airports. In a case study of Melbourne Airport he concludes:

As noted in section 1.4, countervailing power from the airlines might be able to at least partially offset Melbourne airport's market power. There are two main domestic carriers currently operating out of Melbourne airport as well as two smaller carriers. One of the major carriers, for example Qantas, might be thought to have significant countervailing power. However, because of its location in the second largest Australian city, it is not clear that even a major airline, such as Qantas, can credibly exercise countervailing power to Melbourne airport. It is likely that Qantas could not threaten to cease services to Melbourne or even to substantially curtail these services. If Qantas were to carry out such a threat, then this would undermine its own profitability and probably lead to significant gains to Qantas' rival carriers.⁸

The analysis does not deal with the possibility of airlines collectively threatening to cease services. However, the Commission notes that section 45 of the *Trade Practices Act* generally prohibits such actions.

⁶ Refer to Attachment C.

⁷ Peter Forsyth, *Airport Price Regulation: Rationales, Issues and Directions for Reform*, Submission to the Productivity Commission Inquiry into Price Regulation of Airport Services, March 2001, page 4.

⁸ King, S., *Market power and airports*, Report to the Commission, January 2001, page 23.

This submission argues that airport regulatory provisions should be targeted at those airports and services where the market power of airport operators is significant. Price regulation should not apply to other airports and services. This means that the Commission supports the ‘dual till’ approach to regulation. It considers that the dual till approach has certain advantages over the ‘single till’ approach used in the past. In particular it is likely to provide superior investment outcomes.

Nevertheless a dual till approach should only be adopted if the delineation between services which are and are not subject to regulation reflects the market power of the airport operator. The risk of applying dual till that is too narrow is that the regulatory measures will be ineffective. The current arrangements already show signs of regulatory bypass. The current price cap aims to reduce airport landing charges over time. However, the introduction of fuel throughput levies at Brisbane and Perth airports has offset a substantial part of those reductions.

Chapter 8 of this submission provides a detailed analysis of market power at Australian airports using the six-step iterative framework developed by Professor King and with a focus on demand and supply side substitution possibilities.

The Commission recommends use of Professor King’s framework for assessing market power. The Commission’s application of the framework suggests that Sydney, Melbourne, Brisbane, Perth, Adelaide, Canberra and Darwin airports should be subject to continued price regulation. The submission recommends prices monitoring of the deregulated airports (Alice Springs, Coolangatta, Hobart, Launceston and Townsville) as a transitional measure.

In relation to which services should be regulated, this submission’s application of Professor King’s framework suggests that the services currently in the price cap should continue to be regulated. It also suggests that price cap coverage should be broadened to include aircraft refuelling, check-in and certain ground access services provided by the airport operators.

Incentive regulation

Chapter 9 of this submission considers three options for regulating prices at airports:

- negotiate-arbitrate models such as in Part IIIA of the Trade Practices Act;
- tariff setting (eg rate of return pricing); and
- incentive regulation.

The submission favours ongoing use of incentive regulation in the form of CPI-X price caps. Price caps provide clarity and certainty for all of the parties about pricing outcomes. They also have provide strong incentives to service providers to reduce production costs. The Commission notes that this approach is consistent with the approach adopted in regulating electricity and gas transmission and distribution in Australia and airports in the U.K.

By contrast the submission does not favour use of the negotiate-arbitrate model as the primary means for price regulation of airports. The experience with negotiate-arbitrate models to date suggests that they have a number of fundamental limitations, including:

- the high propensity for the parties to seek arbitration rather than negotiate outcomes;
- time consuming and costly processes;
- the potential for the negotiate-arbitrate model to give rent sharing outcomes⁹; and
- the potential in an airport context for the regulator to be involved in micro-management of aspects of airport operations.¹⁰

The negotiate-arbitrate model was originally described as a 'light handed' model with arbitration only as a last resort. The experience since then suggests this is not the case.

Use of a price cap raises a number of implementation issues. The submission discusses the main issues, namely the price cap parameters, the legislative base for a price cap and new investment incentives.

Price cap parameters

Introducing new CPI-X price caps for regulated airports raises the question of how to set starting point prices and the 'X' values. The Commission proposes that prices from the current regulatory framework should be carried over to form the starting point for a new price cap. The alternatives, such as setting starting point prices to reflect costs, are likely to result in significant increases or decreases in charges. Given that these starting point prices relate to existing, mostly sunk assets, there is little if any reason to make such a change from an economic efficiency perspective. Instead the main effect of such a change would be a distributional one, either a transfer from airlines and their passengers to airport operators or vice versa.

The case for this approach has been recognised in the U.K. There assets are not revalued as part of the current regulatory framework. Instead, and as proposed by the Commission in this submission, prices are carried over from one five year regulatory period to the next.

In relation to the 'X' values the Commission proposes adopting the same approach as for the first five-year regulatory period, that is, to set the 'X' values on the basis of expected productivity gains, adjusted to take into account new investment¹¹.

⁹ See King, S. & Maddock, R. 1996, *Unlocking the Infrastructure, The reform of public utilities in Australia*, Allen and Unwin, Sydney.

¹⁰ See for example the Commission's Delta Car Rentals determination (discussed in chapter 5 and 13). The issues of concern to Delta raised a number of ground access operational issues which the Commission could be obliged to consider as part of an arbitration.

¹¹ Chapter 10 discusses possible approaches to new investment and proposes the inclusion of some new investment in the 'X' values.

Legislative base for a price cap

The Commission considers that the current PS Act does not lend itself to the regulation of airports through CPI – X price caps. The primary problem with the legislation is that compliance with the price cap is voluntary. The PS Act requires airport operators to notify the Commission of price increases, but does not prevent them from ignoring the requirements of the price cap. Other limitations relate to information gathering powers, processes for assessing notifications and the relationship between the PS Act and Ministerial directions made under section 20 of the PS Act. These are discussed in chapter 11 of this submission and in the Commission’s submission to the Productivity Commission’s Review of the PS Act.

As an alternative this submission proposes that the relevant provisions of the PS Act should be substantially strengthened or that the price cap should be enacted as a new part to either the Trade Practices Act or the Airports Act. On balance the Commission considers that there are advantages to including the price cap in the Trade Practices Act rather than separate industry specific legislation.

New investment

Price caps allow airport operators to improve their profit performance in two ways. One is to reduce costs, the other to increase revenues for any given cost structure. Airport operators will have strong incentives to carry out investments which achieve either of these objectives. In such cases price caps should achieve efficient investment outcomes without any additional investment incentive provisions.

However, in other cases, and in particular quality and capacity enhancing investments, price caps by themselves may not provide adequate incentives for investment, even if airport users want the investment and would be prepared to pay for it. In general price caps provide weak incentives for airport operators to carry out quality improving investments. This is because the relationship between the quality of airport services and traffic volumes (and in turn revenues) is likely to be weak except in extreme conditions.

Similar under certain circumstances capacity enhancing investments will not pay for themselves. Typically capacity enhancing investments pave the way for traffic growth over time. In turn under a price cap such increases in traffic volume translate into higher revenues. An airport operator will have strong incentives to carry out such investments if the additional revenues from the new facilities exceed the costs of constructing them. Whether or not this would be the case is an empirical question, dependent on the incremental cost of the new facility and the additional revenues generated by it. It may well be the case that the outcomes are such that capacity enhancing investments are not undertaken even if they are welfare enhancing.

Given this, investment provisions to provide additional incentives for quality and capacity enhancing investments would seem to be warranted.

Chapter 10 of this submission and the report to the Commission on new investment by NECG (at attachment D) consider options for providing such incentives. The main options considered are:

1. Set 'X' values to accommodate anticipated investment, so that the 'X' values are lower the more investment factored in;
2. Increase prices to recover the costs of new investments as they come on-line (the current arrangements work in this way); and
3. A hybrid of these two options.

This submission assesses each of these options against a number of objectives, focusing on economic efficiency and administrative simplicity. The discussion concludes in favour of a hybrid approach. This approach would factor ongoing smaller investments into the 'X' value or other price cap parameters, but still provide for a pass through of the costs of major projects such as major new terminal or runway works.

The hybrid approach combines advantages of the other two options. It would provide strong incentives for investment by directly linking price increases to cost. At the same time it would reduce the administrative burden associated with the current arrangements by limiting the pass through provisions to major projects.

The challenge with this approach is to provide clarity about what projects are eligible for a pass through. To achieve this the Commission suggests introduction of a clear and workable cut off between what can and cannot be passed through. The Commission also suggests that the projects and dollar amounts factored into the price cap parameters should be made available to all interested parties.

PART A

ECONOMIC REGULATION OF AIRPORTS – CURRENT ARRANGEMENTS

In 1997 and 1998 the Commonwealth Government privatised 17 of the 22 airports it owned and operated through the Federal Airports Corporation. The Government established a number of economic regulatory measures covering the privatised airports. The measures include:

- a price cap on ‘aeronautical’ services;
- monitoring of prices, costs and profits of ‘aeronautically related’ services;
- an access regime to complement Part IIIA of the *Trade Practices Act 1974* (“Trade Practices Act”); and
- transparency provisions, including quality of service monitoring and accounts reporting requirements.

The Commission has the role of administering these measures. This part of the submission explains the regulatory arrangements and their implementation.

1. PRICE REGULATION OF AIRPORTS IN AUSTRALIA

1.1 Introduction

Corporatisation and privatisation of airports is a relatively recent development in Australia. This section provides background information on the history of price regulation of Australian airports. It also provides background information on the main legislative instrument for price regulation of airports, the *Prices Surveillance Act 1983* (“PS Act”).

1.2 History of airport price regulation in Australia

This section provides an historical context to the current regulatory framework. It provides a brief history of the economic regulation of airports in Australia leading up to the privatisation of the major airports in 1997 and 1998.

From the early days of aviation the Federal Government was active in developing and operating airport infrastructure. However the notion that the aviation industry should meet the cost of these facilities was slow to emerge. Prior to 1947 there was no systematic attempt to recover aviation industry costs,¹² and it was not until 1961 that a policy of full cost recovery was adopted.

Over the next two decades successive governments pursued various incarnations of a cost recovery policy. These efforts were markedly unsuccessful. Recovery levels never exceeded two-thirds and were more commonly around one half of costs. The balance was funded by the general taxpayer.¹³

In 1984 an inquiry identified numerous problems with the existing arrangements including:

- The costs of providing and maintaining aviation infrastructure were not adequately accounted for. Some infrastructure costs were simply not counted, whilst others were measured in a dubious manner;
- The methods of allocating costs to industry sectors (such as general aviation, domestic trunk aviation) were arbitrary;
- Charges were not closely related to costs. They generally fell short of average costs and in many cases facilities were made available at little or no cost to users, leading to distortions to demand;
- Investment decisions were taken without regard to financial consequences, including cost recovery implications; and

¹² Amendments to the *Air Navigation Act* were intended to achieve recovery of 30 percent of the operating costs of Government provided aviation facilities and services.

¹³ In financial year 1982 – 1983 this contribution amounted to \$184.8 million: Independent Inquiry into Aviation Cost Recovery 1984 *Aviation Cost Recovery Report of the Independent Inquiry* (Bosch H, Chairman), AGPS, Canberra (Bosch Report) p. 14.

- The administration of, and development of new, aviation infrastructure was perceived by the aviation industry as not closely related to its needs.¹⁴

These issues were the backdrop to a broad reworking of aviation policy in the early 1980s. A key reform was the establishment of the Federal Airports Corporation (FAC) to manage Government owned aviation facilities. The rationale for the formation of the FAC was described in the second reading of the *Federal Airports Corporation Bill 1985* thus:

Departments of state are of necessity bound by the Government processes which inhibit commercial flexibility and responsiveness. The aviation industry has been critical of this fact and of the inability of the current administrative processes to make changes in a timely manner to meet the requirements of a dynamic market. Additionally governments in the past have unduly influenced the priorities for aviation infrastructure development for reasons unrelated to economics or efficiencies. Indeed many of the decisions taken in the past have inhibited economy and efficiency in the industry.¹⁵

The government intended the FAC to manage and develop airports on a commercial basis. The FAC was required to achieve a reasonable rate of return on its assets and pay a reasonable dividend to the government.

The FAC was nevertheless subject to a degree of government oversight. The economic rationale for maintaining government involvement was that an airport operator may possess significant market power and may use this power to restrict an airport's capacity, increase landing fees and earn monopoly profits.¹⁶ The FAC was required to submit financial plans and to carry out its functions in a manner which complied with government policies.¹⁷ The Minister was empowered to give directions to the FAC with respect to the performance of its functions but could not direct the FAC in relation to significant investment decisions without conducting an inquiry.

The FAC was required to notify the Minister prior to imposing or varying an aeronautical charge. The definition of 'aeronautical' charges is considered in more detail below. Briefly, it includes charges levied on aircraft for use of services and facilities provided by an FAC owned airport but not those imposed under a lease or licence. The legislation offered the FAC scope to move towards more efficient pricing principles. Section 56(10) of the *Federal Airports Corporation Act 1986* (FAC Act) provided:

An aeronautical charge shall not be fixed at an amount that exceeds the amount that is reasonably related to the expense incurred or to be incurred by the [FAC] in relation to the matters in respect of which the charge is payable.

The FAC did not embrace this concept. While it progressively brought charges more closely into line with costs, charges for most services (including landing and parking of aircraft and transfer of passengers and cargo) were imposed largely through a single

¹⁴ Bosch Report p. 14.

¹⁵ Australia, House of Representatives 1985, *Debates*, p. 2692.

¹⁶ Industry Commission 1992 *Intrastate Aviation* Report 25, AGPS, Canberra, p. 91.

¹⁷ For example in relation to environment protection.

landing charge.¹⁸ As single rates for aeronautical charges were adopted across all FAC airports, no allowance was made for the very real possibility that costs may vary between airports.¹⁹ Charges paid by general aviation operators bore little relationship to their use of airport facilities.²⁰

Subsequent to the establishment of the FAC the Government declared the FAC's aeronautical charges under section 21 of the PS Act. The imposition of independent scrutiny followed mounting concerns over the FAC's position as a monopoly supplier of commercial airport services.²¹ The prices surveillance declaration adopted a formulation of 'aeronautical charge' which followed the FAC Act formulation. Section 56(1) of the FAC Act defines 'aeronautical charge' as follows:

A charge for or in respect of –

- (a) the use by an aircraft of a Federal Airport; or
- (b) services or facilities provided by the [FAC];

and, without limiting the generality of the foregoing, includes –

- (c) a charge for the landing or parking of an aircraft at a Federal Airport;
- (d) a charge relating to the embarkation or disembarkation of aircraft passengers at a Federal airport; and
- (e) a charge relating to the handling of cargo carried on an aircraft;

But does not include any charge made under, or because of, a contract, lease, licence, or an authority, in writing under the common seal of the [FAC].

Neither definition was based on a rigorous study of the economic efficiency or market power issues that the declaration and FAC Act were attempting to address.

The definition of 'aeronautical charge' limited the scope of the prices surveillance declaration. The exclusion of contracts leases and licences excludes a number of services which would functionally be described as 'aeronautical' and in relation to the supply of which the FAC might well have market power. For example, refuelling services were and are provided by independent companies under licence so charges for these services were outside the scope of price scrutiny. However the refuelling of aircraft would appear to answer a functional definition of aeronautical services and meet the market power test in the legislation.

The arbitrary boundary between aeronautical and non-aeronautical services was criticised by the Prices Surveillance Authority (PSA). The PSA argued that the distinction rendered the interpretation of airport performance difficult. Moreover it allowed the FAC to shift functionally aeronautical services into the non-aeronautical

¹⁸ PSA report p. 71.

¹⁹ Non-aeronautical charges varied between airports.

²⁰ See Industry Commission 1992 *Intrastate Aviation* Report 25, AGPS, Canberra, p. 5.

²¹ See generally Industry Commission 1992 *Intrastate Aviation* Report 25, AGPS, Canberra.

area. The PSA argued that aeronautical activities should be defined by reference to the FAC's core functions including:

- All aircraft movement related services, including refuelling, airfield security, the provision of hangars or hangar sites and some maintenance facilities;
- Certain terminal facilities including check-in and some office space necessary to accommodate staff managing the airport activities;
- Other airside related activities such as baggage handling and freight facilities.²²

The PSA considered that the FAC had varying degrees of market power in relation to the provision of car parking services and suggested that these charges be formally monitored.

The next phase in the regulation of airports was the transition to the current regime. The Industry Commission had expressed the view that the lack of effective competition was a fundamental source of inefficiency in the provision of air services.²³ In 1997 and 1998 all major FAC airports except Sydney Airport were sold to private operators. The government described the sales as:

A major step forward in the micro-economic reform agenda for the aviation sector. The sale of long-term leases over ... our major airports enables world's best practice to be brought to the management and operation of Australia's major airports and facilitates future capital investment on a commercial basis.²⁴

The government implemented an oversight regime to prevent private airport operators from exercising monopoly power. The regime included price oversight arrangements in the form of a CPI-X price cap governing aeronautical services. The framework adopted a definition of aeronautical services based on that adopted in the FAC Act. At the time of sale there was no systematic evaluation of which services were subject to market power. This course was justified at the time by "the need for new owners of airports and aviation users to have some certainty about price structures and the impact of the CPI-X price cap".²⁵

1.3 The Prices Surveillance Act

The PS Act was introduced in 1983 as part of the Commonwealth Government's prices and incomes policy. The intention was to promote restraint in pricing to accompany wage restraint exercised under the Prices and Incomes Accord, as part of a strategy to control inflation and promote economic growth. It was intended that the Act would be

²² Prices Surveillance Authority 1993 *Inquiry into the Aeronautical and Non-aeronautical charges of the Federal Airports Corporation* AGPS, Canberra, ch. 4.

²³ Industry Commission 1992 *Intrastate Aviation* Report 25, AGPS, Canberra, p. 127.

²⁴ Australia, House of Representatives 1997, *Debates*, p. 8958.

²⁵ Pricing policy paper p. 2.

applied only where effective competition was lacking and where price increases could have pervasive effects throughout the economy.²⁶

The PS Act enables the responsible Commonwealth Minister, currently the Minister for Financial Services and Regulation, to direct the Commission to examine the prices of selected goods and services in the Australian economy.

Overview

Under the PS Act the Commission has the power to carry out three forms of prices oversight under the direction of the Minister:

1. *monitoring* of prices, costs and profits of companies and government authorities in relation to specified goods and services;
2. *public inquiries* into specified matters; and
3. *price notifications*, where the Minister declares that specified companies are to notify the Commission of a proposed price increase for specified goods and services.

The PS Act does not incorporate powers of price control. The Productivity Commission noted in its recent Draft Report of the review of the PS Act that:

The Act was designed to be flexible in its application, allowing the responsible Minister to target specific companies and sectors, without necessarily involving many companies in unnecessary regulation.

...

The Act deliberately provides little guidance to the Minister regarding whether a product or service may be declared for price notification or subjected to monitoring, or whether to hold a public inquiry. The ACCC applies the instruments of prices oversight in accordance with the declarations and/or directions issued by the Minister.²⁷

The Minister is able to issue declarations and directions regarding prices oversight under sections 21(1), 18(1) and 27A of the PS Act. Section 21(1) provides for goods or services to be notified, or persons in relation to goods or services of a specified description to be declared by the Minister for the purposes of the PS Act. The Commission may also make such declarations with the approval of the Minister.

Section 18(1) provides that the Minister may require or approve an inquiry by the Commission into a specified matter.

Section 27A provides that the Minister may direct the Commission to monitor prices, costs and profits relating to the supply of goods or services by persons in a specified industry.

²⁶ Productivity Commission, March 2001, Review of the Prices Surveillance Act 1983, p. xvi.

²⁷ Productivity Commission, March 2001, Review of the Prices Surveillance Act 1983, pp. xvi, 4-5.

Section 20 provides that the Minister may direct the Commission in exercising its powers and performing its functions under the PS Act to give special consideration to specified matters and the Commission shall comply with such a direction.

Prices Oversight at Australian airports

Currently the 11 privatised airports (Adelaide, Alice Springs, Brisbane, Canberra, Coolangatta, Darwin, Hobart, Launceston, Melbourne, Perth and Townsville Airports) and (yet to be privatised) Sydney Airport are declared persons, pursuant to section 21(1), for the purposes of the PS Act.²⁸

There are 6 Ministerial Directions relating to declared airports. If a Direction is applicable the Commission must give the matters within it special consideration.

Direction No. 18 outlines matters relating to the pricing of aeronautical services at Sydney Airport. There is no price cap regime applicable at Sydney Airport. It also includes provision for the pass through of costs associated with new investment at Sydney Airport.

Direction No. 20 outlines the price cap regime and matters relevant to the pricing of the declared aeronautical services at the 11 privatised airports for the purposes of section 21(1) (price notification). It also provides for the pass through of costs associated with necessary new investment.

Direction No. 21 provides for the monitoring of aeronautical-related services at all airports pursuant to section 27A.

Direction No. 22 outlines that the Commission should not take into account the revenues generated or costs incurred in the provision of services other than aeronautical services when pricing aeronautical services at Sydney Airport.

Direction No. 23 provides that the overall charges paid by regional air services operators should not be increased in any year by a percentage in excess of the percentage increase occurring in the Consumer Price Index.

The Unit Cost Direction directs the Commission to give special consideration to the Government's policy of generally not supporting price increases in excess of movements in unit costs.

Details on Direction numbers 18, 20 and 21 are provided in chapter 2.

Price notifications

The Commission must consider price notifications given to it by the declared airports under section 22(2)(a) of the PS Act. An airport must notify the Commission of a price rise if the proposed price is higher than the highest price level which has been operating

²⁸ Declaration 87, 30 June 2000; Declaration 88, 30 June 2000, Declaration 89, 30 June 2000.

for the previous twelve months.²⁹ If a declared airport fails to notify the Commission in breach of the PS Act a fine of \$10,000 can be imposed.³⁰

In relation to these notices the Commission may take such action in accordance with Part III of the PS Act as it considers appropriate.³¹

Section 21 of the Act requires that price notifications be assessed within 21 days. In addressing any procedural difficulties this may raise the Commission has published its *Draft Statement of Regulatory Approach to Price Notifications*.³² This document outlines a process for assessing a draft notification prior to receiving a formal notification to allow for any consultation with interested/affected parties.

The Commission has certain powers to obtain information under the PS Act. Section 32(1) enables the Chairperson to request that organisations or individuals provide information or documentation relevant to a price notification. Failure to comply with such a request gives rise to a penalty of \$1,000. However, a person does not have to comply with such a request if they have a reasonable excuse.³³ A reasonable excuse includes, but is not limited to, the fact that the information may incriminate the individual or expose the individual to penalty.³⁴

When performing its functions in relation to prices oversight the Commission must have particular regard to the criteria contained in section 17(3) of the PS Act, subject to the above ministerial directions.

These criteria are:

- (a) the need to maintain investment and employment, including the influence of profitability on investment and employment;
- (b) the need to discourage a person who is in a position substantially to influence a market for goods or services from taking advantage of that power in setting prices; and
- (c) the need to discourage cost increases arising from increases and wages and changes in conditions of employment inconsistent with principles established by relevant industrial tribunals.

The Commission must have regard to the section 17(3) criteria as fundamental elements of its analysis.

After assessing price notifications the Commission may either not object to the notification or not object at a lower price.³⁵ However, while the declared airport is required to notify the Commission and observe the procedures of the PS Act, it has no

²⁹ Section 22(1), Prices Surveillance Act 1983 (Cth).

³⁰ Section 22(1), Prices Surveillance Act 1983 (Cth).

³¹ Section 17(1)(a), Prices Surveillance Act 1983 (Cth).

³² Australian Competition and Consumer Commission, *Draft Statement of Regulatory Approach to Price Notifications*, April 1998.

³³ Section 32(1), Prices Surveillance Act 1983 (Cth).

³⁴ Section 32(2A), Prices Surveillance Act 1983 (Cth).

³⁵ Section 22(2)(b), Prices Surveillance Act 1982 (Cth).

legal obligation to comply with a decision made by the Commission in relation to the notification.

2. CPI-X PRICE CAP

2.1 Introduction

A CPI-X price cap applies to all of the larger privatised airports³⁶. The price cap does not, however, apply to Sydney Airport. This part of the submission provides background information on the price cap. Section 2.2 explains how the price cap works and section 2.3 reviews price cap compliance to date. The price cap includes two “pass through” provisions, one for new investment, the other for government mandated security requirements and demand management schemes. These are discussed in sections 2.4 and 2.5.

2.2 The price cap

The price cap applies to a range of ‘aeronautical’ services at leased Phase I and Phase II airports. These services are declared by the Treasurer pursuant to section 21 of the PS Act. Declaration numbers 87 and 88 set out the facilities and services covered by the price cap. They are:

- Aircraft movement facilities and activities, comprising:
 - (a) airside grounds, runways, taxiways and aprons;
 - (b) airfield lighting, airside roads and airside lighting;
 - (c) airside safety;
 - (d) nose-in guidance;
 - (e) aircraft parking;
 - (f) visual navigation aids;

- Passenger processing areas, comprising:
 - (a) forward airline support area services;
 - (b) aerobridges and airside buses;
 - (c) departure lounges and holding lounges (excluding commercially-important-persons lounges);
 - (d) immigration and custom service areas;
 - (e) public address systems, closed circuit surveillance systems, security systems;
 - (f) baggage make-up, handling and reclaim;
 - (g) public areas in terminals, public amenities, public lifts, escalators and moving walkways;
 - (h) flight information display systems;
 - (i) landside roads, landside lighting, and covered walkways.

³⁶ The price cap applies to Adelaide, Alice Springs, Brisbane, Canberra, Coolangatta, Darwin, Hobart, Launceston, Melbourne, Perth and Townsville Airports.

Services in this list which were subject to a contract, lease, licence or authority given under the common seal of the FAC are excluded from the price cap.

A range of services provided at airports are not covered by the price cap. Some of these services are subject to prices monitoring (see section 3). There is no prices oversight of the other services, including revenues from rents or leases for retail shops and cafes, administration and office space, catering facilities, valet parking services and VIP lounges.

The rationale for subjecting some services to a price cap but not others is to limit the scope of regulation. A number of services at airports are reasonably contestable because they can be provided away from the airport or because alternative services are available to airport users.

As stated in the Government's *Pricing Policy Paper*³⁷, the intention was that the price cap would apply to the group of services covered by the *Federal Airports Corporation Act 1986*. The reason for this was explained as follows: "This coverage best meets the need for new owners of airports and aviation users to have some certainty about price structures and the impact of the CPI-X cap."³⁸

The price cap is a CPI-X cap. The CPI measure used is the underlying measure of national CPI, recorded in the year to the previous March quarter, as calculated by the Commission.

The 'X' values range from 1 per cent at Townsville and Canberra Airports to 5.5 per cent for Perth Airport (see table 1). They were set by the Commonwealth Government on recommendations from the Commission. The Commission's advice was based on its analysis of projected demand, costs and productivity improvements.

Table 1: 'X' values at leased airports:

Airport	'X' value
	4.0
Adelaide	
Alice Springs	3.0
Brisbane	4.5
Canberra	1.0
Coolangatta	4.5
Darwin	3.0
Hobart	3.0
Launceston	2.5
Melbourne	4.0
Perth	5.5
Townsville	1.0

³⁷ Department of Transport and Regional Development, *Pricing Policy Paper*, November 1996.

³⁸ *Ibid*, page 2.

Starting point prices for the price cap were those FAC charges in place at the time of the transfer of the lease.

The price cap formula is specified in direction number 20. The formula compares movements in the average price of services covered by the cap with CPI-X. Compliance is achieved when the movement in average prices equals CPI-X. The average change in price is calculated by weighting the price change for each service by the service's revenue weighting.

Because the price cap operates under the PS Act, airport operators are required to notify the Commission of a proposal to increase charges on services covered by the declaration. The primary consideration for the Commission in assessing such notifications is whether the price increases proposed fall within the parameters set by the price cap.

The price cap allows airport operators to restructure prices. The price cap formula uses a weighted average of prices, with price movements for each service weighted by its previous period revenue share. Even if some prices increase, as long the weighted average of price changes meets the CPI-X requirement the airport operator has complied with the price cap.

The price cap allows for any over- or under-recoveries to be carried over between years within the five-year duration of the price cap. In relation to over-recoveries, there will be a requirement for these to be passed back to customers within the following two years from the period of over-recovery (except in the case of year 4, where the over-recover is to be passed back in year 5).

2.4 Compliance

Each year the Commission assesses price cap compliance at each of the regulated airports. The results are published annually in the Commission's airport regulatory reports³⁹.

In calculating an airports compliance (or non-compliance) with the price cap the price cap formula requires the Commission to derive the average movement in prices. This is calculated as follows:

- The average price for each service over the year is derived by dividing revenue from the service by the number of units (for example landed tonnes or passengers).
- The average price for each service is compared to its previous year average, to give a percentage price change for each service.
- The price change for each service is then weighted by its previous period revenue share.

³⁹ The regulatory reports are available on the Commission's web site at www.accc.gov.au. The reports cover price cap compliance as well outcomes from the Commission's prices monitoring, quality of service monitoring and accounts reporting.

- The average price change for all service is derived by summing the weighted price change of each service.

Compliance occurs when the weighted average price change equals CPI-X.

The Commission has now assessed price cap compliance for the first three year of the price cap for the Phase I airports, and for the first two years for the Phase II airports. Table 2 below provides a summary of the price cap reconciliations for Phase I and II airports for 1999-00, and the cumulative position of each airport regarding its price cap compliance.

Table 2: Price Cap Compliance as at July 2000

Airport	Cumulative over/under recovery \$	Cumulative over/under recovery % of 99/00 Revenue
Brisbane	1 072 870	3.29%
Melbourne	(9 281)	-0.02%
Perth	560 621	3.19%
Adelaide	860	0.01%
Alice Springs	(11 563)	-0.71%
Canberra	(15 559)	-0.36%
Coolangatta	88 931	1.53%
Darwin	(32 092)	-0.77%
Hobart	14 448	0.80%
Launceston	(4 918)	-0.32%
Townsville	(15 712)	-0.78%

Brisbane Airport has over recovered for the last two years and now has a significant cumulative over-recovery of just over \$1million. Melbourne Airport marginally over recovered in 1999/00, but taken with the net under recovery of the last two periods has now under recovered and complies with the price cap. Perth Airport has over recovered for the last three years and therefore failed to comply with the cap. Perth's cumulative over-recovery now amounts to around \$560,000.

For the Phase II airports, Adelaide refunded the over charge in 1998/99 by providing a rebate and are now left with a small over recovery. Alice Springs decreased aeronautical charges to bring it in line with the price cap. Canberra Airport made no changes to charges in 1999-00 and has provided rebates in 1997-98 and 1998-99 to now record a net under recovery and comply with the cap. Coolangatta Airport over recovered in 1998/99 but reduced charges in 1999/00 to have a slight over recovery. Darwin Airport over recovered in 1998/99 but decreased aeronautical prices in 1999/00 to bring it into line with the cap. Hobart Airport under recovered in 1999/00, however taken with the over recovery in 1998/99 is still over recovered. Launceston Airport has under recovered for the last two years. Townsville did not increase charges in 1999/00 by as much as they were allowed and have a net under recovery.

Taxi charges

Since privatisation Perth, Brisbane and Canberra airports have introduced vehicle access charges for taxis. The aeronautical services subject to the price cap include, 'landside roads, landside lighting, and covered walkways'. Direction 20 states that "new or varied charges on existing services and charges on new or varied services are to be factored into the price cap arrangements if the services are declared". The Commission received legal advice that the taxi charges would fall under this definition of 'aeronautical' service.

The Commission therefore considers that revenue derived from taxi charges at these airports should be included in the price cap and the price cap reconciliation statement. All relevant airports notified the Commission of their disagreement with its interpretation of the regulatory instruments. Canberra Airport instigated an action in the Federal Court against the Commission under the *Administrative Decisions (Judicial Review) Act 1977 (Cth)*. The Federal Court recently ruled (on 23 March 2001) that the charge is within the price cap because it relates to the use of landside roads at Canberra Airport, and charges for landside roads are covered by the price cap.

Canberra, Brisbane and Perth airports have provided the Commission with revenue or unit data for vehicle access charges on taxis, and these charges have been included in the price cap reconciliation for the above airports.

2.5 New Investment

The price cap arrangements include a necessary new investment pass through provision, designed to provide incentives for airport operators to carry out new investment. This provision allows airport operators to increase charges to fund new investment provided the investments meet certain criteria. The criteria focus on user support and the relationship between the cost of the project and the proposed charges. They are as follows⁴⁰:

- (a) the operator's plans for new investment or service innovation and the associated costs;
- (b) the relationship between the proposed increases in aeronautical charges and the costs (including the level of the rate of return) of the new investment or service;
- (c) support from airport users with a significant interest in the investment for the operator's proposals, including in relation to charging changes;
- (d) contribution of the new investment/service to productivity improvements at the airport;
- (e) overall efficiency of the airport's operation;

⁴⁰ See directions no. 18 and 20.

- (f) the particular demand management characteristics of individual airports, including any demand management schemes in place, capacity constraints and any under utilisation of the airport infrastructure;
- (g) airport performance against quality of service measures, including services under the control of the airport operator;
- (h) airport performance vis a vis other Australian airports and any comparable international airports; and
- (i) the extent to which the proposed investment will facilitate the operations of new entrants to domestic or international aviation.

The Commission has the role of assessing new investment proposals. The new investment pass through provision states that the Commission must take the above criteria into account in deciding whether to approve a proposal to increase charges outside the price cap. The Commission must provide a statement of reasons for its determination.⁴¹

In assessing new investment proposals the Commission typically conducts an extensive public consultation process in which the Commission:

- invites interested parties to provide preliminary comments on the proposals;
- releases a draft decision;
- invites submissions in response to the draft decision; and
- releases a final decision having regard to the submissions.

Commercially driven outcomes

As stated in the *Pricing Policy Paper* the intention of the new investment provisions is to encourage commercially driven outcomes: “Pricing oversight arrangements are intended to promote operation of the airports in as an efficient and commercial a manner as possible. Pricing is fundamental to the efficient use of airport infrastructure. It is in the interests of airport users in particular, and the national economy in general, that commercially-driven decisions be made about maintaining existing airport infrastructure, and building new infrastructure”.⁴²

The outcomes are encouraging. A number of significant new investment projects have been negotiated by the parties and approved by the Commission, including new passenger facilities to service new entrant airlines at Sydney, and Melbourne airports, a new \$220 million passenger terminal facility at Adelaide Airport, and various airside investments at Brisbane, Perth, Canberra and Darwin Airports (details below).

⁴¹ Direction no 13 (6) 22 May 1998.

⁴² Department of Transport and Regional Development, *Pricing Policy Paper*, November 1996, page 1.

However, lack of clarity in the framework initially impeded negotiations and continues to concern some of the parties. Airport operators and airport users could not agree on what constituted 'new investment'. The main issues were as follows:

- Some investment was already factored into the 'X' values. The parties were advised of this during the sales process, but not advised of the amounts involved. Subsequent negotiations between the airport operators and airport users failed to resolve this issue.
- In a number of cases the parties did not agree on whether an expenditure item was new investment or maintenance.

Following requests from the parties the Commission developed a position paper on what constitutes 'new investment'⁴³ in April 2000. In developing the paper the Commission sought independent advice on the matter and conducted a public consultation process.

The approach adopted was to define 'investment' as "an increase in fixed durable inputs, or capital". 'New' investment was defined as "a change in fixed durable inputs that does not simply seek to replace natural degradation of capital". The position paper provides a number of examples of how this definition applies in practice.

In general the approach adopted by the Commission distinguishes 'new' investment in two ways. The first is in a temporal sense. Projects completed or substantially completed prior to privatisation by the FAC are not considered to be new investment⁴⁴. The second is to distinguish between maintenance of service levels and additions to service levels. The approach adopted defines investment as 'new investment' if it either adds to capacity or increases quality levels above pre-existing levels.

Since the release of the position paper airport operators and users have reached agreement on a range of projects at most privatised airports.

New investment decisions to date

The Commission has approved over \$200 million in new investments at the privatised airports. The main projects are as follows:

- *Common User Facilities – Melbourne and Sydney Airports.* These facilities provide passenger terminal services for Impulse Airlines and Virgin Blue. New charges for both facilities were approved by the Commission. Both facilities have been constructed and are now operational.

⁴³ Australian Competition and Consumer Commission, *New Investment Costs Pass-through: The distinction between "necessary new aeronautical investment" and other forms of expenditure, as it relates to the price cap –Position Paper*, April 2000.

⁴⁴ See for example the Commission's decision *Australia Pacific Airports Pty Ltd Range of Projects – New Investment Decision*, October 2000. In this case Melbourne Airport sought to recover the costs of two projects completed before the transfer of lease.

- *Adelaide Airport Multi User Integrated Terminal.* In October 1999 the Commission released its final decision approving a ‘Passenger Facility Charge’ of \$6.00 for international passengers, \$4.09 for domestic passengers and \$1.00 for regional passengers. The charges allow Adelaide Airport to recover the ‘aeronautical’ costs associated with the new terminal’s construction costs, a return on the investment and a contribution to additional operating costs associated with the new facility.
- *Brisbane Airport new investments.* In April 2000 the Commission released its decision not to object to price increases to fund a \$20.5 million investment program. The investments include apron expansions to service international and regional users of the airport, new runway signage and taxiway lighting. Approval followed consultation between Brisbane Airport and airport users. The parties reached agreement on most of the proposals.
- *Canberra Airport Apron Extension.* In August 2000 the Commission approved new charges to fund a major apron expansion at the airport. The new apron will provide additional aircraft parking bays for Impulse Airlines and other new entrants as well as catering for growth by Qantas and Ansett.
- *Perth Airport new investments.* In April 2000 the Commission released its decision not to object to price increases to fund some \$3.5 million in new investments including an international apron expansion, a taxiway upgrade and a new GA apron.
- *Melbourne Airport new investments.* In October 2000 the Commission released its decision not to object to price increases to fund over \$4.0 million in new investments, including for an elevated road extension and a range of environmental projects.
- *New investment at Darwin and Alice Springs Airports.* As with Melbourne and Perth Airport Northern Territory Airports proposed increased charges for new investment projects at Darwin and Alice Springs airports covering a range of facilities. In September 2000 the Commission released a decision which did not object to new charges associated with over \$1.0 million in new investments.

In total the Commission has received 18 new investment cost pass through proposals to date. The Commission’s new investment decisions are available at www.accc.gov.au.

The investments undertaken by airport operators to date to suggest that the Commission’s pricing decisions have not deterred investment in airports. In particular the experience suggests that the Commission has adequately allowed for the risks facing the airport operators. In relation to rates of return the Commission notes that the returns on equity used by the Commission in its decisions on new airport investment range from 14 to 16 per cent. This compares favourably with the 11.3 per cent average for the Australian share market over the past 10 years. Research by NERA also shows that the rates of return adopted by the Commission more generally compare favourably with rates used in North America and the U.K.

In relation to the Melbourne Airport common user facility, Melbourne Airport has claimed that the Commission's decision blocked a deal made with Impulse Airlines. The Commission notes the following. When Melbourne Airport approached the Commission seeking agreement to a new charge no agreement had been reached between Melbourne and the other major user of the terminal, Virgin Blue. Furthermore the price submitted by Melbourne Airport at that time was significantly higher than the price agreed to with Impulse. When an agreement was reached between Melbourne Airport, Impulse and Virgin Blue, the Commission approved it.

2.6 Airport security

As well as allowing price increases outside the price cap for new investment the price cap arrangements also allow for a 100 per cent pass through of Government mandated security requirements and a 100 per cent pass through of congestion charges employed as part of an airport demand management scheme under the *Airports Act 1996* (Airports Act)⁴⁵. The security pass through provision covers passenger screening, baggage screening and counter terrorist security.

To assist airport operators the Commission provided guidance on what security costs can be passed through. In March 2000 it released a position paper *Government-Mandated Security Requirements: The meaning of "direct cost" as it relates to the price cap pass-through provisions*. The paper concludes that the avoidable cost approach to determining the cost of complying with government-mandated airport security requirements accords most closely with the pass through provisions in the prices oversight arrangements.

To date the Commission has assessed over 30 security cost pass-through proposals with notifications from all of the leased airports.

⁴⁵ See Direction no. 20.

3. PRICES MONITORING

3.1 Introduction

Some of the airport services not covered by the price cap are monitored. This part of the submission explains the Commission's role in monitoring aeronautically related services that are outside the price cap and the results to date. Section 3.2 reports on the prices monitoring results. Section 3.3 provides more detail on one of the services monitored, aircraft refuelling.

The monitoring function is conducted pursuant to section 27A of the PS Act. Section 27A provides for the Minister to direct the Commission to monitor costs, revenues and profits of a company. In May 1998, the Treasurer directed the Commission to monitor the following services⁴⁶:

- aircraft refuelling;
- aircraft maintenance sites and buildings;
- freight equipment storage sites;
- freight facility sites and buildings;
- ground support equipment sites;
- check-in counters and related facilities; and
- car parks (including public and staff parking but not valet parking).

The rationale for monitoring these services is that airport operators may exert significant market power in relation to some services that are outside the price cap. As such, the Government considered that a number of aeronautical-related services should be monitored for misuse of market power the airport operator may have in setting prices.

Under section 27B of the PS Act, the Commission is required to report annually to the Treasurer on its formal prices monitoring activities. The Commission is also required to make its reports publicly available. In exercising its role, the Commission may investigate particular pricing issues where users have raised concerns and it appears that the airport operator may have taken advantage of its market power. To date the Commission has investigated the imposition of fuel throughput levies at Brisbane and Perth airports.

3.2 Monitoring outcomes

The table below summarises the monitored cost and revenue data for aeronautically related services at the Phase I and II airports and Sydney Airport.

⁴⁶ See Direction no. 21.

Table 3: Prices monitoring outcomes

Airport	For Period Ending	Costs \$ 000s	Revenue \$ 000s
Brisbane	30 June 1998	4 558	20 344
	30 June 1999	4 097	24 174
	30 June 2000	4 754	27 360
Perth	30 June 1998	2 988	9 915
	30 June 1999	3 832	10 741
	30 June 2000	3 755	11 892
Melbourne	30 June 1998	12 780	29 921
	30 June 1999	14 139	33 793
	30 June 2000	14 080	37 050
Sydney	30 June 1999	27 418	55 431
	30 June 2000	27 951	63 021
Adelaide	30 June 1999	1 431	6 154
	30 June 2000	1 888	6 805
Alice Springs	30 June 1999	1 960	1 628
	30 June 2000	1 937	1 686
Canberra	30 June 1999	841	1 849
	30 June 2000	911	2 190
Coolangatta	30 June 1999	N/A	2 063
	30 June 2000	4 044	4 610
Darwin	30 June 1999	661	3 104
	30 June 2000	844	3 269
Hobart	30 June 1999	189	933
	30 June 2000	257	945
Launceston	30 June 1999	345	561
	30 June 2000	447	621
Townsville	30 June 1999	856	2 063
	30 June 2000	590	2 273

Revenues exceed costs for all airports apart from Alice Springs. However, it should be noted that costs do not include amortisation of intangible assets or interest. The Commission asked for these items to be excluded for the purposes of the monitoring reports because:

- (a) their allocation to services would have involved a degree of subjectivity, and
- (b) there would be risk of circularity if an allocation of the costs of the lease premium were included.

Any detailed analysis of the monitoring results should include an allocation that recognises a cost of capital.

3.3 Fuel throughput levies

Price capping has resulted in cheaper prices for aeronautical services. Surveys indicate that this has generally been achieved without a loss in service quality (see chapter four below). However, the Commission has been concerned that moves by some airport operators to introduce a new charge – a fuel throughput levy – might offset some of these gains.

In July 1998 Brisbane Airport began to charge oil companies 0.4 cents per litre of aviation gas supplied to aircraft. Perth announced its intention to introduce a similar charge. No Australian airport has applied this type of levy before. At the time of leasing, the government did not intend to include the fuel throughput levy in the price cap.

In line with the requirement that the Commission formally monitor aircraft refuelling charges, and following concerns expressed by airlines and oil companies about introduction of the fuel throughput levies, the Commission undertook a public review of the levies. It released its final report in December 1998⁴⁷.

The report is structured around and addresses the section 17(3) criteria in the PS Act. 17(3) guides the Commission in carrying out its functions under the PS Act. It includes a requirement for the Commission to consider “the need to discourage a person who is in a position substantially to influence a market for goods or services from taking advantage of that power in setting prices”. The Treasurer, in announcing the monitoring direction, emphasised this criterion.

In preparing this report and assessing fuel throughput levies against the section 17(3) criteria the Commission drew on information and input from three sources:

- from airport operators on prices, costs and profits as discussed above;
- from BAC and WAC, giving them the opportunity to explain the reasons for introducing fuel throughput levies; and
- from submissions from interested parties.

The Commission released a discussion paper on the proposed fuel throughput levies in July to encourage and assist interested parties develop submissions. It received 16 submissions from airport operators, airlines, fuel companies and other interested parties.

The report found that the new charge would raise some \$2.0 to \$2.5 million per annum at Brisbane Airport and some \$700,000 per annum at Perth Airport.

Based on its assessment of the relevant criteria the report reached the following conclusions:

⁴⁷ Australian Competition and Consumer Commission, *Fuel Throughput Levies – Report Pursuant to the Commission’s Monitoring Functions Under the Prices Surveillance Act 1983*, December 1998.

- Introduction of the fuel throughput levies at Brisbane and Perth Airports will significantly increase the price of refuelling services.
- The price increases are not justified in terms of increases in costs or through offsetting reductions in other charges.
- There is a strong case that airport operators have market power in the provision of refuelling services.
- When considered in light of the lack of cost related justification for the levies, or offsetting reduction in charges, there is a strong case that introduction of a fuel throughput levy is taking advantage of market power.

The Treasurer asked the Commission, as part of its monitoring functions, to consider the need for stricter forms of prices oversight. In light of the report's conclusions the Commission recommended that stricter forms of prices oversight should be considered in relation to aircraft refuelling services.

The report considered what forms the stricter prices oversight should take, assessing a number of options and the advantages and disadvantages of each of them. The report recommended that refuelling services should be included within a CPI-X price cap.

The report also considered a number of options for implementation of a CPI-X price cap for refuelling services. It did not make recommendations in relation to these, but concluded that there do not appear to be significant issues which would prevent effective implementation of the report's recommendation.

4. TRANSPARENCY PROVISIONS

4.1 Introduction

The regulatory arrangements covering core regulated airports include accounts and reports information requirements. These are in addition to the requirements under Corporations Law. The provisions also include quality of service monitoring requirements.

The intent behind these provisions was explained in the Department of Transport and Regional Development's *Pricing Policy Paper* as follows:

..this initiative is designed to improve the transparency of airport operations. Such transparency assists users in assessing the performance of airports, the Government in ensuring compliance with the leases and other regulatory requirements, and the ACCC in carrying out effective price oversight.⁴⁸

The Commission publishes an annual report on each core regulated airport. These include summaries of their accounts, details of compliance with prices oversight and assessments of quality of service. The reports are available on the Commission's web site at www.accc.gov.au.

Section 4.2 explains the accounts reporting requirements and provides an overview of the outcomes for each airport. Section 4.3 sets out the quality of service monitoring provisions and summarises the results to date.

4.2 Accounts reporting

Part 7 of the Airports Act and regulations made pursuant to Part 7 require operators of core regulated airports to provide the Commission with annual financial accounts within 90 days after 30 June. The accounts must include profit and loss accounts, balance sheets and cash flow statements together with supporting explanatory statements and notes.

Separate accounts must be provided for the aeronautical and non-aeronautical parts of the businesses. In some cases both aeronautical and non-aeronautical revenue comes from the same asset. For example, landside road services generate revenues both for the price-capped passenger terminal services and the unregulated car parks. In such cases, the accounts must show how costs have been allocated.

All information provided to the Commission must be audited. In addition the arrangements require a Directors' responsibility statement stating that the accounting statements and supporting schedules are presented fairly and in accordance with the Airports Act, regulations made pursuant to the act and guidelines produced by the Commission.

⁴⁸ Department of Transport and Regional Development, *Pricing Policy Paper*, November 1996, page 7.

The Commission has developed guidelines to assist airport operators prepare their regulatory reports⁴⁹. The guidelines explain the accounts reporting information requirements and the principles for preparation of the reports. The guidelines also include pro-formas to assist airport operators prepare the accounts. The guidelines were developed with the assistance of KPMG.

Results

The Commission sought advice from KPMG on the financial performance of core regulated airports. Tables 4 and 5 draw on KPMG's report to provide a summary of the returns on assets achieved by each of the core regulated airports since privatisation. The table shows returns on net tangible assets⁵⁰. For the major airports it also shows returns on total assets⁵¹, which includes the lease premium. Some of the main points from KPMG's analysis are as follows:

- Returns on net tangible assets at Melbourne, Brisbane and Perth Airports averaged around 13.5 per cent over the period 1997-98 to 1999-2000;
- Returns on total assets at the three airports were lower (averaging around 5 per cent), reflecting the lease premium paid by the airport operators;
- At the smaller Phase II airports returns on net tangible assets varied considerably, ranging from 0.6 per cent to 18.2 per cent. The Phase II average was around 7.5 per cent; and
- Returns on non-aeronautical services are typically considerably higher than returns on aeronautical services.

A recent upgrade in Australia Pacific Airports Corporation's (APAC's)⁵² credit rating by Standard and Poor's from BBB to A- suggest that Melbourne Airport has performed well against expectations. This was confirmed by APAC which stated "Melbourne Airport continues to perform ahead of the shareholders' bid business plan and is expected to report its first profit in the financial year ended 30 June 2002".⁵³

The Commission does not have information on the performance of the other airports against their bid plans, but notes that Brisbane and possibly Perth airports were adversely affected by the Asian downturn in 1998.

The Commission's regulatory reports also provide details on airport operating and maintenance costs. The results show that the new private operators were effective in controlling these costs. On average Melbourne, Brisbane and Perth airports cut total

⁴⁹ Australian Competition and Consumer Commission, *Regulatory Information Requirements under Part 7 of the Airports Act 1996 and Section 21 and 27A of the Prices Surveillance Act 1983 – Draft Guideline version no. 2*, July 1998.

⁵⁰ Operating profits/(tangible non-current assets + working capital).

⁵¹ Operating profits/(total non-current assets + working capital).

⁵² Australia Pacific Airports Corporation's owns Melbourne and Launceton Airports.

⁵³ APAC media release "Melbourne Company a Top Rated Corporate", 11 May 2001.

aeronautical costs by around four per cent per annum in real terms. This translates into a cost reduction of around seven per cent per passenger per annum.

KPMG's report is provided at attachment A. Airport accounts are published annually by the Commission. The reports are available on the Commission's web site at www.accc.gov.au.

Table 4: Airport profitability – Melbourne, Brisbane and Perth airports

Airport	Return on net tangible assets (%)		
	1997-98	1998-99	1999-2000
Melbourne	11.2	12.0	13.0
Brisbane	14.0	16.2	8.0
Perth	16.3	16.3	18.2

Table 5: Airport profitability – Phase II airports

Airport	Return on net tangible assets (%)	
	1998-99	1999-2000
Adelaide	15.3	14.0
Alice Springs	1.6	1.7
Canberra	4.3	4.8
Coolangatta	8.4	2.8
Darwin	0.6	1.6
Hobart	18.2	17.1
Launceston	5.8	6.0
Townsville	6.5	10.9

4.3 Quality of service monitoring

Part 8 of the Airports Act gives the Commission responsibility for monitoring the quality of certain key airport services and facilities.

Quality of service monitoring complements the prices oversight arrangements. It aims to ensure that airport operators do not reduce service quality as a means of reducing costs. It also allows the Commission to monitor each airport's performance over several years.

Quality is measured against performance indicators jointly developed by the Commission and the Department of Transport and Regional Development. Not all factors contributing to service quality are under the airport operators' direct control, but the adequacy of facilities they provide is a major determinant.

The key performance indicators include efficiency in aircraft movement areas, terminal crowding and waiting times in passenger processing and baggage handling areas. Data on these issues is gathered from a variety of sources. Airport operators must provide the Commission with annual reports on airport infrastructure, such as aircraft parking bays, aerobridges, check-in desks, security clearance systems, gate lounges and car parks.

Other information is sourced from Airservices Australia, a statutory corporation responsible for air traffic control and emergency services. It provides annual data on aircraft delays and other aspects of airport performance. The Australian Customs Service also provides data on the adequacy of its facilities at the airport.

The performance indicators and the requirements for provision of information are set out in regulations made pursuant to Part 8 of the Airports Act.

Details on the indicators and the methodology used by the Commission in monitoring quality of service are provided in a statement of the Commission's approach to quality of service monitoring⁵⁴ and its annual regulatory reports⁵⁵.

Airline and passenger surveys

The Commission annually surveys airline companies' views on the standard of airport facilities and services. These include runways and taxiways, gates, aerobridges, equipment storage, check-in and baggage processing facilities as well as airport operator responsiveness to airline concerns.

Annual passenger surveys are conducted at the largest airports (Sydney, Melbourne, Brisbane and Perth). These assess satisfaction with services such as airport access, car parking, information display, check-in facilities, security, government inspection amenities and gate lounges.

All this information is compared assessed against the Department of Transport and Regional Development performance indicators. The Commission can then assess airport performance.

The Commission raises any problems with the airport operator for comment. The Commission publishes the results of its quality of service monitoring on each key regulated airport in its annual report. It assesses whether service quality is being maintained, improved or reduced over time, and this will be taken into account in the five-year review of the overall regulatory arrangements.

Quality of service results

Quality of service monitoring for the Phase I airports has been undertaken since 1997/98 and since 1998/99 for Sydney airport. The results of the airline and passenger

⁵⁴ Australian Competition and Consumer Commission, *Quality of service monitoring for Airports - statement of the ACCC's approach to analysis, interpretation and publication of quality information*, February 1998.

⁵⁵ The reports are available on the Commission's web site at www.accc.gov.au.

surveys for these airports are generally satisfactory and have not changed markedly over the periods for which the airports have been surveyed.

There was a decline in ratings by airlines for some facilities at Melbourne and Sydney airports in 1999/00. However, it should be noted that both airports were undergoing construction works during the 1999/00 reporting period, which may have affected the airline ratings⁵⁶.

As in 1997/98 and 1998-99, Brisbane Airport achieved high quality service ratings from both airline operators and passengers in 1999/00. At Perth Airport users and passengers were satisfied, though there were marginal improvements and declines in the ratings for individual facilities as compared to the previous two years. As mentioned above, Melbourne Airport received lower quality ratings from airlines in 1999/00 compared to the previous financial years, however, the 1999/00 passenger survey indicated good quality results, which was similar to previous years. The airlines' quality assessment of Sydney Airport for 1999/00 is mixed and a comparison of the assessment with that of the previous period 1998/99 is ambiguous. The passenger survey for Sydney airport indicated good quality standards in 1999-00. This was similar to 1998/99 results, however as Sydney airport changed its rating scale for the 1999-00 survey, a direct comparison is not possible.

Details on the quality of service monitoring results from the Airline surveys are published in the annual Regulatory Reports. The Passenger Survey results for all four airports as contained in the 1999-00 Reports are shown in the charts 1 to 4 below.

⁵⁶ Melbourne Airport was undergoing roadworks, expansion of the Qantas terminal and construction of the Multi User Domestic Terminal (MUDT). Sydney Airport was under going a major redevelopment of its international terminals and other works as part of the SA 2000 project.

Chart 1: Melbourne Airport survey results 1998-99 and 1999-2000

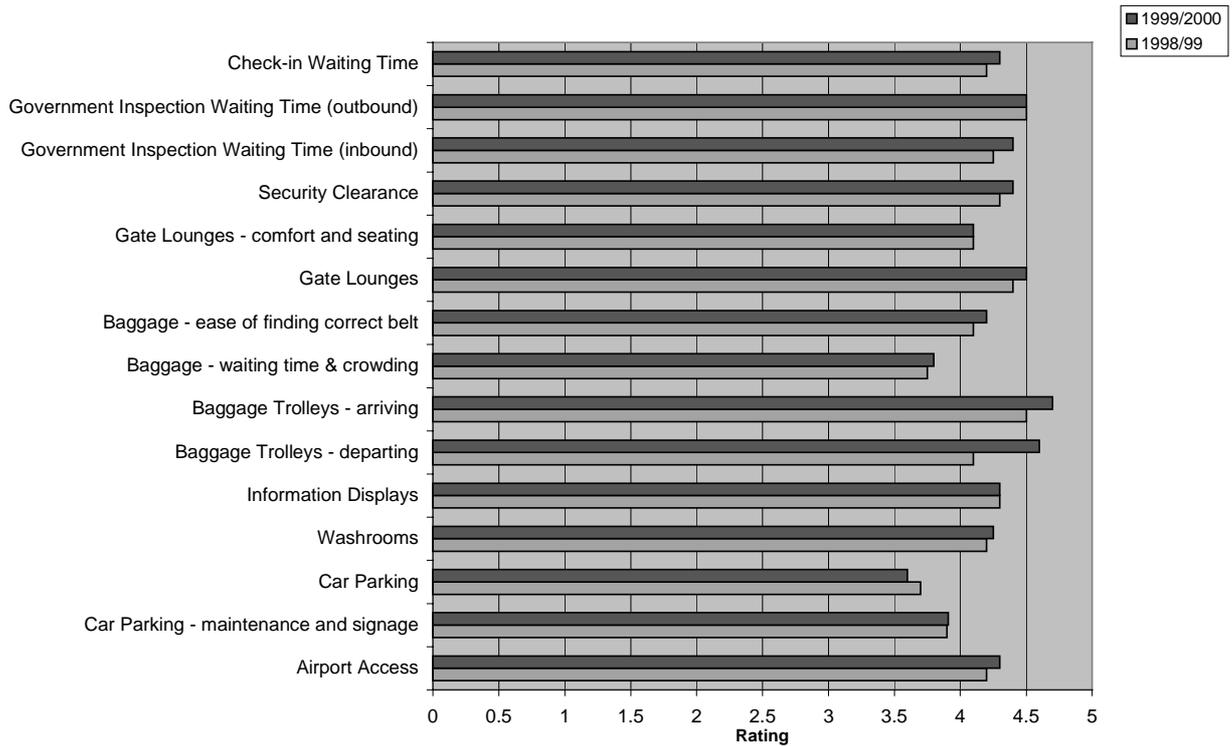


Chart 2: Brisbane Airport survey results 1998-99 and 1999-2000

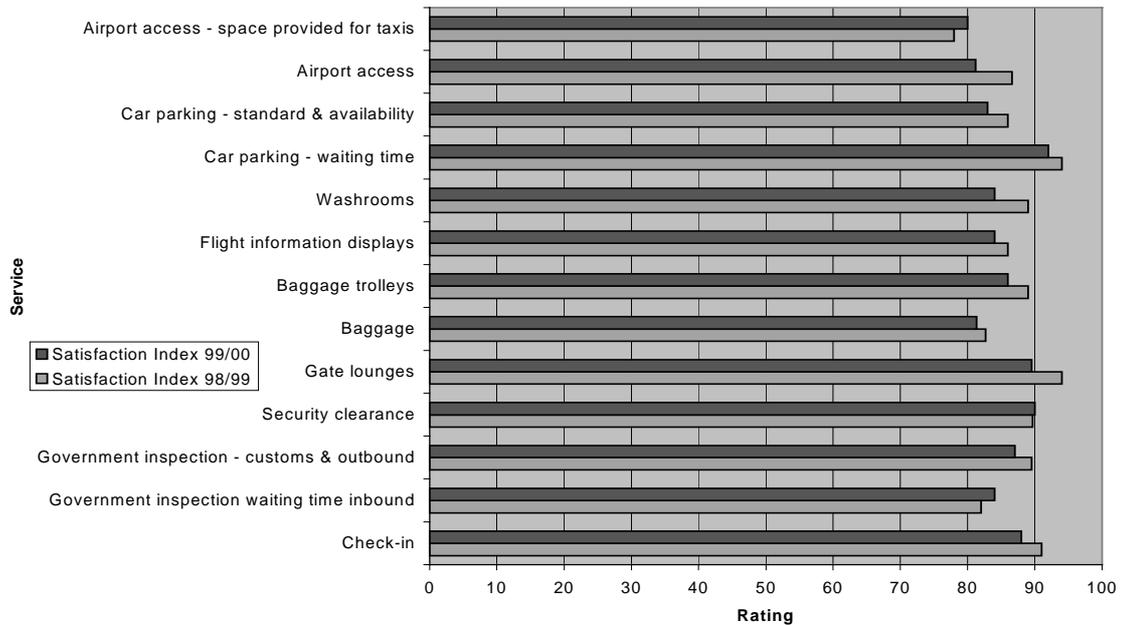


Chart 3: Perth Airport survey results 1998-99 and 1999-2000

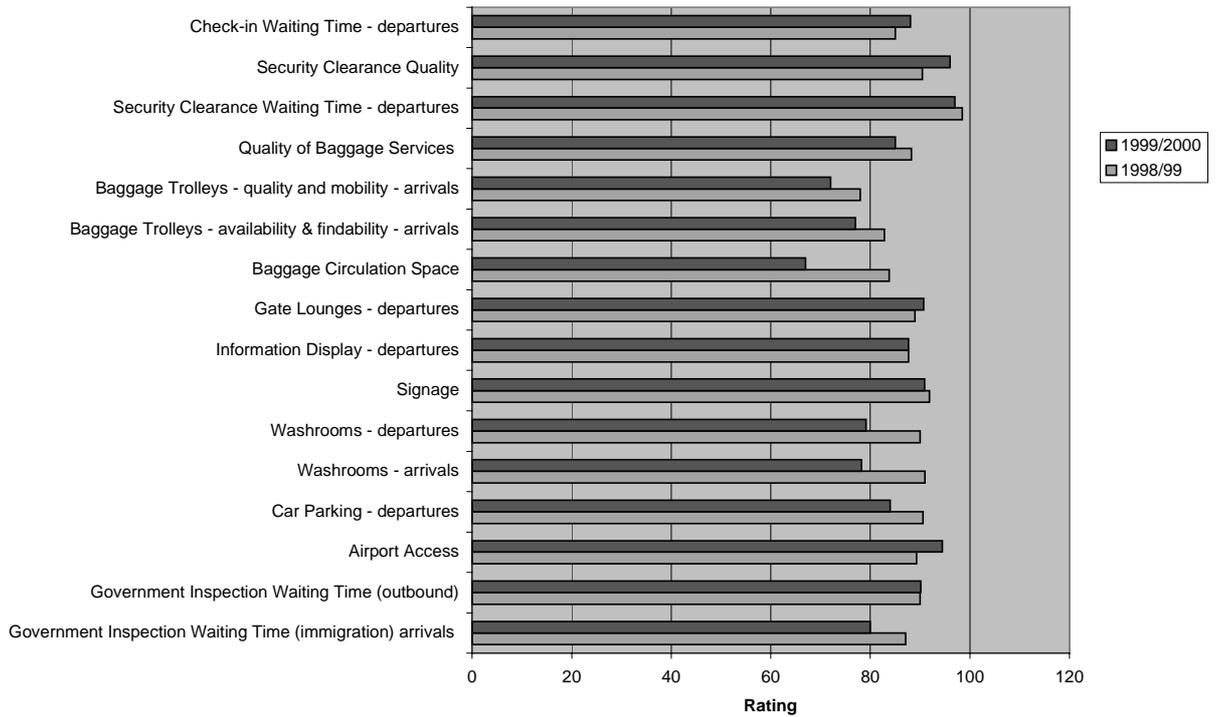
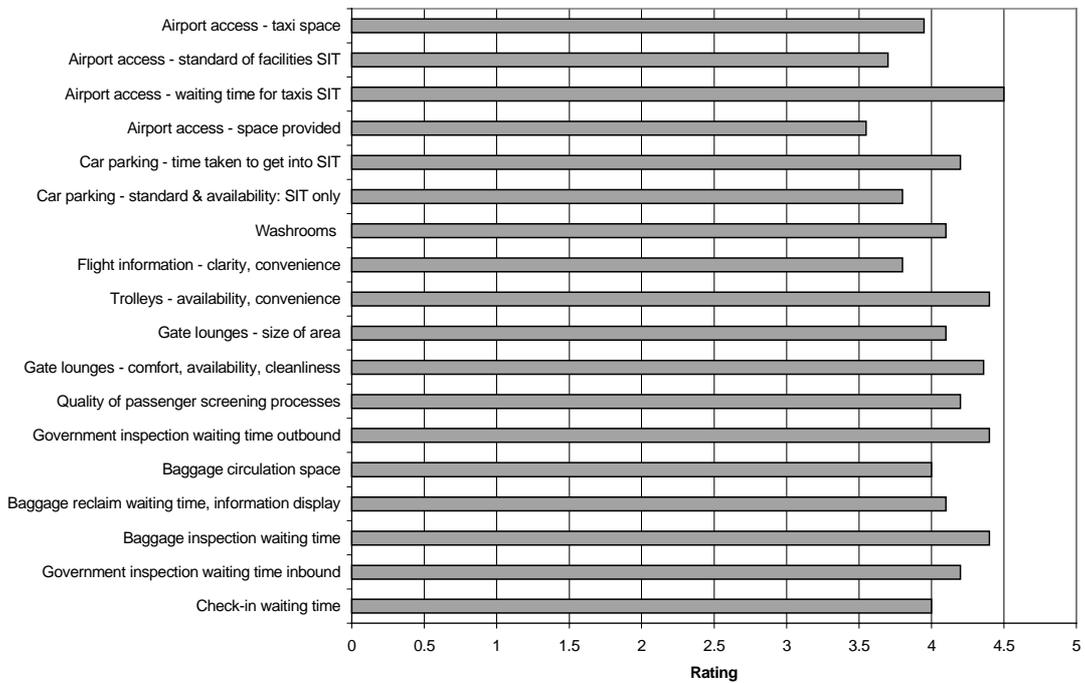


Chart 4: Sydney Airport survey results 1999-2000



5. AIRPORT ACCESS PROVISIONS

5.1 Introduction

Airport specific access measures operate in parallel with the price cap. The access provisions establish legal rights for current and potential airport users to have access, on commercial terms, to certain services provided by the airport operator. The access regime establishes rights for access seekers to negotiate terms and conditions of access, and if negotiations fail for either the access seeker or airport operator to have the dispute arbitrated by the Commission.

Section 4.2 explains how the provisions operate. Section 4.3 outlines the services covered by section 192 and section 4.4 outlines the experience to date with airport access undertakings.

5.2 Section 192 of the Airports Act

The airport specific access measures are set out in section 192 of the Airports Act. These provide for airport services at most of the leased airports (but not Sydney Airport)⁵⁷ to be declared for purposes of Part IIIA. Declaration triggers the same rights to negotiation and arbitration as services declared through Part IIIA. As with Part IIIA, services subject to an access undertaking approved by the Commission cannot be declared.

Section 192 requires the relevant Commonwealth Minister to determine that airport services are declared unless the services are the subject of an access undertaking. The Minister's determination must be made as soon as practicable after the end of a designated period. The designated period is twelve months after an airport has been privatised⁵⁸. The designated period was intended to give the new private airport operators the opportunity to develop access undertakings. As in Part IIIA, undertakings cannot be lodged once a service is declared.

Since no undertakings have been accepted and the designated period has expired the Minister has now determined that 'airport services' at all of the leased airports are declared.

Declaration is by reference to criteria specified in section 192. The Airports Act gives the Commission the role of assessing whether a particular service meets the requirements of the criteria. The Commission makes its determinations on receiving a request to do so.

In reaching a decision on whether a service is declared the Commission will generally seek the views of interested parties. The Commission's determinations are

⁵⁷ The declaration provisions in section 192 of the *Airports Act 1996* (Cwlth) apply to leased 'core regulated' airports. These comprise Alice Springs, Adelaide, Brisbane, Canberra, Coolangatta, Darwin, Hobart, Launceston, Melbourne, Perth and Townsville airports.

⁵⁸ Section 192 provides for the period to be extended to 24 months for some airports.

disallowable instruments, which means that they are not reviewable by the Australian Competition Tribunal, but can be reviewed by Parliament.

5.3 Services covered by section 192

The services declared by section 192 are not listed. Instead declaration is by reference to specified criteria. The criteria are that the service:

- (a) is necessary for the purposes of operating and/or maintaining civil aviation services at the airport; and
- (b) is provided by means of significant facilities at the airport, being facilities that cannot be economically duplicated.

The Commission can determine whether a particular service satisfies the criteria and therefore is, or is not, an 'airport service'.

The second of these criteria is similar to one of the matters that the National Competition Council and Minister must consider in assessing declaration requests under Part IIIA, namely "that it would be uneconomical for anyone to develop another facility to provide a service". In practice the section 192 test may be narrower than the Part IIIA test by referring to 'duplicate' rather than 'develop another facility'.

In October 1998 the Commission released a draft guide to section 192⁵⁹ to provide guidance on which airport services are likely to be declared. In relation to criterion (I) the draft guide stated that:

In assessing specific airport services against criteria (I), the ACCC has distinguished between services that are necessary for purposes of operation and/or maintenance of civil aviation services and services that are not necessary for civil aviation services. On this basis, services such as those provided by retail outlets do not meet the requirements of criterion (I). Although such services are convenient for airport users, they are not necessary for operating and/or maintaining civil aviation services.

In relation to the second criterion, the Commission's starting point was to consider whether the airport as a whole could be economically duplicated. Two factors were considered relevant. One was economies of scale in provision of airport services. The other was the significance of entry and exit costs. The Commission's analysis of these two factors indicates that it is unlikely that large airports could be economically duplicated.

This raises a number of further issues about whether individual services provided at such airports could be duplicated, in particular:

1. Could the service be provided at an off-airport location? For example, the NCC concluded that it would be economic to locate cargo terminal facilities off-airport⁶⁰.

⁵⁹ Australian Competition and Consumer Commission (1998), *Section 192 of the Airports Act – Declaration of Airport Services, Draft Guide*.

2. Could the service be provided at another airport? For example, heavy maintenance services are only provided at a limited number of airports indicating that they do not need to be provided at all airports.

Taking these matters into consideration the draft guide listed the services considered likely to be declared under section 192 of the Airports Act. They are:

- airside facilities (runways, taxiways, aprons, etc.);
- certain passenger processing areas (check-in, holding lounges, immigration and customs service, etc.);
- land for providing refuelling services;
- sites for storing ground service and freight handling equipment;
- sites for light/emergency maintenance; and
- landside vehicle facilities.

In addition, the draft guide stated that whether domestic passenger processing areas (terminals), certain refuelling facilities such as pipelines and ground service and freight handling equipment facilities satisfy the criteria of airport services in subsection 192(5), should be addressed on a case by case basis.

To date the Commission has received two requests for determinations on whether or not a service is declared under section 192. One was from Delta Car Rentals⁶¹, the other from Virgin Blue. Both relate to services at Melbourne Airport.

In relation to the Delta Car Rentals request the Commission determined the service of “provision of landside roads and associated vehicle facilities for dropping off and picking up passengers” at Melbourne Airport is declared. Neither Delta Car Rentals nor Melbourne airport have sought Commission arbitration over the dispute.

Virgin Blue has sought a determination on whether or not the domestic common user facility at Melbourne Airport is declared. The matter is currently under consideration.

5.4 Access undertakings

Melbourne and Perth Airports lodged access undertaking in 1997. Both undertakings covered a range of services, some covered by the price cap, some outside the cap. Both committed to providing access at prices consistent with the price cap for capped services, and for non-capped services at prices determined by the airport operator or negotiated between the parties. The undertakings established mechanisms for dispute resolution in the event of disputes over terms and conditions of access.

⁶⁰ National Competition Council (1996), *Australian Cargo Terminal Operators Pty Ltd Application for Determination of Airport Services – Issues Paper*, pp. 34 – 35.

⁶¹ Australian Competition and Consumer Commission (1999), *Delta Car Rentals Request for Determination – Statement of Reasons*.

The undertakings were not accepted. The main reasons for this were that:

- The Commission did not consider that the undertakings provided sufficient clarity for them to be enforceable.
- The Commission considered that the undertakings would not provide sufficient financial information to access seekers to allow for meaningful negotiation.
- In relation to Melbourne Airport's undertaking the Commission was concerned that the pricing proposals for services outside the price cap would not be effective in limiting the airports use of market power.
- In relation to Perth Airport's undertaking the Commission was concerned at the scope for delays in the dispute resolution process and the potential that the arbitrator would not have sufficient skills.

In reaching its conclusions the Commission sought and received submissions from interested parties. Details about the undertakings and the reasons for the Commission's decisions are set out in draft determinations released by the Commission in May 1998⁶².

⁶² Australian Competition and Consumer Commission (1998), *Draft Determination – Melbourne Airport Access Undertaking* and Australian Competition and Consumer Commission 1998, *Draft Determination – Perth Airport Access Undertaking*.

6. SYDNEY AIRPORT

6.1 Introduction

The Commonwealth Government decided not to privatise the Sydney (Kingsford Smith) airport at the same time as the other airports, though it has stated its intention to do so in the near future. In the interim, ownership of the Sydney airport has been transferred to a new Commonwealth statutory authority, the Sydney Airports Corporation Limited (SACL).

Three Sydney general aviation airports — Bankstown, Camden and Hoxton Park — are operated by subsidiaries of SACL. Melbourne's Essendon airport, which did not attract a suitable bid when offered for lease, is also managed by a subsidiary of the SACL. The Government's long-term intention is that all these airports be privately operated.

Sydney airport is subject to a number of the same regulatory provisions as the other core-regulated airports. As with the leased airports 'aeronautical' services are declared for prices surveillance under section 21 of the PS Act⁶³ and 'aeronautical related services' are subject to prices monitoring under section 27(A) of the PS Act⁶⁴. Similarly the quality of service monitoring and accounts reporting provisions apply to Sydney Airport in the same way as the leased airports.

However, the regulatory arrangements differ in two ways. The first is that a price cap does not apply at Sydney Airport. The second is that the section 192 airport access provisions in the Airports Act do not apply to Sydney Airport.

6.2 Prices Surveillance

While Sydney Airport is not subject to a price cap it is subject to surveillance under the PS Act. The services subject to prices surveillance are the same as the services subject to the price cap at privatised airports. Sydney Airport must notify the Commission of any price increases in the services subject to surveillance. In assessing pricing proposals the Commission must give special consideration to matters set out in a Ministerial Direction⁶⁵ and have regard to criteria set out in section 17 of the PS Act. These criteria focus on market power and the need to maintain investment and employment.

In October 2000 SACL submitted proposals to increase aeronautical charges by some 130% at Sydney Airport. The proposals represent a move away from the network pricing approach previously adopted by the FAC. The main drivers of the price increase proposed are:

⁶³ See Declaration number 89.

⁶⁴ See Direction number 21.

⁶⁵ The Minister can direct the Commission to give special consideration to specified matters under section 20 of the *Prices Surveillance Act 1983* (Cwlth). Direction 18 requires the Commission to give special consideration to new investment proposals (including the cost of the proposals and user support for the proposals) and quality of service information.

- a revaluation of existing assets, including land;
- a move away from ‘single till’ pricing to ‘dual till’ pricing; and
- additional costs resulting from new investment spending undertaken by SACL in the lead up to the Olympics.

The Commission did not object to a price increase of 97%. In assessing SACL’s proposals the Commission conducted an extensive public consultation process. It released an issues paper in October seeking submissions by late November and held a public discussion forum in mid December. Following consideration of the submissions the Commission released its draft decision with a detailed statement of reasons in early February 2001⁶⁶. The draft decision invited further submissions. The Commission released its final decision on 11 May 2001. Release of the final decision was delayed when the Minister for Financial Services and Regulation issued a new direction in relation to Sydney Airport on 19 April 2001.

6.3 Airport access

The declaration provisions in section 192 do not apply to Sydney Airport or the other airports that are still government owned. However, the access regime in Part IIIA of the Trade Practices Act does apply.

In November 1996 Australian Cargo Terminal Operators applied to the National Competition Council (NCC) for declaration of various freight handling and related services at Sydney and Melbourne airports. These included the freight aprons and stands needed to load and unload freight from international aircraft, areas for moving and handling freight, equipment storage areas and land to construct cargo terminals. These facilities were variously owned by the former FAC, QANTAS and Ansett.

Part IIIA requires the NCC to have regard to a number of criteria, which focus on whether access would “promote competition in at least one market”, whether it “would be uneconomical for anyone to develop another facility to provide the service” and whether the facility is of “national significance”. The NCC found that the freight aprons, stands and freight moving and equipment storage areas met the test, and recommended declaration. It did not recommend declaration of land for constructing cargo terminals as ACTO could do this off-airport.

The NCC found that there was little competition in the freight forwarding, cargo terminal operations and related markets. It found that the apron and equipment movement and storage facilities could not be considered separately from the airport as a whole, and that these were nationally significant facilities, accounting for 70 per cent of Australian’s international air freight. It recommended that the services be declared at Sydney Airport for five years and at Melbourne Airport for a period to expire 11 months after the airport was leased⁶⁷.

⁶⁶ Australian Competition and Consumer Commission, *Sydney Airports Corporation Limited Aeronautical Pricing Proposal – Draft Decision*, February 2001.

⁶⁷ The 11 month time period recommended for the declaration at Melbourne Airport reflected timing of the introduction of the section 192 access provisions. Declaration of services under section 192 was

The Treasurer accepted the recommendations and declared the services in July 1997. The FAC applied to the Australian Competition Tribunal for a review of the Treasurer's declarations at Sydney Airport. The application was taken over by the SACL and heard in December 1998. The Tribunal upheld the Minister's decision.

to take effect some 12 months after the airports were leased. It was considered likely that the services recommended for declaration in the NCC's decision on ACTO's request for declaration would also be declared under section 192. Under Part IIIA an access undertaking cannot be accepted in relation to a declared service. The NCC's recommendation for expiry of the declaration 11 months after granting of the airport's lease would give a one month period between declaration under Part IIIA and section 192 in which the services were not declared. In turn this would give Melbourne Airport the opportunity to have an undertaking covering the declared services formally accepted by the Commission before declaration under section 192.

PART B

IMPROVING ECONOMIC REGULATION OF AIRPORTS

The airport regulatory arrangements described in Part A of this submission have been in place since July 1997 for Melbourne, Brisbane and Perth airports and since mid 1998 for Sydney, Adelaide, Alice Springs, Canberra, Coolangatta, Darwin, Hobart, Launceston and Townsville airports. This part of the submission reviews the Commission's experience in administering the arrangements and the lessons learned. A number of changes to the arrangements are suggested.

Part B is structured as follows. Chapter 7 considers whether continued regulation of airports is warranted. Chapter 8 provides a framework for assessing market power at Australian airports and applies it to consider which airports and which services should be regulated. Options for the regulation of airport charges are set out in chapter 9. The Commission favours continued use of CPI-X price caps. Implementing this option is discussed in chapters 10 and 11. Provisions to encourage efficient levels of new investment are discussed in chapter 10. Legislative implementation of the proposed framework is discussed in chapter 11 along with suggestions for determining 'X' values and starting point prices. The accounts reporting and quality of service provisions are considered in chapters 12 and 13.

7. IS PRICE REGULATION OF AIRPORTS NECESSARY?

7.1 Introduction

Australian airports have been formally regulated by the Federal Government since the FAC was established in 1988. Section 7.2 considers the economic theory behind economic regulation of airports.

Historically, as in Australia, most overseas airports have been government owned. This is changing rapidly with privatisation of airports in the U.K and a number of other European countries, New Zealand, South Africa and some South American countries. The merits of economic regulation of airports in such circumstances have been widely recognised. In most cases privatisation has been accompanied by comprehensive regulatory regimes. Section 7.3 provides an overview of the approaches adopted.

7.2 Economic theory

It is widely accepted that vigorous and effective competition normally provides the best means of promoting economic efficiency, a competitive economy and the welfare of consumers.

Competition is a *process* which centres on the active efforts of firms to keep ahead by reducing costs, developing new products and enhancing the quality of their services. It is a process which forces businesses to offer “more for less” by improving quality and/or lowering prices. At a broader level competition also helps to ensure that the community’s scarce resources are used in the most valuable way now and through time.

In some markets, however, competition may not be possible. This can be the case with airports. Airports often face limited direct competition in the provision of aeronautical services because of limited substitutability between airports and other forms of transport, and because of high barriers to entry.

Economic theory suggests that effective competition will not be sustainable under a range of circumstances. These are summarised in the Commission’s submission to the Productivity Commission’s review of the national access regime. In relation to airports the Commission notes the following:

- *Planning restrictions and limited availability of large land sites* in or near large cities mean that new entry may not be possible. The difficulty of constructing a major new airport at Sydney provides an example of this.
- Even if it were possible to build a major new airport the *lumpy and sunk nature of new airport investments* may create barriers to entry and limit the scope for competitive conditions in the market for airports. An investment is ‘sunk’ when it cannot be readily be converted to another use. This means that a firm will incur substantial costs in exiting an industry which in turn increases the risks of entry.

When an investment is also lumpy⁶⁸ entry may give rise to substantial excess capacity relative to current demand. The combination can deter entry and be a source of market power⁶⁹.

- *Economies of scale and scope* may also deter entry in as much as that new entrant may face higher production costs than the incumbent. When combined with substantial sunk investment costs, economies of scale and scope create substantial barriers to entry. As stated by the Australian Competition Tribunal “The Tribunal heard that most major commercial airports around the world exhibit strong natural monopoly or bottleneck characteristics. Once the basic infrastructure (runways, taxiways, control tower) is in place, the owner faces sharply falling costs of servicing increments in demand (economies of scale). By contrast, a new entrant would have to replicate this basic infrastructure which is inherently capital intensive”.⁷⁰
- *Network externalities*⁷¹ in the provision of airport services can act as a barrier to entry. Network externalities give rise to economies of scale on the demand side, with increased willingness to pay for the service as the number of users increases. In the case of airports these may arise for interconnecting travellers (domestic to international, domestic to regional etc). They can act as a deterrent to entry in a similar way to economies of scale and scope⁷².

Combined with limited substitutability on the demand side these barriers to entry can give rise to significant market power. The circumstances in which such market power are likely to arise is discussed in detail in chapter 8 and in Professor Stephen King’s report to the Commission at attachment C.

Failure to address the consequences of such market power may have significant implications for economic efficiency. Airlines providing international services to and from Australia generally operate in a competitive environment. New airline entry has increased competitive pressures in the domestic market. In both cases the impact of increased airport charges is likely to be passed through to the travelling public in the form of higher airfares.

These higher airfares can result in allocative inefficiency. As explained by the Productivity Commission in its Review of the National Access Regime:

⁶⁸ Investments are lumpy when capacity can only economically be added in large increments.

⁶⁹ See for example, Baumol, W., Panzar, J. and Willig, R. (1982) *Contestable Markets and The Theory of Industry Structure*, Harcourt Brace Javanovich, pp. 290-292.

⁷⁰ Australian Competition Tribunal, Decision on declaration of freight handling facilities at Sydney International Airport, March 1 2000, paragraph 84.

⁷¹ Network externalities arise when the value of a service to a customer is positively related to the number of users of the service. As an example, a telephone service is more valuable to a user if more people can be called using the service.

⁷² For a summary of network externalities and entry deterrence see Gilbert, R.J. (1989), ‘Mobility Barriers and the value of incumbency’, in Schmalensee, R. and Willig, R. eds. *Handbook of Industrial Organisation*, North Holland, pp.498-499.

In the first instance, these effects stem from a higher price for, and lower use of, the final service, relative to the situation in which prices were set to encourage efficient use of that service. In the simple monopoly model, lower use of the final service is a cost to ‘allocative’ efficiency.⁷³

There are further allocative efficiency implications where the service is also an intermediate input. High prices can distort production and consumption patterns of the goods and services using air travel as an input. For example:

- *Business input costs.* Travel is a business input for many companies. Higher prices can affect business input costs and the ability of such companies to compete in Australia and overseas.
- *Tourism industries.* Tourism is a major contributor to the Australian economy. Often tourists are highly price sensitive. Higher airport charges have the potential to damage both domestic and international tourism.

The Commission is aware of arguments against the need for regulation of airports on the grounds that demand for airport services is relatively inelastic⁷⁴. The argument seems to be that the allocative efficiency losses arising from increases in prices are limited when demand is inelastic – in other words that a price rise would do little to change the behaviour of airlines and their passengers.

The Commission considers that this argument misses the point.

It is true that the welfare losses associated with a *given* price increase will be lower the less elastic is demand. It may also be true that relatively large price increases (such as the doubling of prices at Sydney Airport approved by the Commission in April 2001) will only have a small impact on airline and passenger behaviour.

However, the real issue here is what the prices might be in the absence of regulation. A rational company will set prices to maximise profits. The less elastic is demand the higher the profit maximising price – and the larger the allocative efficiency losses (ie deadweight welfare losses). In setting prices firms trade off the additional revenue and profit from higher prices against the reduction in revenues and profits as customers stop using the service. If, as is argued, the demand for airport services is relatively inelastic the resulting profit maximising prices will be high, well above the charges currently levied⁷⁵(see diagram below).

Standard economic theory is clear about one thing – the less elastic is demand the stronger the case for regulation.

⁷³ Productivity Commission, *Review of the National Access Regime*, Position Paper, March 2001, p.42.

⁷⁴ See for example Peter Forsyth, *Airport Price Regulation: Rationales, Issues and Directions for Reform*, Submission to the Productivity Commission Inquiry into Price Regulation of Airport Services, March 2001.

⁷⁵ The aeronautical charges now levied at Sydney Airport are around \$10 to \$20 per passenger, but lower at other airports (see the Commission’s regulatory reports for details).

Figure 1: Social welfare losses – monopoly pricing

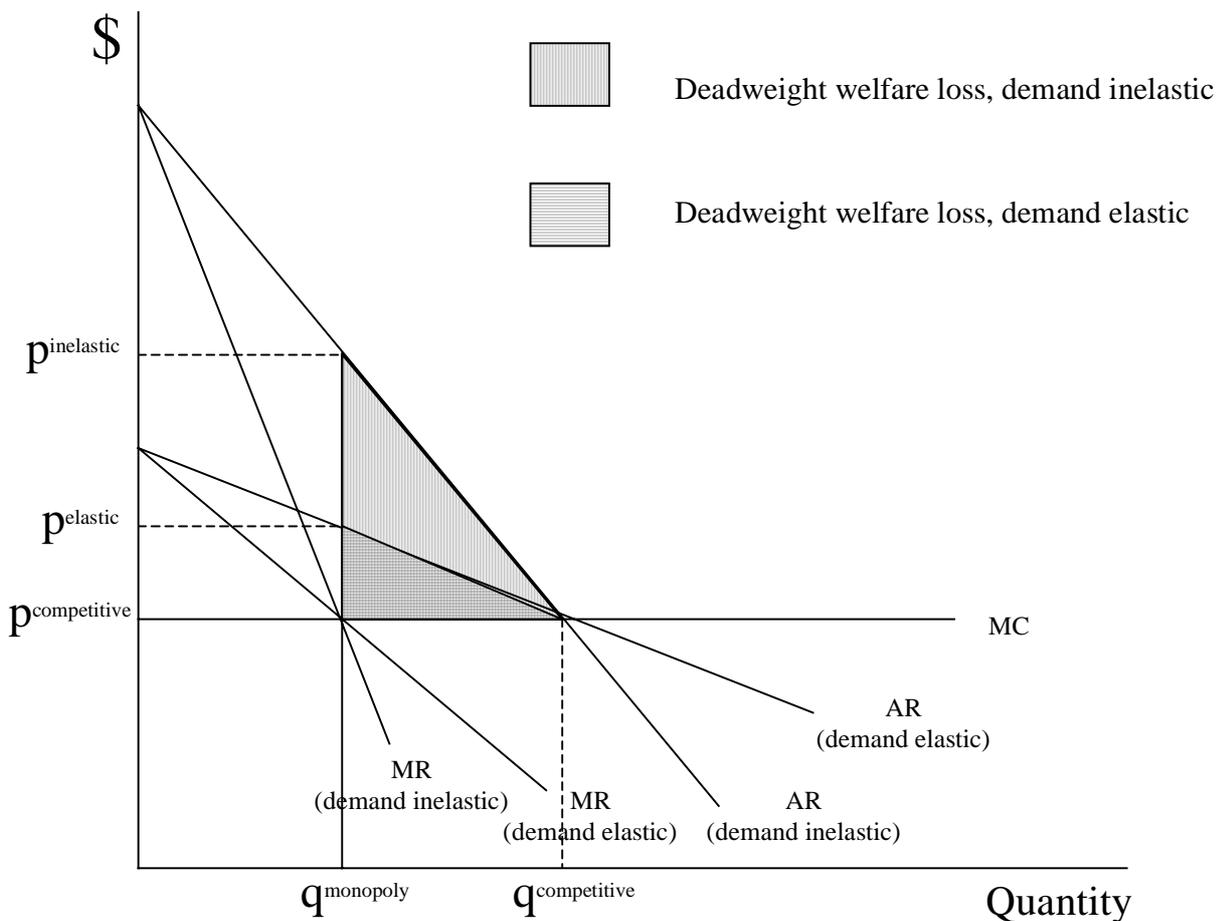


Figure 1 shows the welfare losses associated with profit maximising behaviour by a monopolist. When marginal cost (MC) is constant and demand curves are assumed to be linear, profit maximising output will be one half of the long run outcome in a perfectly competitive environment. The figure shows that the less elastic is demand at the original price-quantity combination, the higher the profit maximising price. The deadweight welfare loss, shown by the shaded area is greater the less elastic is demand. This result holds for a wide range of likely cost and demand scenarios.

Having said this, if airports are in a position to price discriminate between different customers, the allocative efficiency losses resulting from monopoly pricing might be mitigated. By price discriminating between categories of traveller, the airport would be maximising its profits, albeit at a cost to consumers. At the limit, if it was able to perfectly price discriminate, deadweight losses would be eliminated altogether. This scenario would involve substantial transfers of value away from consumers and to the airport operator. By better targeting the particular demand characteristics of these specific categories, however, the airport would be able to capture some surplus which would otherwise be lost to society.

The evidence to date, however, suggests that airports have little capacity to price discriminate in relation to aeronautical services. As NECG notes:

Price discrimination on aeronautical services may be limited to some degree because airlines generally serve different customer groups. That is, airlines are differentiated by their location in *quality* space. As a result they are limited to price discriminate between customers whose demand spans part of that space. Because airlines cannot readily alter their quality location they are unlikely to be able to price discriminate between customers whose demand falls outside the quality space they are in.⁷⁶

NECG highlights the limitations on the ability of *airlines* to price discriminate. Airports are likely to be subject to even greater constraints, as demand for airport services is derived from the demand for airline services. To perfectly price discriminate an airport must be able to not only distinguish between particular airlines and particular flights, but also distinguish between individual travellers on each flight. The information requirements to enable such pricing behaviour are obviously extremely high. A further limitation on the extent to which airports can price discriminate is the slot allocation system currently in place. Slots are not allocated on the basis of price, rather by an administrative mechanism, implying that they are not necessarily allocated to those who value them most highly. Again, this is a substantial impediment to price discrimination. The net result of these limitations on potential price discrimination is that deadweight losses from monopoly pricing *will* occur, and that the passenger mix at airports will be a critical determinant of these allocative inefficiency consequences.

The major role played by airports in Australia's transport industry makes economic regulation of airport charges particularly important. In 1999/2000 Sydney Airport and the leased core regulated airports⁷⁷:

- handled 63 million passengers (some 16 million of which were international passengers);
- managed \$7.7 billion in assets;
- generated \$783 million in revenues; and
- accounted for around 5 per cent of total aviation industry turnover.

Economic regulation is not new to airports or the airport privatisation process. Governments have recognised the potential for market failure in the provision of airport services for some time. Historically governments have addressed the problem through government ownership. When it corporatised its airports, the Commonwealth Government addressed the issue by declaring the FAC's aeronautical charges⁷⁸ for prices surveillance. With privatisation the Government introduced the stronger provisions in the current regulatory framework.

⁷⁶ Network Economics Consulting Group, *'Dual Till' at Sydney Airport*, May 2000. A copy of this paper is available at www.accc.gov.au.

⁷⁷ Source: Commission 1999/2000 regulatory reports,

⁷⁸ Aeronautical charges covered by the declaration include:

- charges for landing and parking of aircraft;
- charges relating to embarkation and disembarkation of aircraft passengers; and
- charges relating to handling of cargo.

However charges made under a contract, lease or licence are not covered by the declaration (for example domestic terminal leases).

Countervailing power

Airport operators may not be in a position to take advantage of market power if airlines or other airport users have countervailing power. At many airports Qantas and Ansett and their subsidiaries remain the dominant players. In such circumstances they may be in a position to withdraw or curtail services in response to price increases.

In practice it is unlikely that the airlines have significant countervailing power, at least in relation to major airports. Professor Stephen King considered market power at Melbourne Airport in his advice to the Commission (report at attachment A) concluding the following:

As noted in section 1.4, countervailing power from the airlines might be able to at least partially offset Melbourne airport's market power. There are two main domestic carriers currently operating out of Melbourne airport as well as two smaller carriers. One of the major carriers, for example Qantas, might be thought to have significant countervailing power. However, because of its location in the second largest Australian city, it is not clear that even a major airline, such as Qantas, can credibly exercise countervailing power to Melbourne airport. It is likely that Qantas could not threaten to cease services to Melbourne or even to substantially curtail these services. If Qantas were to carry out such a threat, then this would undermine its own profitability and probably lead to significant gains to Qantas' rival carriers. While this issue requires further investigation, at first pass it is not obvious that there exists countervailing power that would offset any market power for Melbourne airport.⁷⁹

High prices at many smaller regional airports suggest that the lack of countervailing power may extend to small airports.

Stephen King's example does not deal with the possibility of airlines collectively threatening to cease services. However, the Commission notes that section 45 of the *Trade Practices Act* generally prohibits such actions.

7.3 Prices regulation overseas

The need for regulation of airports has been recognised in most countries. While the nature and degree of regulation varies its application is almost universal. This section provides an overview of the approaches to airport regulation in the United Kingdom, the European Union, the United States, New Zealand and Canada. A more detailed overview is provided in attachment B.

In these countries there is a distinct association between airport ownership and the type of regulation that is subsequently applied. In many cases, the privatisation of airports is accompanied by comprehensive regulation. Government-owned airports are generally subject to less detailed scrutiny.

The United Kingdom *Airports Act 1986* initiated the privatisation of the British Airports Authority (BAA). This marked the first major airport privatisation in the world. The privatisation and corporatisation of many other British airports followed.

⁷⁹ King, S., *Market power and airports*, Report to the Commission, January 2001, page 23.

Public listed companies were set up to manage the UK's larger regional airports. These airports are still owned by municipal governments. The Act also introduced a two-tier system of airport regulation. In the first instance, airports with an annual turnover of more than £1 million are subject to broad economic regulation. The second level imposes stricter monitoring and price cap regulation over designated airports.

Airports in the United States (US) are predominantly owned and operated by local governments. Some airports are operated by entities established by local or state governments specifically to operate their airports.⁸⁰ Regulation is based on principles for the levying of airport charges, without any formal price controls. However, the Department of Transportation has the authority to set aside prices that it considers to be excessive.⁸¹

The Federal Aviation Authority (FAA) administers two programs for the capital improvement of airports: the Airport Improvement Grant Program (AIP), and the Passenger Facility Charge Program. Airports that receive these grants are required by Federal law to make certain assurances regarding airport access and pricing in return for the funds. In regard to privatisation, the FAA has repeatedly expressed concern about the potential for private airport operators to earn unreasonable profits and has therefore maintained a cautious policy for some time.⁸² Nevertheless, in 1996 the FAA established the Airport Privatisation Pilot Program (APPP) in order to evaluate the benefits of privatisation. Preliminary results indicate that there is little interest, largely due to the popularity of the existing system of funding.⁸³

Similarly, airports in Canada are mostly government owned, and operated by local airport authorities. There is no direct economic regulation of Canadian airports. Public accountability principles oblige Canadian Airport Authorities to levy fair and reasonable airport charges, and the airports must be run as non-profit organisations. The 2000 Report of the Auditor-General describes the Canadian Airport Authorities as monopolies that enjoy a captive market. The report further states that the absence of economic regulation allows the airport authorities to set fees to finance capital expansions, make any kinds of investments, and accumulate large reserves tax-free.⁸⁴ Nonetheless there are no apparent plans to introduce economic regulation.

The majority of European airports are state-owned business enterprises. However, unlike the North American regimes, privatisation is increasingly prevalent in Europe. Airports in Hamburg, Dusseldorf, Berlin, Zurich, Copenhagen, Brussels, Rome, Naples, and Vienna have been partially privatised, typically via share flotations. Despite the extensive liberalisation of the air transport sector, the European

⁸⁰ Federal Aviation Authority/OST Task Force, *Airport business practices and their impact on airline competition*, October 1999, p3.

⁸¹ Refer to *City of Los Angeles v. United States Department of Transportation*, et al., February 1999 (www.lw.bna.com)

⁸² Payson, W., & Steckler, S., *Expanding airport capacity: getting privatisation off the ground*, July 1992, p17.

⁸³ Butterworth-Hayes, P., *Private deals at US airports*, January 2000, p1.

⁸⁴ Report of the Auditor General of Canada, *Transport Canada. Airport Transfers: National Airports System.*, October 2000, p10-7.

Commission (EC) introduced legislation to further mitigate the market power of airports.⁸⁵ The airport charges directive requires Member States to ensure non-discrimination, cost-relatedness, and transparency in setting airport fees. The directive is due for implementation across all Member States by January 2002.

Prior to 1988, all New Zealand airports were government owned and operated. In 1998 the government divested its 51 percent share of Auckland airport through a share float, Wellington airport is 66 percent privately owned, and Christchurch Airport remains publicly owned. The New Zealand Commerce Commission is currently undertaking an inquiry to determine whether price controls should be implemented at New Zealand's three international airports- Auckland, Wellington and Christchurch.⁸⁶ The inquiry was established due to Government concerns that the current system of light-handed regulation was not adequately preventing airport companies from exploiting their monopoly power. The primary regulatory protection under the *Airports Act 1966* is that airports must provide sufficient consultation with airlines regarding aeronautical charges. This requirement has been the subject extensive litigation. The airlines claim that the requirement is inadequate, while the airports argue that the countervailing power of airlines is sufficient to constrain pricing behaviour, particularly at smaller airports.⁸⁷

To date, there are no published findings of the Commerce Commission's inquiry, which is due for completion in August 2002. However, a substantial part of the inquiry is considering an update of the provisions in Parts IV and V of the *Commerce Act 1986* to allow the Commerce Commission increased flexibility in its application of price controls. Currently, the Commerce Act contains reserve powers which allow for the introduction of price control over specific goods and services.⁸⁸ The proposed amendments detail methods by which the Commerce Commission can authorise prices, revenues, and quality standards in respect to the supply of controlled goods and services. The proposed methods include:

- the application of minimum or maximum prices for, or revenue derived from controlled goods or services; and
- a CPI-X or sliding scale regulation approach to prices and revenue monitoring.⁸⁹

The review of international airport regulation at attachment B shows that there is a steady departure from the traditional pattern of government ownership. Today, more than 100 airports around the world have been privatised. The review also shows that Governments typically respond by imposing comprehensive regulation over airport activities. The EU's recent airport charges directive and the New Zealand price control study are examples of such government action. Meanwhile, the US government

⁸⁵ Drabbe, H., *EC competition policy in relation to airports*, April 1999, p2.

⁸⁶ New Zealand Commerce Commission, *Price control study of airfield activities, critical issues paper*, July 1999, p1.

⁸⁷ Hon. Maurice Williamson, *Opening of the 46th AIA Annual Conference*, July 1996.

⁸⁸ New Zealand Commerce Commission (1), op. Cit, p2.

⁸⁹ New Zealand Commerce Commission (2), *Price control of airfield activities, critical issues paper*, March 2001, p41.

maintains a cautious stance on airport privatisation. Together, this suggests that governments are aware of the potential disadvantages of privatising airports without introducing some degree of price control.

8. MARKET POWER

8.1 Introduction

Chapter 7 outlined the economic justification for the regulation of airports. In particular, it was argued that a number of factors give rise to market power in the provision of airport services. These factors are:

- planning restrictions and limited availability of land;
- lumpy and sunk airport investments;
- economies of scale and scope; and
- the existence of network externalities.

Furthermore, the limited substitutability of demand and the airlines' lack of significant countervailing power result in a market environment in which airports are likely to have market power that allows monopoly pricing. The disadvantages of such pricing, in particular in terms of allocative inefficiency, are discussed in chapter 7.

This broad market power in the provision of airport services does not necessarily imply that all airports have significant market power, nor that market power extends across the full range of services offered by an airport. This chapter addresses these questions in more detail. Section 8.2 examines more closely the specific *airports* in Australia in which market power may be sufficiently significant as to justify price regulation. Section 8.3 evaluates two general methods of regulation, the dual till and single till approaches. In the context of that discussion, section 8.4 examines the specific *services* provided by these airports and provides a recommendation on the bundle of services the Commission believes should be included in any price regulation arrangements.

The Commission engaged Professor Stephen King to provide advice on an approach to determining the extent of market power at airports in Australia.⁹⁰ Professor King proposed a six-step iterative framework for considering this issue. These steps are:

1. define the problem;
2. determine the potential market participants;
3. determine the potential time-frame(s) and functional levels for analysis;
4. consider the substitution possibilities on both the demand and supply sides;
5. re-examine the underlying assumptions; and
6. examine the airport's market power.

Professor King argues that this framework can be applied to the question of whether specific airports have market power over general aviation and also to the question of whether an airport with such market power holds this power in relation to specific airport services.

⁹⁰ Refer to Attachment C.

8.2 Which airports?

Define the problem

In considering the issue of market power in relation to airports, the primary issue to be addressed is essentially determining whether or not a particular airport is in fact a *monopoly* provider of airport services. The concern here is not so much whether a firm has market power which it may employ in an anti-competitive fashion (which is generally dealt with through the *Trade Practices Act 1974*) but rather market power which manifests itself in prices which, from society's perspective, are too high.⁹¹ Professor King frames the question as follows: 'do some or all of these [leased] airports have the ability to raise prices to a supra-competitive level over a relevant time frame?'⁹² This is the question to be addressed with reference to King's framework. Prices here are taken to refer to the broad set of services provided, or potentially provided by an airport, rather than limiting the functional market to narrower definitions. This latter analysis is left to section 8.4 of this paper.

Determine the potential market participants

The list of potential participants in the markets in which airports are operating is very broad. From a supply perspective, airports might compete directly with other airports, while alternative forms of transport such as road, rail and shipping may provide sufficient competition to limit the scope for an airport to raise prices. Certain services – for example retail leases – might be subject to competition from non-airport providers. The airports under consideration in this review might also face competition from airports not under examination, or may compete between themselves in the provision of some services or some bundles of services. Section 8.4 discusses in more detail which specific services might be subject to constraints from either other airports or other service providers.

From a demand perspective, airport users fall into a number of categories. The most important are the ultimate consumers of airport services, air travellers. Within this group it is worth identifying a further two sub-categories: business travellers and tourists. These two groups are likely to have significantly different demand characteristics which may affect the extent to which an airport has market power. The demand of business travellers is likely to be relatively unresponsive to changes in airport prices, as the choice of destination is primarily related to factors other than cost. By contrast, holiday-makers are likely to be more responsive to price changes, with cost a significant factor in the choice of holiday destination. The level of demand by each of these types of traveller, the relative mix between business and tourist travellers, and the responsiveness of each to changes in airport charges will be crucial determinants of potential allocative inefficiency, and hence welfare loss, from monopoly pricing.

⁹¹ Prices that are 'too high' from society's perspective are those which result in welfare losses when compared to competitive market outcomes. See chapter 7 for a discussion of the consequences of monopoly pricing.

⁹² King, S., *Report for the ACCC - Market Power and Airports*, January 2001, p. 17 (Attachment A to this paper).

A second major category of airport user is airlines, which may be differentiated as providers of passenger or freight transportation services. It may be the case that airlines hold significant countervailing power which limits the ability of the airport to raise charges. As noted in chapter 7, however, the Commission does not believe such countervailing power is a feature of the aviation market in Australia. The responses of these intermediate users to changes in airport charges is therefore less relevant than the responses of end-users when evaluating the potential market power of airports. While it may be argued that the airline market is not perfectly competitive, it would be inappropriate to rely on imperfect competition in a downstream market as a constraint on any monopoly power an airport might have. Such arguments overlook the wider allocative inefficiencies that flow from either airports or airlines pricing above the socially optimal levels. Accordingly, the response of *end users*, rather than *intermediate users*, to changes in airport prices is the Commission's primary consideration in assessing the question of airports' market power.

Other categories of airport users might include retail concessionaires, taxi operators and car rental companies. In general, demand from such users for facilities at airports relates to travellers' broader demand for air travel to a particular destination. For the purposes of determining market power at particular airports, therefore, demand from these businesses is likely to also be a secondary consideration. Demand from this category of users is likely to be more relevant when evaluating the specific sub-services in which an airport operator may have market power. For a more detailed discussion of this issue, see section 8.4.

Determine the potential time-frame(s) and functional levels for analysis

The long timeframes associated with developing an airport necessitate a consideration of the market over a reasonably long period. An extended period of monopoly pricing, however, may have serious efficiency consequences due to the misallocation of resources. The view expressed by Professor King, that a one to five year period should be considered when analysing the market power of airports, seems reasonable.

The functional level of an airport's operations could broadly be defined as 'airport services'. While this moniker does not explain the precise nature of what these services are, nor incorporate all services provided by an airport operator, the term might be used loosely to refer to the unique groupings of services which can be provided by airports. It would include all services necessary for facilitating the take-off and landing of aircraft and the processing of freight and passengers. Section 8.4 discusses in more detail the particular services which the Commission considers should be included within the definition of airport services. For the purposes of addressing the question as to which airports have market power, however, the broader definition should generally suffice.

Consider the substitution possibilities on both the demand and supply sides

The above steps provide the setting in which to conduct the main analysis of the market power question; namely, to examine the demand and supply substitution possibilities in the market for airport services. This exercise amounts to an assessment of the geographic and product dimensions of the market. In making its assessment the

Commission has considered those airports in which it has had regulatory experience. This group comprises the privatised Phase I (Brisbane, Melbourne and Perth) and Phase II (Adelaide, Alice Springs, Canberra, Coolangatta, Darwin, Hobart, Launceston and Townsville) airports, as well as Sydney (Kingsford-Smith) Airport.

The markets in which these airports operate will each be distinctive. In some cases, alternative forms of transport provide competitive pressure, while certain pairings of the above airports may be sufficiently proximate to suggest that they are operating in the same geographical market. This proximity does not in itself guarantee that an airport operator is constrained in its pricing; functional differences may provide barriers to entry and exit which allow sustained monopoly pricing. These barriers include economies of scale and scope, sunk costs, planning restrictions and network externalities as discussed in chapter 7.

The geographic dimension will remain an important element of these considerations, and a significant determinant of an airport's market power. Airports are a means of access to a particular location and, as such, will be constrained or otherwise by the presence/absence of viable alternatives. These alternatives may involve alternative means of transport, or may simply be other airports. The former is considered in the discussion on demand side substitutability, and the latter in the discussion on supply side substitutability, below. Demand side substitution relates to the ability of users to substitute *services* acquired from the airport with other services which are close substitutes. Supply side substitution relates to the scope for other *producers* to supply the service in question. In the context of the current discussion this amounts to the ability of airport users to substitute between airports.

Demand side substitution

In the general case of airport services, demand side substitution entails an examination of the extent to which alternative forms of transport are substitutable for air transport. Such analysis is likely to differ for different groups of airport user. In particular, air travellers will face different substitution possibilities from those available to freight transport operators.

The alternative transport options available to travellers include road (car and bus) and rail transport, and potentially shipping. In general these appear to be weak substitutes for air travel. For business travellers the convenience of air travel is vastly superior to the alternatives. It is likely that for this customer group, location is primarily determined by factors other than airport pricing, and that time constraints are a critical element of the travel decision. In such circumstances, there are no viable substitutes to flying to a particular destination; the choice is simply between travelling and not travelling.

For tourists, particularly domestic tourists, the alternatives may be more palatable. While the available substitutes are imperfect, the differences in cost between air travel and other forms of transport may be large enough to compensate consumers for the associated disutility of using the inferior mode of transport. International tourists face somewhat narrower choices. In considering a particular destination, these users face the same basic alternative as business travellers; namely to travel by air or not to travel. However, both international and domestic tourists might substitute *destination* on the

basis of cost differences. For example, a tourist may decide to visit Coolangatta rather than Fiji, if the cost of doing so is substantially lower. The passenger mix at each airport is therefore an important indicator of the possibility for demand side substitution. As pointed out by Hooper:

[t]hose studies which have calculated elasticities for single routes, or groups of routes, invariably find that those routes with higher proportions of business traffic have lower price and income elasticities.⁹³

In general, airports where tourists are a substantial proportion of total passengers are more susceptible to competitive pressure from either alternative modes of transport or other destinations.

This conclusion is subject to a further qualification. As journey distances increase, alternative transport options become less attractive for two reasons. Firstly, the difference in journey times between air transport and the alternatives increases rapidly. Secondly, the cost differential between air transport and any alternative mode of transport may narrow as the distance increases.⁹⁴ The remote location of a number of the airports currently under consideration will limit the extent to which the existence of other transport options provides a competitive constraint on an airport's pricing. The geographical dimension must therefore be considered along with the passenger mix in order to evaluate the scope for demand side substitution at airports.

The following table provides an indicative breakdown of inbound international traffic at the locations under consideration.

International Visitors 1998/99 – Reason for Journey

Airport	Business/VFR	Holiday
Adelaide	52%	42%
Alice Springs*	n/a	n/a
Brisbane**	n/a	n/a
Canberra*	n/a	n/a
Coolangatta	32%	66%
Darwin	20%	68%
Hobart	28%	44%
Launceston*	n/a	n/a
Melbourne	51%	42%
Perth	40%	53%
Sydney	41%	51%
Townsville	15%	43%

Source: Australian Bureau of Statistics

* These airports do not service international traffic.

⁹³ Hooper, P., *The Elasticity of Demand for Travel: A Review*, Institute of Transport Studies: University of Sydney, February 1993, p. 19.

⁹⁴ This might reflect increased energy costs (which may be spread across fewer passengers), infrastructure costs associated with road or rail transport, and potentially accommodation and other associated costs.

** The Commission did not have corresponding data relating to Brisbane Airport.

While corresponding information regarding domestic travellers is not readily available, the above information tends to support the conclusion that a defining characteristic of the major airports is the relatively large volume of traffic for the purposes of business or visiting friends and relatives (VFR). This is not surprising given the bigger populations, and associated business activity, in these centres. Adelaide, Brisbane, Melbourne, Perth and Sydney airports would fall into this category. As the national capital, traffic at Canberra Airport is also likely to be heavily weighted towards passengers travelling for business and VFR purposes. By contrast, the other regulated airports generally have a higher proportion of tourism travellers.

As already noted, the composition of travellers is likely to be a primary indicator of the extent to which demand side substitution is feasible. In many cases business travellers are unlikely to substitute air travel to these destinations with any alternative means. However, the geographic dimension is relevant also. The relative locations of these destinations provide a further guide to the feasibility of alternative transport options. For example, their distance from other major centres suggests that there are few viable transport alternatives to and from Perth or Darwin. Air travel is therefore likely to be a relatively attractive option, suggesting that in the case of Perth and Darwin Airports demand side substitution possibilities will be relatively low. While geographic isolation is less marked in the case of other capital airports, the basic argument still applies.

These considerations may serve to support the case for deregulating some airports. For example, Hobart Airport has a high proportion of tourism related traffic. Furthermore, ferry services connecting Melbourne and northern Tasmania are an attractive alternative to flying (for many visitors).⁹⁵ In this case the demand side substitution possibilities are much greater than for other capital city airports.

In general, it is the Commission's view that alternative modes of transport are only weak substitutes for air transport. Only in a small proportion of cases are air travellers likely to consider these alternatives. These cases will generally relate to journeys over shorter distances, or to destinations that are infrequently serviced by airlines.

The second category of airport user that might be considered are freight operators, although as freight movements are generally only a fraction of total aircraft movements, these are of lesser importance. Again, these can be further sub-categorised into domestic and international freight operators, as these two separate groups are likely to face different substitution possibilities. While for domestic operators, the alternative to air freight is likely to be road or rail transport, for international operators the alternative is most likely to be shipping.

As may be the case for business travellers, timeliness is likely to be a critical aspect to the service a freight operator is seeking. This differential between air and the alternatives is greatest for international freight operators, where shipping is the only

⁹⁵ Hobart Airport is also likely to face competition from Launceston Airport. This is discussed in the section on supply side substitution below.

viable alternative mode of transport. However, time constraints will be critical to all freight operators, and they will therefore generally have limited available substitutes.

The matrix below summarises some key characteristics of the airports under consideration and indicates the Commission’s view of the potential for significant demand side substitution in light of the preceding discussion.

Demand side substitution by airport

Airport	Major Passenger Category	Alternative Transport Feasibility	Demand Side Substitution Possibilities
Adelaide	Business / VFR	Medium	Low
Alice Springs	Tourism	Low	Medium
Brisbane	Business / VFR	Medium	Low
Canberra	Business / VFR	Medium	Low
Coolangatta	Tourism	Medium	Medium
Darwin	Tourism	Low	Medium
Hobart	Tourism	High	High
Launceston	Tourism	High	High
Melbourne	Business / VFR	Medium	Low
Perth	Business / VFR	Low	Low
Sydney	Business / VFR	Medium	Low
Townsville	Business / VFR ⁹⁶	Medium	Low

Supply side substitution

For a number of Australian airports, supply side substitution possibilities are also limited. This is essentially a question as to whether other producers (airports) can supply the service in question, in this case airport services. In addressing this issue, it is important to note that there is a bundle or package of services which airport users must use if they are to use the airport at all.

The Prices Surveillance Authority commented on this issue:

In arriving at a functional definition of aeronautical services it is necessary to consider what package of facilities is necessary to efficiently provide air transport services. On this basis it could be argued that all services relating to the transport of passengers and freight, from ground facilities (roadway or freight terminal) to the aircraft take-off, are aeronautical.

To provide the whole package of services and facilities to users of air transport, all aircraft-movement related facilities, terminals, (including all passenger facilities), baggage handling, check-in and ticketing, roads, car parks and access to other transport

⁹⁶ While Townsville has only a small proportion of inbound international traffic related to business/VFR, a very significant proportion of its outbound international traffic falls into this category.

modes (such as buses, trains and taxis) which provide access to the airport are typically provided by a single supplier – the airport authority.⁹⁷

The concept of this package of services has been identified elsewhere. The Australian Competition Tribunal, in its decision *Sydney International Airport*, notes that “airports typically provide a bundle (sometimes called a cluster) of services, utilising a different variety and mix of assets”.⁹⁸ The decision considers extent to which the use of a particular service is necessary when using the broader ‘set of physical assets’ of airport services. It concluded that the:

...minimum set of physical assets necessary for international aircraft to land at [Sydney Airport], unload and load passengers and freight and depart in a safe and commercially sustainable manner” comprises “all the basic air-side infrastructure, such as the runways, taxiways and terminals and the related land-side facilities integral to the effective functioning of airside services.”⁹⁹

NECG has also identified the issue in terms of the concept of cluster markets. In previous advice to the Commission, NECG defined cluster markets in the following way.

The defining feature of a cluster market is that it groups services which are characterised by economies of scope in production and/or consumption so great as to require firms to compete not on individual services but rather on the set of services taken jointly. Expressed in terms of substitutability, the ‘unbundled’ components of the cluster when procured separately are not close substitutes for the cluster procured as a whole. As a result, the pricing of a firm that supplied the cluster as a whole, and was the sole firm to do so, would not be constrained by competition from suppliers of the separate parts.¹⁰⁰

It follows that in considering airport services as a cluster market, a consideration of supply side substitution must look at airports offering a similar cluster of services. The concept of a service cluster is one approach to determining the functional dimension of a market.

At many of the airports currently subject to price regulation, the cluster of available services appear inferior to other operators. Furthermore, there are significant limitations on the extent to which supply side substitution can occur. For example, from a functional perspective, only some of the regulated airports provide facilities to land, and provide associated airport services to, large jet aircraft such as Boeing 747s. Sydney, Melbourne, Brisbane, Perth, Adelaide and Canberra fall into this category.¹⁰¹ Such runway and terminal capacity is an important element to potential market power, as the combination of scale and scope economies and associated network externalities generate correspondingly stronger entry barriers, and the sunk nature of large airport investments creates exit barriers.

⁹⁷ Prices Surveillance Authority, *Inquiry into the Aeronautical and Non-Aeronautical Charges of the Federal Airports Corporation*, August 1993, p. 59.

⁹⁸ *Sydney International Airport* [2000] ACompT 1, paragraph 74 ff and paragraph 81 ff.

⁹⁹ *Ibid.*, at paragraph 99 ff.

¹⁰⁰ Network Economics Consulting Group, *Advice to the ACCC in relation to Delta Car Rentals Request for Determination*, February 1999.

¹⁰¹ Canberra Airport is in the process of upgrading its main runway to accommodate such aircraft.

It is the Commission’s view that these factors apply to most capital city airports. In particular, the Commission considers that Sydney, Melbourne, Brisbane, Perth, Adelaide and Canberra operate as monopoly providers in geographically and functionally distinct markets. This distinction need not be symmetric; for example, while Brisbane is geographically and functionally distinct from Coolangatta, the reverse does not apply. That is, Coolangatta faces competition from Brisbane, but Brisbane is not necessarily constrained in its pricing by the proximity of Coolangatta, given the capacity limitations at the latter.

The following table summaries the Commission’s views regarding the potential for supply side substitution at the regulated airports.

Supply side substitution by airport

Airport	Geographic Substitutes Available?	Barriers to New Entrants	Supply Side Substitution Possibilities
Adelaide	No	High	Low
Alice Springs	Yes ¹	Low	High
Brisbane	No ²	High	Low
Canberra	No	High ³	Low
Coolangatta	Yes	Medium	High
Darwin	No	Medium	Medium
Hobart	Yes	Low	High
Launceston	Yes	Low	High
Melbourne	No	High	Low
Perth	No	High	Low
Sydney	No	High	Low
Townsville	No	Low	Medium

1. Faces competition from facilities at Uluru.
2. Potential competition from Coolangatta Airport is limited due to the constraints faced at Coolangatta (limited runway capacity and constrained expansion due to environmental factors).
3. Canberra is in the process of expanding its capacity to cater for larger aircraft (eg Boeing 747s).

Some further comments on the above table are warranted. Alice Springs and Coolangatta airports are rated as having good available substitutes due to the proximity of airports with similar or greater capacity; namely Uluru and Brisbane airports respectively. In the case of Hobart and Launceston, the Commission believes that these airports are likely to compete with each other, and perhaps also with Devonport Airport, for the (predominantly tourism-related) business to Tasmania. Again, the proximity of these airports is a factor likely to facilitate competition. For the remaining regulated airports there appear to be few viable alternatives at present.

Re-examine the underlying assumptions

As Professor King notes in his paper, the examination of market power is an iterative process, requiring the re-examination of the assumptions made prior to conducting the type of analysis sketched out in the discussion on demand and supply side

substitutability. Professor King also notes the importance of market inquiries to an analysis of this sort. The Commission has not undertaken such inquiries as it considers this to be the role of the Productivity Commission in its deliberations. The Commission anticipates that the assumptions spelt out earlier in section 8.2 will be validated or invalidated as appropriate by the Productivity Commission as part of its review. Should the Productivity Commission disagree with the assumptions already outlined, the Commission urges the Productivity Commission to subject its views to the tests advocated by Professor King.

In light of the discussion on demand and supply side substitutability, however, the assumptions detailed earlier regarding the functional dimensions of the market should be now briefly touched upon.

The above discussion demonstrates that in some cases it will be worth considering the functional dimensions at a slightly more disaggregated level than outlined earlier. For example, not all airports have the same maximum capacity, where capacity is referring to the size of aircraft that can be landed and processed at that airport. The generic functional grouping of ‘airport services’ might be amended to distinguish aircraft types. As already argued, it is likely that the largest airports, with the capacity to land the largest planes, will in general be least subject to competitive constraints.

Examine the airport’s market power

The preceding discussion examined both the demand and supply substitution possibilities available in relation to the airports currently subject to regulation. The absence of significant substitution opportunities on either the supply or demand side implies that an airport holds monopoly market power.

The following table summarises the Commission’s views in relation to the question of which airports have market power of a magnitude sufficient to warrant regulatory intervention.

Case for regulation by airport

Airport	Demand Side Substitution Possibilities	Supply Side Substitution Possibilities	Case for Regulation?
Adelaide	Low	Low	Yes
Alice Springs	Medium	High	No
Brisbane	Low	Low	Yes
Canberra	Low	Low	Yes
Coolangatta	Medium	High	No
Darwin	Medium	Medium	Yes
Hobart	High	High	No
Launceston	High	High	No
Melbourne	Low	Low	Yes
Perth	Low	Low	Yes
Sydney	Low	Low	Yes
Townsville	Low	Medium	No

In the case of Townsville Airport, the Commission does not consider regulation warranted for two particular reasons. Both relate to the fact that the airport itself is very small in comparison to the other airports under consideration. Given its size, the barriers to entry by potential competitors are likely to be relatively low. Thus potential competition (as opposed to actual competition) may act as a constraint on pricing. The second reason is the issue of regulatory cost. The Commission's view is that in this particular case the costs of regulation may outweigh the benefits.

8.3 Dual till

In its decision in relation to aeronautical charges at Sydney Airport, the Commission extensively considered the merits of two alternatives to the cost-based price regulation of aeronautical services. The dual till approach to pricing conceptually separates the aeronautical from the non-aeronautical functions of an airport. It identifies those costs involved in the provision of aeronautical services and uses them as the basis for setting aeronautical charges. This approach necessitates an identification of those services considered as aeronautical, along with an allocation of the costs that are common to aeronautical and non-aeronautical functions.

Until recently regulation both in Australia and overseas has tended to be based on the single till approach to pricing. Under a single till approach to pricing, airport revenues are determined by setting an appropriate rate of return on all assets that are used for the provision of all services at the airport. Total costs of the whole airport are calculated, along with non-aeronautical revenues. Aeronautical prices are then set as a residual to meet a rate of return target for the airport as a whole. Under this approach the allocation of costs between aeronautical and non-aeronautical services is less significant, given that the allowable revenue figure is based on *total* costs. The single till approach is used in the U.K. regulatory regime - total costs are projected over a five-year regulatory period along with non-aeronautical revenues.

In the past airport prices were set by the FAC on a 'single till' basis. The FAC adopted a rate of return target on the airport as a whole, and set aeronautical charges at the level required to meet the rate of return target. Since profitability on non-aeronautical services was high, and well above the target rate of return, this meant that returns on the aeronautical side of the business were low, often negative. By contrast, the regime applicable to privatised airports has been more along the lines of a dual till approach.¹⁰² The dual till approach was also explicitly adopted in the Commission's decision regarding aeronautical charges at Sydney Airport. This section reviews the economic merits of the two approaches to pricing and variants of them. Each alternative is evaluated in terms of its implications for both efficiency and market power.

For the reasons detailed in chapter 11 of this submission, the Commission does not consider that existing aeronautical prices at privatised airports should be revisited using a cost based methodology (as adopted in the case of Sydney Airport). Nonetheless, a number of the key points of that analysis remain relevant when considering the

¹⁰² While the price caps for privatised airports were not explicitly determined by reference to costs, the pass through of necessary new investment is essentially predicated on a dual till basis.

appropriate approach to airport regulation in the future. These relate to incentives for new investment, allocative efficiency, congestion (where applicable) and market power.

Efficiency - signals for new investment

A significant concern arising from the application of the single till is the potential effect on the investment incentives of the airport operator. In the United Kingdom, for example, users of the airport's aeronautical facilities bear the risk associated with non-aeronautical activities, as lower than expected revenues from these services results in higher aeronautical charges and vice versa. This separation of decision-making and risk bearing is clearly an unsatisfactory outcome. Airport operators do not receive appropriate signals on which to base their investment decisions, and the risk is shifted to aeronautical users, who are potentially less informed than the airport operator and who do not make the investment decision. Thus, under a single till there is the potential for the incentives for efficient investment in non-aeronautical services to be blunted. It follows that the dual till approach to regulation generally provides the airport operator with more appropriate incentives for new investment in non-aeronautical assets than the single till.

This is consistent with the Commission's view that competitive market outcomes should prevail wherever possible and that regulation should only occur where market failure is apparent. An added advantage of the dual till is that it reduces the information requirements associated with the regulation of prices.

This view is supported by NECG¹⁰³, which argues that the dual till approach does not require the regulator to assess the optimal level of investment in relatively competitive non-aeronautical services, as would be the case under single till. This represents a substantial lessening of regulatory risk, and therefore is likely to result in a greater level of dynamic efficiency in the provision of these services compared to the single till approach.

In relation to aeronautical assets, the Commission considers that the types of provisions relating to necessary new investment discussed in chapter 10 provide appropriate incentives for airport operators to undertake efficient investment under a dual till framework.

Efficiency - signals for efficient use of airport services

In assessing the dual and single till approaches to pricing, two particular issues arise with respect to the price signals sent to airport users. The first is which approach maximises allocative efficiency. The second is the potential impact of each approach in circumstances where an airport is experiencing congestion.

¹⁰³ NECG, *'Dual Till' at Sydney Airport*, May 2000. The report is available on the Commission's website at acc.gov.au.

Allocative Efficiency

In its decision in relation to Sydney Airport, the Commission expressed concern about possible allocative efficiency losses associated with the adoption of a dual till approach. One reason for this is that the airport operator is able to charge the profit-maximising prices for the non-regulated (non-aeronautical) services. If an airport operator has market power in relation to some or all of these non-regulated services then it may be able to set prices above the levels that would prevail in a competitive market. This has the effect of both restricting output below socially optimal levels and generating relatively high returns to the airport.¹⁰⁴ Specifically, the bundle of services required by travellers may be priced above cost.

These high prices for aeronautical services cause a net welfare loss to society as consumers' valuations of aeronautical services are not reflected in the level of charges. This is a form of allocative inefficiency.

The size of any welfare loss associated with allocative inefficiency depends upon the airport's elasticity of supply and consumers' elasticity of demand. Of particular concern is the response of consumers; the more elastic their demand response to a *given* price change, the greater is the extent of the welfare loss. In this context, NECG argues:

- The size of the efficiency losses associated with high aeronautical prices will be larger the higher the airport consumers' elasticity of demand for aeronautical services. That is, the consumption distortion (and efficiency loss) associated with higher aeronautical charges will be greater the more sensitive consumers are to airline prices; while
- The efficiency loss associated with higher non-aeronautical charges is less of a problem as consumers that are price sensitive have the opportunity to substitute these services for those obtained outside the airport. Therefore, the greater the ability of airport consumers to substitute non-aeronautical services for services outside the airport, the lower the efficiency losses associated with higher non-aeronautical charges.¹⁰⁵

In general, a dual till approach to regulation results in reasonable outcomes in regard to allocative efficiency *provided that the regulated part of the till covers all of the services in which the service provider has significant market power*. The Commission has some concerns that the current definition of aeronautical services has not been based on a rigorous assessment of market power. While this is largely a question of degree, the potential for allocative inefficiency thus remains. It should be noted that this concern relates primarily to the *application* of the dual till rather than the dual till approach *per se*.

A counter to allocative inefficiency arguments has been put forward by Professor Kahn, who suggests that at congested airports, the move to dual till primarily results in a transfer of income and welfare from airlines to the airport operator.¹⁰⁶ Professor Kahn's

¹⁰⁴ Information on the returns from non-aeronautical services is available in the airport regulatory reports published by the Australian Competition and Consumer Commission. These are available on the Commission's website at www.accc.gov.au.

¹⁰⁵ Network Economics Consulting Group, 2000, *op. cit.*, p. 3.

¹⁰⁶ A.E. Kahn, January 2001, *Evidence on Behalf of Sydney Airports Corporation*, p. 20.

reasoning is that where capacity is constrained, effective competition between airlines is limited by the scarcity of landing slots. Airfares thus already reflect the full scarcity value associated with those slots. The implication of such an argument is that allocative efficiency concerns are irrelevant, as changes in aeronautical charges merely redistribute income between airports and airlines.

The Civil Aviation Authority (CAA) in the United Kingdom also commented on this issue:

The effect however is different at capacity constrained airports. If prices are below their market clearing level they do not act as the primary mechanism by which capacity is allocated. Price changes away from the 'single till' would therefore primarily result in rent re-distribution. It may have a secondary impact if some users are currently operating at marginal profitability (because they are unable to appropriate the full scarcity value of access, but are unable to sell their rights of access to those who could make better use of it).¹⁰⁷

While the Commission recognises the merits of Professor Kahn's argument, it considers that with regard to Australian airports, the conditions necessary for the transfer argument to hold (and thus for allocative efficiency arguments to be refuted) do not hold. In particular, there remains significant scope for competition between airlines at Sydney Airport.¹⁰⁸ There is still significant scope for airlines to increase capacity in response to competitive pressures by increasing aircraft size.¹⁰⁹ Furthermore, many off-peak slots are still available. The empirical evidence to date does not support the argument that effective competition at Sydney is limited. The entry of Virgin Blue and Impulse Airlines has had a significant impact on airfares, including on airfares to and from Sydney.

Congestion

A fundamental criticism of the proposition that returns from non-aeronautical services should be used to fund aeronautical services (as implied by a single till approach) is made by SACL:

...ignores the role of price as a mechanism for allocating capacity amongst users and uses [...] To the extent that aeronautical prices are constrained to below the opportunity cost of providing aeronautical services, due to the inclusion of returns from non-aeronautical prices, this encourages artificially high demand for aeronautical services.¹¹⁰

In the UK, the single till approach has been criticised on the basis that it has contributed to congestion problems at London and Heathrow airports. This stems from the fact that aeronautical charges do not necessarily reflect the costs of providing the services. If total airport allowable returns are based on average costs, then as the CAA notes:

¹⁰⁷ Civil Aviation Authority, July 2000a, *Issues for the Airport Reviews – Consultation Paper*, p. 11.

¹⁰⁸ Sydney Airport is the regulated airport at which congestion is currently an issue.

¹⁰⁹ This may be one difference between Sydney Airport and the London airports whose price-cap is the subject of review by the CAA. The London airports have a much larger proportion of slots occupied by Boeing 747s and other large aircraft.

¹¹⁰ Sydney Airports Corporation Ltd, *Revised Draft Aeronautical Pricing Proposal*, September 2000a, p. 62.

The result at congested airports is that the landing charges do not reflect their true value to users and thus compromise best use of capacity (especially where a cross subsidy between commercial revenues and airport charges is observed).¹¹¹

Congestion pricing principles imply that scarce capacity is allocated through prices which take into account consumer valuation of services. By contrast, both the single and dual till approaches are essentially cost-based methodologies for determining an appropriate level of a basket of charges. Each gives little attention to the structure of prices most appropriate for allocating the use of congested facilities.

This point is supported by NECG, which suggests that congestion is not fundamentally related to the adoption of single till. A congested airport may be in a position to ration demand through price, thereby capturing congestion rents. This gives rise to regulatory problems common to either single or dual till, namely:

- Is it possible to design a congestion pricing approach that rations demand, but which maintains regulated revenue at the appropriate level — can the regulator hold revenue below the revenue cap;
- If not, is it possible to design an alternate and efficient non-price rationing approach which does this; and
- If not, who should get the congestion rent from the market clearing approach, and what mechanism should be used to make the necessary transfers.¹¹²

NECG argues that the single till should therefore not be rejected on the basis that it adds to congestion.

The Commission's view is that the dual till/single till approach is not a primary cause of congestion at affected airports. There are three main reasons for this.

The first is that an increase in prices may indeed suppress some demand; however, there is no reason to believe that it will suppress demand in a way that leads to increased community welfare. It is only appropriate congestion charges that can have this effect. These, as NECG points out, can be adopted at any level of revenue consistent with the continued coverage of the variable costs of operating the airport.

The second reason is that while the prices for the services currently subject to regulation are an important component of the signals airport users receive, they are not the only component. To the extent that other services are necessary in order to use the airport (ie, to the extent they are non-discretionary), then the decision to use the airport will take all these prices into account. For example, airlines will take into account refuelling charges, and passengers the costs of access to the airport. It follows that prices which send *efficient* signals to airport users will take account all of these services.

The third reason is that price is not the primary mechanism by which landing slots are allocated. Rather they are allocated through an administrative process.

¹¹¹ Civil Aviation Authority, October 2000b, *The CAA Approach to Economics Regulation and Work Programme for the Airport Reviews – Position Paper*, p. 32.

¹¹² Network Economics Consulting Group, 2000, op. cit., p. 9.

The primary issue in considering the benefits of dual till in managing congestion is the extent to which peak period pricing and other changes to airports' price structure would be sufficient to satisfactorily deal with these issues.

Market Power

During the course of the Commission's assessment of the SACL aeronautical pricing proposal, both SACL and BARA sought expert advice on the dual till/single till issue. SACL engaged Emeritus Professor Alfred Kahn to comment on its proposal with respect to both this issue and its approach to the valuation of land, while BARA sought the advice of Professors Michael Crew and Paul Kleindorfer.¹¹³ These advisers examined the efficiency implications of the dual versus single till approaches to pricing, coming to considerably divergent conclusions. Professor Kahn concludes that 'the effects of single-till are inefficient'¹¹⁴ while Crew and Kleindorfer that 'a single-till regulatory approach is likely to be preferred significantly on efficiency grounds to multi-till operations'.¹¹⁵ This difference of opinion appears to stem from fundamentally different assumptions regarding the extent of SACL's market power at Sydney Airport. For example, Professor Kahn argues that the apparently high returns accruing to airport operators from retail services is related to the locational advantage of the airport. Implicit in this argument is the point that SACL's monopoly market power does not extend beyond those services defined as aeronautical. By contrast, Professors Crew and Kleindorfer explicitly state that SACL's proposal 'develops a multi-till approach to price regulation, but this proposed approach leads to a number of problems, not least of which is that it allows non-aeronautical services to be priced at monopoly levels'.¹¹⁶

For the reasons outlined above, the Commission agrees with Professor Kahn that the dual till is in general a superior approach to aeronautical pricing, provided the services defined as aeronautical include all those in which the airport operator has significant market power. The extent to which non-aeronautical services are, or are not, effectively disciplined by competition is a question of degree. This issue is addressed in more detail in section 8.4.

Conclusion

The dual till approach to regulating aeronautical services provides certain important advantages over the single till approach traditionally applied by regulators. Most importantly, airports face significantly better signals for investment into contestable non-aeronautical services. Furthermore, the Commission has sympathy with the view that a dual till approach is effectively adopted in most other regulated industries and no compelling reasons have been provided for deviating from this practice in relation to airports.

¹¹³ Kahn, 2001, op. cit.; and Crew, M.A. and Kleindorfer, P.R., January 2001, *Regulation for Privatised Airports: Single-Till Versus Multi-Till Pricing Methodologies for Sydney Airport*. These reports are available on the Commission's website at <<http://www.accc.gov.au>>.

¹¹⁴ Kahn, 2001, op. cit., p. 22.

¹¹⁵ Crew and Kleindorfer, 2001, op. cit., p. 8.

¹¹⁶ Ibid., p. 4.

The Commission's endorsement of the dual till approach to regulation is qualified by its concerns relating to allocative efficiency and market power. As already discussed these are not concerns about the dual till *per se*. Instead they primarily relate to the *application* of the dual till. The Commission considers that the allocative efficiency and market power disadvantages associated with dual till only arise if an airport's market power extends beyond the current definition of aeronautical services.

8.4 Which services?

In other regulated industries, such as gas, regulators commonly distinguish between contestable and non-contestable services supplied by the same company and only regulate the latter. Unlike other industries, however, the regulation of airport services has not been founded upon a systematic analysis of the extent of market failure. Instead, the aeronautical/non-aeronautical distinction is an historical legacy, described by the PSA as an essentially 'arbitrary boundary'.¹¹⁷

The current inquiry has the opportunity to thoroughly address this issue. Determining the aeronautical/non-aeronautical distinction involves a detailed whole of business analysis. The framework outlined by King provides a methodology for undertaking such an analysis.

Section 8.2 provided a high level analysis of which Australian airports have significant market power across the market broadly defined as airport services. Section 8.3 has argued the case for adopting the dual till approach to the price regulation of these airports. That discussion highlighted the need for an analysis of the services in which airports hold significant market power. 'Airport services'/'aeronautical services' are inclusive terms which draw together a bundle of more specific services provided by an airport. These more narrowly defined services might potentially be provided by other parties, either individually or as part of other service clusters. This section looks more closely at the specific services provided by airports, and identifies specific services to which the Commission considers market power extends. As in section 8.2, Professor King's framework is used to broadly examine the issue.

Define the problem

The problem to be addressed in relation to specific airport services is very similar to that considered in section 8.2. With some slight modification, the question becomes: '*for which specific services* do some or all of these [leased] airports have the ability to raise prices to a supra-competitive level over a relevant time frame?' Approaching this question generally requires narrower market definitions than those adopted in the previous section. While this submission will be necessarily brief in its assessment, some suggestions are put forward as to the set of services which the Commission believes are potentially susceptible to monopoly pricing practices.

¹¹⁷ Prices Surveillance Authority, 1993, op. cit., p. xxii.

Determine the potential market participants

In section 8.2 the potential participants in the markets in which the airports under consideration operate were considered. From a demand perspective, the main participants are air travellers and, as downstream providers, airlines. Similarly, a number of other types of downstream businesses require certain services from airports. These include retail concessionaires, taxi operators and car rental companies.

In considering the market power in relation to specific services at an airport, the scope for provision of the service by off-airport providers is also relevant. For example, in leasing terminal space to retail businesses, an airport may be competing with other property management operators such as Westfield. The potential market participants are therefore likely to be many and varied, according to the particular service in question.

While the Commission's submission does not attempt to be exhaustive in defining these market participants, the Commission's experience in administering the regulatory regime in recent years has on occasion warranted the consideration of these issues. The arguments that follow reflect the nature of these considerations.

Determine the potential time-frame(s) and functional levels for analysis

The timeframe in which specific airport services may be offered by other market participants – ie new entrants – is likely to be shorter than the timeframe in which an entire airport can be duplicated. It follows, therefore, that when examining the subset of services in which an airport may have significant market power, the time-frame for analysis should be shorter than when examining the market power of the airport as a whole. Following King, the Commission would consider a period of one to two years as generally sufficient to allow entry by potential competitors into the market for the more narrowly defined individual airport services.

The functional dimension of the market will obviously vary from service to service. It is not the Commission's intention to exhaustively define the various functional markets that may exist at the airports currently under consideration, but rather to draw on previous experience to highlight the major areas of potential concern. It should be stressed, however, that the appropriate functional dimension of a market is a critical consideration in assessing the scope of an airport's market power.

Consider the substitution possibilities on both the demand and supply sides

In the course of carrying out its regulatory functions the Commission has had a number of instances in which it was required to consider the extent of the market power of airport operators. These include the consideration of services to nominate for formal prices monitoring under section 27A of the *Prices Surveillance Act 1983* ('the PS Act'), the draft guide to section 192 of the *Airports Act 1996*, a report on fuel throughput levies, the Delta Car Rentals determination and the recent Sydney Airport aeronautical pricing decision.

As in section 8.2, the identification of market participants and temporal and functional dimensions of the market provides the setting in which to conduct the main analysis of

the market power question; namely, to examine the demand and supply substitution possibilities in the markets for specific services provided by airports.

In many cases, such an analysis will vary from airport to airport. The general question is whether the provision of a particular service by a particular airport operator is in a market in which there exist barriers to entry and exit which allow sustained monopoly pricing. These barriers may include economies of scale and scope, sunk costs, planning restrictions and network externalities as discussed in chapter 7.

King notes that “the source of an airport’s market power for the bundle might be one or more specific services”.¹¹⁸ For the purposes of considering this question, King uses the example of Melbourne Airport to illustrate his arguments. In so doing, he notes that

...if Melbourne airport has market power over a bundle of services, it must have market power over at least some of the component services in the bundle. If not, then an airline could usurp Melbourne airport by buying the elements of the bundle from competitive suppliers and assembling the bundle for itself.¹¹⁹

To some extent this point has been assumed in assessing which airport should be subject to regulation. It follows, however, that the assessment of demand and supply side substitutability that follows should apply to those airports deemed (in section 8.2) to be worthy of general price regulation.

The Commission’s view is that, in many cases, the set of services currently defined as ‘aeronautical’ is too narrow for price regulation to be fully effective. That is, airport operators have a significant degree of market power in relation to some unregulated services (‘non-aeronautical services’). Any failing to constrain such market power may lead to significant allocative inefficiency and associated social welfare losses. The Commission’s reasons for such views are laid out in what follows.

Demand side substitution

As noted in section 8.2, there is a bundle or package of services which airport users must use if they are to use the airport at all.¹²⁰ Thus the scope for demand side substitution of particular airport services – ie, using alternative services - is essentially determined by the extent to which air travel is substitutable for other transport options. The earlier discussion argued that the scope for demand side substitution was limited at a number of airports.

The point here is that the use of some of the services currently classified as non-aeronautical are part of the package of services that must be used. In this sense they are non-discretionary. In such circumstances to effectively constrain an airport operator’s market power, it is necessary to consider the price of the full package of the non-discretionary services.

¹¹⁸ King, 2001, op. cit., p. 26.

¹¹⁹ King, 2001, op. cit., p. 27.

¹²⁰ Section 8.2 also notes the comments of the Prices Surveillance Authority, the Australian Competition Tribunal and Network Economics Consulting Group on this issue.

As previously noted, this concept of a package of services has been identified elsewhere, for example by the Australian Competition Tribunal and NECG.

Following from this, regulation of airport services should take into account all services in the cluster market or package of facilities necessary to efficiently provide air transport services. Airport users make decisions on the basis of the entire package of the services used and the prices paid for all of those services, not just the services currently subject to regulation. Without taking the other services in the package into account the market power and allocative efficiency issues associated with the pricing of airport services cannot be meaningfully addressed.

Determining the services which should be included in the cluster of ‘airport services’ therefore rests primarily on an assessment of the scope for supply side substitution.

Supply side substitution

The conclusion that pricing for aeronautical services should be assessed in the context of the relevant market cluster or package of non-discretionary services raises the question: which services form part of the cluster? Two issues need to be addressed in order to understand this. The first is the extent to which an airport user can obtain the service from an alternative provider. The second is the assessment of whether use of the service is discretionary. While conducting an exhaustive analysis is beyond the scope of this submission, certain arguments are presented here.

To some extent a rigorous assessment of this question has been undertaken in the past. The distinction between aeronautical-related services (the set of non-aeronautical services to be price monitored) and other non-aeronautical services was determined by the Minister on the basis of an analysis, undertaken by the Commission, of the extent to which these services were subject to competitive constraint. The resulting direction, now Direction No. 21, made pursuant to section 27(A) of the Prices Surveillance Act, requires the Commission to monitor certain specified services. These are:

- aircraft refuelling;
- aircraft maintenance sites and buildings;
- freight equipment storage sites;
- freight facility sites and buildings;
- ground support equipment sites;
- check-in counters and related facilities; and
- car parks (including public and staff parking but not valet parking).

The Commission also undertook an analysis of specific services in its draft guide to section 192 of the *Airports Act 1996*. Section 192 relates to the declaration of airport services for the purposes of Part IIIA of the *Trade Practices Act 1974*. Section 192(5) specifies two criteria by which the Commission is to determine whether a service is an airport service. These criteria are that the service in question:

- (a) is necessary for the purposes of operating and/or maintaining civil aviation services at the airport; and

(b) is provided by means of significant facilities at the airport, being facilities that cannot be economically duplicated.

The Commission noted in its draft guide that two factors particularly relevant to an assessment of criterion (b) are economies of scale in the provision of airport services and the significance of entry and exit costs. The Commission's assessment essentially amounts, therefore, to an assessment of market power. In particular, the draft guide to section 192 provides an examination of the scope for supply side substitutability of particular airport services by considering the scope for either provision of the service off-airport, provision of the service at another airport, or duplication of the service on-site.

The Commission's conclusions in the draft guide to section 192 are therefore directly relevant to the consideration of the market power of airport operators with respect to certain services. Those services which are likely to be within the definition of section 192(5) would generally be those in which an airport operator holds significant market power. A brief summary of the Commission's views in relation to specific services follows. In some cases, these have evolved slightly since the draft guide to section 192 was prepared. The discussion deals with the necessity of the service in question and the question of whether the service is provided by facilities that cannot be economically duplicated.¹²¹

Aircraft movement facilities and activities

Services that derive from the use of airside facilities qualify as airport services. Such services directly relate to the functions of an airport. Without some airside facilities it would be impossible for civil aviation services to be undertaken at an airport. For example, if an airport did not have a runway, planes would be unable to land. If it did not have taxiways, aircraft would have to be loaded and unloaded on the runway and, for reasons of safety, other aircraft would be unable to land or take off on that particular runway. It is inconceivable that an airport could operate feasibly in the absence of airside facilities.

Airside facilities also appear to be subject to economies of scale. That is, the average cost of 20 aircraft using the facilities is generally less than if 19 aircraft use the facilities. Furthermore, there are large sunk costs associated with airside facilities. That is, such infrastructure is expensive and not readily used for purposes other than providing air transport.

Airside facilities may also be subject to economies of scope. Aircraft of many different sizes can land on a single runway designed for the largest jet aircraft. Subject to any congestion costs, construction of a single large facility will be cheaper than construction of a number of facilities for each type of aircraft. In the presence of economies of scope it will be uneconomic to have multiple facilities.

¹²¹ The concept of 'economic to duplicate' is discussed in more detail in *Draft Guide - Section 192 of the Airports Act: Declaration of Airport Services*. This document is available on the Commission's website at www.accc.gov.au.

Passenger processing facilities and activities

Passenger processing areas in international terminals include check-in desks, aerobridges, airside buses, departure and holding lounges (except for commercially operated VIP lounges), immigration and customs service areas, public address systems, closed circuit surveillance systems, security systems, baggage handling and reclaim areas, public amenities, other public areas in terminals, lifts, escalators, moving walkways and flight information display systems. These services are essentially of a complementary nature in that passenger processing involves passengers moving through a stream of services. Hence, in the discussion below these services will be considered collectively under the category 'passenger processing areas'.

International passenger processing services are necessary for the operation of an international airport. They relate directly to important functions of that airport. A major purpose of an international airport is to facilitate international passenger air travel. Without the means and support services requisite to undertake the processing of such passengers, the airport might not be viable as an international passenger airport.

The passenger processing services that are necessary for domestic air transport and international air transport are not the same. For example, passenger processing services for international travel require additional services, such as customs inspection, that are unnecessary for domestic air transport.

The services required for domestic passenger air transport will also vary according to the nature of the passenger air transport service. Passenger embarkation services will vary according to the type of plane. For example, a small aircraft will not require an aerobridge, whereas many commercial jet aircraft will.

Yet in all instances some passenger processing facilities will be required. The general conclusion remains. Without some means and requisite support services to undertake the processing of passengers, a passenger airport would not be viable.

The majority of international passenger processing facilities, for example aerobridges, public areas in terminals and security systems, clearly must be provided on site. There is limited scope for some services such as check-in to be provided off site. But for many passengers, in particular international passengers in transit, off-site facilities are unlikely to be a viable option.

In addition, customs regulations require that certain airport facilities are mandatory for international air travellers where they enter the country. Certain international passenger handling facilities simply cannot be duplicated other than on site in the terminal building.

It is difficult to conceive of how off-site international passenger processing services could be developed unless they involved bussing people onto the tarmac from the off-site facility. Even if such a facility was developed, the question of access to the airport may arise. An airport operator is likely to be in a position to levy access charges on the operator of the off-site terminal. The off-site operator's reliance on the airport operator for access means it cannot effectively compete.

In relation to the issue of whether domestic passenger terminal facilities can be economically duplicated, the existence of more than one domestic terminal at some airports lends support to the argument that domestic terminal facilities can be economically duplicated. However, the existing domestic terminals were developed in the past, under a highly regulated domestic airline duopoly. Under the present system the decision to duplicate facilities is not clearly the same.

The Commission considers a forward looking approach is the preferred interpretation of 'economic to duplicate'. In the case of terminals the relevant question is whether the facilities can be economically duplicated again. This may often be difficult given the limited availability, at most regulated airports, of space adjacent to runways and with access to landside roads. Furthermore, any party seeking to build a new terminal would still require access to a site with such characteristics; such a site would almost inevitably be under the exclusive control of the airport operator.

Landside vehicle facilities

Facilities for landside vehicle access include roads for vehicles to access the airport site, terminal buildings and airside facilities. Vehicles require access to landside facilities for the purposes of transporting people or goods to the airport. The types of vehicles that use these facilities include private cars, rental cars, buses, taxis and trains.

The complementary nature of landside vehicle facilities with aviation activities means the question of whether it is economic to duplicate landside vehicle facilities corresponds closely to whether it is economic to duplicate the airport itself. That is, landside vehicle facilities at an airport would be of little value if they were not located adjacent to an airport.

As far as being economically duplicated on site, airport roads are generally not duplicated. In as much as a duplicate road would have to access the same facilities it is conceivable that it would have to occupy the same space as an existing road. Alternatively, it would have to approach the facilities from another path which would typically be highly constrained by the availability of land. In addition, landside vehicle facilities cannot be located off site.

The issue of substitutability as it applies to car-parks is discussed separately below.

Aircraft refuelling

Refuelling at airports is typically provided by common-user fuel storage tanks and pipelines, or the use of fuel trucks. Permanent facilities appear to be more cost effective at large airports. Oil companies generally own refuelling facilities (tanks, pipelines, etc.) and the airport operators the relevant sites. While aircraft clearly require fuel to fly, they do not necessarily have to refuel every time they land if they are only flying short distances. However, to minimise airlines' running costs, aircraft generally do not carry more fuel than necessary. As such, aircraft often refuel upon each landing. On long haul flights, aircraft use most of their fuel and as a result must refuel upon landing. Hence, refuelling facilities are required for the purposes of providing civil aviation services at airports. If an airport did not have refuelling facilities, some airlines could not fly to that airport.

The issue of economic duplication of refuelling facilities hinges on the scope for refuelling facilities to be provided off site and the scope for the facilities to be economically duplicated on site.

Location off site may be possible if fuel can be trucked from facilities to the airside, provided that appropriate vehicle access provisions exist. However, at the larger airports this would be likely to impose a significant additional cost on fuel users. In addition, for safety and other reasons this approach may not be workable in practice. For these reasons the Commission considers that it would not be economical to duplicate refuelling facilities off site, at least in the case of high traffic volume airports. It should be noted that in relation to the provision of refuelling services on site the Commission also considers land within the airport perimeter to be a facility which is uneconomic to duplicate. This effectively limits the extent to which potential entrants can compete against the airport for the provision of refuelling services.

Aircraft light/emergency maintenance sites

This form of maintenance is unplanned, but essential for aircraft to be able to fly safely. For safety and operational reasons the major airlines would be unlikely to fly to airports that did not have light or emergency maintenance facilities. Furthermore, maintenance workers require access to land within the airport perimeter to perform light or emergency maintenance on aircraft. Therefore these facilities are necessary for the operation of civil aviation services at an airport.

There are sunk costs associated with the sites for light and emergency maintenance facilities in the form of the airport apron that is expensive to build and not readily portable. As aircraft often stop at airports for only a brief period of time, such repairs need to be done on site. The time wasted, and costs associated with, moving the aircraft to an off-site location for such unplanned maintenance could lead to aircraft delays and significant additional costs to airlines.

The question remain of whether these types of maintenance facilities could simply be provided at other airports as an alternative. This seems unlikely, as these facilities need to be available at all major airports to cater for emergency and unexpected maintenance and for frequent maintenance services.

Aircraft heavy maintenance sites

Heavy and planned maintenance such as an engine overhaul or refurbishing an aircraft interior is usually planned well before its occurrence. Sites for heavy maintenance are necessary as aircraft would be unable to fly without having heavy maintenance performed.

As heavy maintenance is normally planned in advance it is not clear these facilities need to be located on the airport site. It may be feasible for such facilities to be located near the airport site, as long as aircraft operators have access on reasonable terms to a road or tarmac suitable for moving aircraft from the airport to the off-site heavy maintenance facility. For example, Avalon Airport has heavy maintenance facilities which service Qantas aircraft.

Furthermore, it is not necessary for these facilities to be provided at all airports. Aircraft owners can simply schedule the performance of heavy maintenance when aircraft are at an airport that has the relevant facilities. Given that heavy/planned maintenance facilities and the sites for such facilities do not need to be located at a specific airport location, they probably satisfy the economic to duplicate test.

Freight equipment storage sites

The facilities required for storing freight handling and ground service equipment are space within the airport perimeter that may include, but is not limited to, freight and passenger aprons and hard stands. While the services provided by ground service and freight handling equipment are different, the discussion concerning facilities for storing this equipment is similar enough to warrant joint treatment.

The services provided by ground service and freight handling equipment directly relate to the functions of an airport. Without ground service equipment, aircraft would be unable to operate effectively. Similarly, freight handling equipment is necessary to provide freight handling services at an airport.

Ground service and freight handling equipment are used frequently at airports. As such, facilities for their storage are necessary. That is, sites for storing this equipment are probably necessary for the provision of civil aviation services.

Two main issues arise in assessing the scope for economic duplication of these services. The first is the scope to provide the services off site. The second is the scope for duplication on site.

Concerning off-site provision of these services, ground service and freight equipment are used frequently. The NCC contended that off airport storage of freight handling equipment is technically possible but not commercially feasible as the frequent movement of this equipment on and off site would impose additional costs on the airlines and freight handling companies. As the equipment is not designed for road transport the additional costs would be significant. In addition, the NCC pointed out that off airport storage would reduce the flexibility and efficiency of freight equipment operators.¹²²

Regarding the scope for duplicating these services on site, the NCC contended there is an inherently strong connection between the services provided by space for storing freight handling equipment and other services provided by airport infrastructure. Accordingly, to duplicate facilities such as the aprons and hard stands, any duplicated facilities must have those characteristics of airports that attract passenger and freight aircraft.

Freight facilities sites and buildings

¹²² National Competition Council, *Applications for Declaration of Certain Airport Services at Sydney and Melbourne International Airports — Reasons for Decision*, May 1997, p. 34.

Cargo terminal facilities are used for the make up and break down of freight and for short term storage of freight. Thus sites for the storage of freight are probably necessary for the purposes of loading and unloading freight.

The NCC considered the issue of economic duplication of cargo terminal facilities at Sydney and Melbourne airports. The NCC concluded that it is economic to duplicate a site on which to build the cargo terminals off airport, provided that there are adequate provisions for vehicle access to the airport.¹²³ Indeed it seems difficult to argue that sites for cargo terminal facilities have some type of natural monopoly characteristics as off airport duplication freely occurs.

Ground support equipment sites

Ground service equipment is equipment used for pushing aircraft on the airport apron. In relation to the questions of necessity and economic duplication refer to the above discussion in relation to freight equipment storage sites.

Check-in counters and related facilities

Check-in counters are essentially a component of passenger processing facilities. As noted earlier, some passenger processing facilities will be required at airports. Without some means and requisite support services to check-in passengers, a passenger airport would not be viable. There is limited scope for services such as check-in to be provided off site. But for many passengers, in particular international passengers in transit, off-site facilities are unlikely to be a viable option.

Administrative office space

To operate effectively at airports and provide various corporate functions, airline operators need office space. However, it is difficult to see why, in every set of circumstances, airlines would require more than some minimal level of administration to be located at the airport. That is, an airline's office space at the airport appears discretionary. With the growth of telecommunications and the development of information technology services, there is a reduced need for administration to be situated in any specific location. Indeed many airlines' administrative functions are not located on airport, but in off-airport offices. In some cases airlines are even undertaking administrative functions overseas because of labour cost differentials. Thus it is seems likely that these services could be economically duplicated.

Commercial and retail facilities

This includes facilities at the airport such as restaurants, retail shops including duty free shops and car rental desks. These facilities add to the profitability of an airport and make an airport more attractive to tourists. However, it is doubtful that these facilities are essential for the provision of civil aviation services, as such services do not directly relate to the functions of the airport. For example, why would an airport require duty free shops to transport passengers? Indeed many small airports have very limited

¹²³ Ibid., p. 35.

commercial and retail facilities and it appears that this has a negligible impact on the airport's viability.

Commercial and retail facilities can be readily located off site. This is displayed by the abundance of substitute facilities available. In addition, these facilities have negligible monopoly characteristics. Accordingly, it is highly likely that these services could be economically duplicated.

Flight catering facilities

The services provided by flight catering facilities are sometimes not necessary for the purposes of transporting passengers and freight. Such services may be very necessary on long haul international flights. However, it is questionable whether these facilities are necessary for the provision of civil aviation services at airports that do not operate international flights. On many short distance flights and on small aircraft, minimal meals are served. As such the lack of flight catering facilities at a particular airport may have little effect on the airport's viability as a civil aviation centre.

It seems doubtful that flight catering facilities have some type of monopoly characteristics. The infrastructure is not associated with high sunk costs. It is not clear that all airports need to have flight catering facilities. Aircraft could be serviced when they land at airports with flight catering facilities. Furthermore it is not clear these facilities need to be located at the airport — the preparation of meals can certainly be carried out off site, as there appear to be many substitutes for such facilities. For example, catering companies could provide the same services as flight catering facilities.

If the airport operator provides the airlines with reasonable terms of access to roads and airside facilities at the airport to enable the airlines to transport meals from off-site catering facilities to the aircraft, then off-site catering facilities appear to be an alternative. As such, flight catering facilities are likely to be economic to duplicate.

Helicopter facilities

These facilities are necessary for the provision of helicopter services, which is a form of aviation service. It would seem, however, to be economic to duplicate the facilities required to land such aircraft. Helicopters do not require lengthy runways nor terminals approaching the scale and scope required for larger fixed wing aircraft. Barriers to entry associated with sunk costs and irreversible investment are therefore not substantial. Similarly, the network economies associated with operating at a large airport do not necessarily arise. It is therefore likely that landing facilities for helicopters could be economically duplicated at other locations.

Waste disposal facilities

When aircraft land at an airport, waste facilities are needed to dispose of aircraft refuse such as aircraft oil, sewerage and food. Airlines may be less inclined to fly to an airport that does not have waste disposal facilities.

It is difficult to regard waste disposal facilities as being not economical to duplicate. The infrastructure is not associated with significant sunk costs. It is not obvious that these facilities need to be located on the airport site — the disposal of waste could certainly be carried out off site, as there appear to be many alternative facilities available. For example, waste could be trucked off the airport site. If the airport operator provides the airlines (or contractors who provide waste disposal services) with reasonable conditions of access to the airport site to enable the disposal of waste, then off-site waste disposal facilities appear a viable alternative. Hence, waste disposal facilities are likely to be economic to duplicate.

Summary

A number of points should be made in relation to the above findings. The first is that those services currently defined as ‘aeronautical’ for the purposes of price regulation fall within the set of services in which the Commission considers airport operators hold market power.¹²⁴ Accordingly, the Commission is of the view that the scope of current prices oversight is the minimum that should be adopted; at least at the airports for which the Commission considers any regulation is justified (see section 8.2).

A second point to note is that the above discussion should not be considered exhaustive. There may be other services in which an operator may hold market power, which have not yet arisen as issues in the ongoing operation of the regulated airports. This view provides support for retaining some form of access regime alongside specific price regulation of airport services.

Further Discussion

The above discussion should be considered in light of other statements by the Commission in relation to specific services. For example, in its report on fuel throughput levies, the Commission concluded that ‘[t]here is a strong case that large airports have market power in the market for refuelling services’.¹²⁵ Furthermore, the Commission concluded that there was a strong case that, in introducing fuel throughput levies, some airport operators had taken advantage of such market power.

The Commission also examined these issues in its Delta Car Rentals determination, finding that ‘the provision of landside roads and associated vehicle facilities for dropping off and picking up passengers at Melbourne Airport’ is a declared service for the purposes of section 192 of the Airports Act.

¹²⁴ ‘Aeronautical services’ are defined in Declaration No. 87, Declaration No. 88 and Declaration No. 89.

¹²⁵ Australian Competition and Consumer Commission, *Fuel Throughput Levies – Report Pursuant to the Commission’s Monitoring Functions Under the Prices Surveillance Act 1983*, December 1998, p. 35.

SACL, in its response to the Commission's draft decision on aeronautical charges at Sydney Airport, also acknowledged that market power at airports extends beyond the current definition of 'aeronautical' services.

...SACL concedes that a detailed analysis may conceivably conclude that SACL does possess significant market power in the following aeronautical related services:

- check-in counters and related facilities;
- ground support equipment sites;
- freight equipment storage sites;
- light and emergency maintenance facilities; and
- aircraft refuelling.

SACL notes that the above list is consistent with the ACCC's draft guide to Section 192 of the Airports Act – Declaration of airport services, October 1998.¹²⁶

Nevertheless, SACL's response to the draft decision criticised the Commission's approach to addressing market power concerns. In particular SACL focused on the inclusion of car parks in the Commission's pricing approach:

SACL contends in the strongest of terms that it does *not* possess and is not taking advantage of any significant market power in relation to the provision of public car-parks.¹²⁷

The Commission's preliminary view is that the provision of car parks is a service that warrants further scrutiny. In its deliberations regarding SACL's pricing proposal, the Commission found evidence to support the case that this service is one in which airport operators have a significant degree of market power. This rationale presumably underpins the Government's inclusion of car parks in the list of monitored services.

Some of the indicators of market power associated with car parking, especially short-term car parking, include:

- *High reported profits at regulated airports.* This information is available from the Commission's annual regulatory reports. A relevant question is whether these profits reflect monopoly rent or location rents. In practice they may reflect both. Conceptually it may be possible to separate the two elements, but this may be difficult to observe. Based on information collected during its assessment of SACL's aeronautical pricing proposal, the Commission considers that there are significant monopoly rents in the provision of car parks at Sydney Airport, especially short term car parking. There seems no reason to believe that an examination of other airports' profitability from car-parking would contradict this view.
- *Limited competition.* Off-airport car parking is a poor substitute for short term on-airport car parking. Furthermore, competition for short-term car parking is minimal, with off airport operators generally only pricing for stays of longer than a day's duration.

¹²⁶ Sydney Airports Corporation Ltd, *Sydney Airport Aeronautical Pricing Proposal – Response to ACCC Draft Decision*, March 2001, p. 11.

¹²⁷ *Ibid.*, p. 44.

- *Observed car parking prices.* A comparison of the car-parking charges levied by SACL with car-parking charges at nearby locations suggest that SACL is able to sustain prices in excess of potential competitors.¹²⁸ Again, there is little reason to believe that this is not also the case at other airports.
- *Basis for setting car park prices.* SACL drew the Commission’s attention to the fact that its pricing is not predicated on its cost of provision or by reference to the rates offered by nearby operators. Rather, ‘car-park rates at Sydney Airports are set by benchmarking prices against other comparable locations, such as the Sydney CBD and the cost of alternative forms of travel’.¹²⁹ It is questionable whether such an approach to price setting would be sustainable in a competitive market. Indeed, in his submission to the current inquiry, Professor Peter Forsyth makes a similar argument with respect to terminal rents.

...if airports are setting rents for terminal space with reference to benchmarks such as rents in the CBD, this is symptomatic of use of market power. If rents are true locational rents, the seller does not set the price with reference to benchmarks (of questionable relevance); rather, the seller takes what the market offers. The seller of a block of land in the CBD of Melbourne cannot simply choose a benchmark, such as the price of land in Sydney, and charge that price. Instead, the seller must accept what the market is prepared to pay.¹³⁰

- *Discretion in use of car parks.* Car parks are part of a market that could be described as landside passenger access. Landside access is required for all travellers – it is non-discretionary. While passengers may use different forms of transport to access the airport, for example taxis or buses, airports generally have a monopoly position in relation to those alternatives. For example, many airports impose charges on buses servicing off-site car parks. Similarly, a number of privatised airports have introduced taxi levies. Where an airport is serviced by rail, there may also be scope for the introduction of an access levy. The point here is that an off-airport provider could not provide on-airport landside access. There is therefore limited scope for supply-side substitution in the market for landside access.

It should be noted that the Prices Surveillance Authority (‘the PSA’) also identified potential concerns with respect to airport operators’ potential market power in car parks.

...the FAC’s market power also stems from its land ownership and ability to control the *number* of car park spaces that have these desirable location characteristics. The PSA is concerned that at some airports the FAC has the ability to ration these spaces to such an extent that premiums for on-airport car parking, over and above those related to location *and* the opportunity cost of expanding spaces, can be earned.¹³¹

¹²⁸ Information on SACL’s car-parking prices is supplied to the Commission as part of its monitoring duties. SACL charges around \$13 per day for long-term car-parking, as opposed to off-site car-parks which generally charge \$10 per day.

¹²⁹ Sydney Airports Corporation Limited, 2001, *op. cit.*, p. 45.

¹³⁰ Forsyth, P., *Airport Price Regulation: Rationales, Issues and Directions for Reform – Submission to the Productivity Commission Inquiry: Price Regulation of Airport Services*, March 2001, p. 29.

¹³¹ Prices Surveillance Authority, 1993, *op. cit.*, p. 57.

The case for including car parking services in the price cap depends to some extent on the scope for airport users to substitute between different modes of transport. If, for example, taxis charges are price regulated and they are considered a close substitute for car parks, then the case for including car parks in the price cap may be weak. However, the revenue-weighted approach to the determination of these price caps raises a further important issue. If some forms of airport access are subject to the price cap but not others, an airport operator could potentially re-balance regulated charges to, for example, increase taxi levies while reducing landing charges. While this might still equate to compliance with the price cap, it increases the scope for the operator to raise charges for *unregulated* forms of airport access, for example car parks. For these reasons, the Commission is of the view that car parks, and other access services and facilities, should be given detailed consideration by the Productivity Commission as part of its current inquiry.

The Commission notes that the existence of complementarities between aeronautical and most non-aeronautical services does not necessarily imply that all non-aeronautical services should be regulated.¹³² The reason for this is that many of the non-aeronautical services provided by airports are not *necessary* for the facilitation of air travel. While the fact that the airport is the monopoly provider of airport services provides a competitive advantage in these complementary markets, evidence is not available to suggest that the services provided in these markets are not contestable. As already noted, the Commission in general presumes that competitive market outcomes should prevail wherever possible and that regulation should only occur where market failure is apparent. Regulating all airport services, including those that are contestable, is therefore considered inappropriate. Instead, and as discussed above, the Commission has focused on the relevant cluster market or package of services that are non-discretionary.

Re-examine the underlying assumptions

As noted in section 8.2, addressing the question of market power requires a certain degree of iteration. The Commission anticipates that such an iterative process, conducted by the Productivity Commission as part of its review, will validate or otherwise the assumptions spelt out earlier in section 8.4. Should the Productivity Commission disagree with the views formulated in this section, the Commission urges the Productivity Commission to subject its assumptions to the tests advocated by Professor King. As already argued, the functional dimension of these markets is a particularly important element of this analysis.

Examine the specific services in which the airport has market power

The following table highlights the range of services considered by the Commission as part of its regulatory duties and summarises the views outlined above in relation to an

¹³² Certain services might be excluded from this characterisation; for example, the services provided at some significant distance from the aeronautical facilities. Complementarity occurs when lower aeronautical charges give rise to increased revenues to other businesses at the airport as a result of increases in passenger throughput.

airport operator's likely market power in particular services. These should not necessarily be considered as a comprehensive list, but certainly indicates the Commission's main areas of concern.¹³³ It should also be noted that the Commission's view is that regulation of these specific services is only warranted where regulation of the airport as a whole is considered appropriate. That is, the Commission recommends regulation of more services, but at fewer airports.

Airport Services

Service	Is the service 'non-discretionary'?	Supply Side Substitution Possibilities	Case for Regulation?
Aircraft movement facilities and activities	Yes	Low	Yes
Passenger processing facilities and activities	Yes	Low	Yes
Landside vehicle facilities	Yes	Low	Yes
Aircraft refuelling	Yes	Low	Yes
Aircraft light/emergency maintenance sites	Yes	Low	Yes
Aircraft heavy maintenance sites	Yes	High	No
Freight equipment storage sites	Yes	Low	Yes
Freight facility sites and buildings	Yes	High	No
Ground support equipment sites	Yes	Low	Yes
Check-in counters and related facilities	Yes	Low	Yes
Administrative office space	Yes	High	No
Commercial and retail facilities	No	High	No
Flight catering facilities	Yes ¹	High	No
Helicopter facilities	Yes	High	No
Waste disposal facilities	Yes	High	No

1. In some circumstances, this may not be necessary, eg short haul journeys.

The Commission's views on the range of services that should be subject to regulation is very similar to those articulated by the PSA. In its *Inquiry into the Aeronautical and Non-Aeronautical Charges of the Federal Airports Corporation*, the PSA favoured a broader functionally-based definition of aeronautical services as it encompasses the key areas of market power.

The preferred definition would include those activities nominated by the FAC's Act, without the possibility of a contract, lease or licence arrangement being a basis for exclusion of a service from the aeronautical definition. Also all aircraft-movement related ('airside') operations should be included, which would mean that refuelling is also regarded as an aeronautical service. As

¹³³ Service offerings and market conditions are not static. The set of regulated services should be reviewed on a regular basis, for example, every five years.

well, airfield security, the provision of some hangars, or hangar sites, and some maintenance facilities should be included. [...] In relation to terminal facilities, this definition would also include check-in and some office space necessary to accommodate staff managing the airport activities. Other air-side related activities, such as baggage handling and freight facilities should also be included.¹³⁴

The Commission notes that the recommendations of the PSA have not been substantially incorporated into the regulatory framework. The current review has the opportunity to again address these issues.

8.5 Conclusion

The Commission is of the view that the framework recommended by Professor King should be adopted by the Productivity Commission to make a detailed analysis of the question of market power at airports.

This chapter has applied the framework in presenting the Commission's view as to which airports, and which services at those airports, should be subject to price regulation. The Commission generally endorses the dual till approach to regulation, but on the condition that the basket of regulated services includes all services in which an airport operator has significant market power. Section 8.4 provided the Commission's views on the services which fall into this category.

The Commission's application of Professor King's framework suggests that the following airports be subject to price regulation: Sydney, Brisbane, Melbourne, Perth, Adelaide, Canberra and Darwin Airports. The Commission recommends that the other airports which are currently subject to price cap arrangements have such regulation removed.

The Commission's application of Professor King's framework also suggests that, at the aforementioned airports, the following services be subject to regulation:

- aircraft movement facilities and activities;
- passenger processing facilities and activities;
- landside vehicle facilities;
- aircraft refuelling;
- aircraft light/emergency maintenance sites;
- freight equipment storage sites;
- ground support equipment sites; and
- check-in counters and related facilities.

In light of these recommendations, the following chapters of this submission outline the Commission's views on the appropriate approach to airport regulation.

¹³⁴ Prices Surveillance Authority, 1993, op. cit., p. 60.

9. INCENTIVE REGULATION

9.1 Introduction

There are a number of options for regulating prices of those services covered by any regulatory arrangements. They include:

- *Negotiate-arbitrate models.* Part IIIA of the Trade Practices Act, for example, establishes a framework for negotiations with the option of arbitration in the event that negotiations are unsuccessful.
- *Tariff setting.* The most common approach to setting tariffs is rate of return regulation.
- *Incentive regulation.* This approach is adopted in the current regulatory regime. CPI-X price caps apply at all of the regulated privatised airports.

This chapter discusses each of these options. Section 9.2 considers the merits of the negotiate-arbitrate model. Section 9.3 and 9.4 consider the alternatives, and in particular tariff setting and incentive regulation.

The Commission favours ongoing use of a CPI-X price cap. The implementation issues associated with adopting this approach are considered in chapters 10 and 11.

9.2 Negotiate-arbitrate model

The Commission's submission to the Productivity Commission's Review of the National Access Regime considers the merits of the negotiate-arbitrate model, considering both the economic theory underpinning the approach and the Commission's experience in implementing the arrangements in regulating telecommunication and airport services.

The Commission's submission concludes that the experience to date points to a number of fundamental disadvantages with the approach. The main limitations are as follows:

- *The high propensity for parties to seek arbitration rather than negotiate outcomes.*

The Commission's experience in conducting arbitrations in relation to telecommunications services suggests that a 'take it or leave it' approach is common when the access seeker has little or no countervailing market power. The net outcome has been a high propensity to seek arbitrated outcomes rather than engage in meaningful negotiations.

The Commission's experience in administering the new investment provisions of the current prices oversight arrangements suggests that the propensity to seek arbitrated solutions could also be high under a regulatory framework that relies on the negotiate arbitrate model. It also suggests that any such arbitrations would be complex.

The new investment provisions of the current prices oversight arrangements encourage commercially negotiated outcomes. However, the Commission has not yet received a proposal that has been fully agreed to by the various parties. The Commission has had to address the question of whether price increases proposed by

the airport operators relate to “new investment”, whether the new investments are “necessary”, and the costs proposed including the rate of return proposed. The process has inevitably required the Commission to assess the details of proposals submitted.

- *Lack of certainty.*

Arbitrations about service specific issues limit the scope for the regulator to consider broader issues. Combined with the bilateral and closed nature of arbitrations under Part IIIA the outcome is likely to be uncertainty about pricing outcomes.

- *Time consuming and costly processes.*

Arbitrations are time-consuming to conduct and so impose costs and delays on participants, at an inevitable cost to the efficiency of the market and the certainty with which new entrants can establish their own operations. Appeals can further delay the process.

In New Zealand the ‘light handed’ regulatory approach does not set airport charges but requires airport operators to consult with airport users. Since privatisation the new operators of the larger airports have substantially increased prices. The outcome has been protracted and costly litigation between airlines and the major airports including Auckland and Wellington Airports. A similar outcome could be expected if Part IIIA was relied on, both in terms of the arbitration process, but also the scope for appeals to the Australian Competition Tribunal and then to the Federal Court.

- *Prohibitive costs for some access seekers.*

This is most relevant in two circumstances. The first is where there are a large number of possible users operating in diverse downstream markets, whose use of the facility is incidental. The second is where the access seeker is a small business. For these access seekers the costs of arbitration may be prohibitive¹³⁵.

These costs and delays are particularly relevant to new entrant airlines. Impulse and Virgin Blue have both argued that timely access to airports facilities on reasonable terms and conditions is essential to their success. A particular concern for them has been establishing access to passenger terminal facilities on reasonable terms and conditions.

The slow and costly processes involved in Part IIIA could render declaration/arbitration ineffective. At a minimum it would delay pricing outcomes when quick outcomes are most important. Higher access costs could affect the probability of success of the new entrants or limit their size and growth.

The Commission’s submission to the Productivity Commission’s Review of the National Access Regime also identifies other potentially economically inefficient

¹³⁵ This is potentially an issue at airports where some of the access seekers operate relatively small businesses. See for example Australian Competition and Consumer Commission 1999, *Delta Car Rentals Request for Determination – Statement of Reasons*.

outcomes from the negotiate-arbitrate model. One is that negotiations may result in rent sharing rather than efficient pricing outcomes. Another is that the framework could deter investment into higher risk greenfield investments. Both are discussed in chapter 7 of that submission.

The negotiate-arbitrate model was originally described as a ‘light handed’ model with arbitration only as a last resort. The experience since then suggests this is not the case.

The limitations of the negotiate-arbitrate model are most apparent where services are vertically separated as is the case with airports. The model seems to have been designed to cater for circumstances where the service provider is vertically integrated and the provider may have incentives to deny access to protect its business interests in downstream markets either through price or non-price means. By contrast when a service provider is vertically separated it will usually have little incentive to deny access. While the service provider may exploit its market power by setting high prices it is unlikely to manipulate other terms and conditions to limit access. Nevertheless the negotiate-arbitrate provisions allow an access seeker to seek arbitration over non-price terms and conditions. This could result in unnecessarily intrusive arbitration over detailed operational matters.

Part IIIA has played, and continues to play, an extremely important role as a catalyst for the development of industry specific regimes. However, as discussed above, Part IIIA and the negotiate-arbitrate model have a number of limitations. These limitations are particularly acute in relation to airports. The Commission considers that well designed airport specific price regulation will give more workable and efficient outcomes.

9.3 Pricing principles and tariff setting

The alternatives to Part IIIA and the negotiate-arbitrate model revolve around providing greater guidance on pricing. Such guidance could supplement negotiations or replace them. This section considers two possible alternatives, pricing principles and tariff setting. A third option would be to implement price caps. This option is considered in section 9.4.

Pricing Principles

Pricing principles could take the form of:

- Guidance on the economic principles for setting prices. Examples include the pricing principles proposed by the Productivity Commission in its Review of the National Access Regime or the Commission’s guidelines on telecommunications access pricing principles¹³⁶.

¹³⁶ Australian Competition and Consumer Commission 1997, *Access Pricing Principles Telecommunications – a draft guide*,

- Maximum and minimum prices. These could be stated explicitly or by reference to the principles that they would set on. As an example, the New South Wales rail access regime states that prices must be between the incremental cost of providing a service and the stand alone cost of providing the service¹³⁷.

Setting pricing principles could be a useful supplement to negotiate-arbitrate provisions. They have the advantage that they provides additional guidance to parties in negotiations and may improve the probability of successful outcomes. As stated in the Hilmer Report: “Once principles are in place the parties have a greater degree of certainty over their respective rights and obligations”¹³⁸.

Nevertheless the experience to date has been mixed. The guidelines developed by the Commission for telecommunications adopt detailed cost based principles. Even with this guidance many parties have elected to seek Commission arbitration over pricing matters. So far over 30 disputes have been notified.

Similarly a number of rail matters have gone to arbitration by the Independent Pricing and Regulatory Tribunal in New South Wales, even though the rail access regime includes pricing principles.

Both examples suggest that setting general pricing principles at best only partially addresses the limitations of the negotiate-arbitrate model. The experience to date suggests that these problems are better addressed by more specific pricing guidance. One way of doing this could be to more tightly define pricing principles. The more specific the pricing principles are the more they resemble tariff setting.

Tariff setting

Tariff setting could take the form of specifying or listing prices. The most common way of setting tariffs is to use the cost of service to determine the allowable revenue to the service provider. This allows the service provider to set prices that cover the costs of providing the service. It would include a return on capital, return of capital (depreciation) and operating , maintenance and administration costs. The approach involves determining a rate of return allowed on capital which means that the service provider’s assets need to be valued to form a ‘rate base’ and a rate of return specified to apply to this base.

This approach is similar to the rate of return approach that has been used extensively in the United States for more than a century.

Tariff setting has a number of advantages. It provides clarity and certainty for all of the parties about pricing outcomes. It can also reduce the delays and costs associated with

¹³⁷ Independent Pricing and Regulatory Tribunal of NSW 1999, *Aspects of the NSW Rail Regime – Final Report*, Review report 99-4.

¹³⁸ Independent Committee of Inquiry into a National Competition Policy (1993), *National Competition Policy* (F. G. Hilmer, Chairman), AGPS, Canberra, p. 255.

the negotiate-arbitrate model and the possibility of negotiated rent sharing outcomes raised by King and Maddock¹³⁹.

Tariff setting also has a number of disadvantages. One is that it may be heavy handed compared to the negotiate-arbitrate model. The reason for this is that all access prices are regulated from the outset while arbitration is only triggered on an as needs basis.

The main disadvantage of tariff setting is the incentives for efficiency when a cost of service approach is used. Prices set on this basis may provide weak signals for the service provider to minimise production costs. They may also provide incentives for the service provider to increase the rate base (and returns) by choosing an inefficient mix of capital and labour inputs (the Averch-Johnson effect).

To a large extent the lack of incentives for efficiency can be addressed by setting tariffs on the basis of efficient rather than actual costs. For example prices could be based on the forward looking costs that an efficient firm would incur in providing the service. This approach has been adopted by the Commission in administering the Telecommunications access regime¹⁴⁰. They can also be addressed through the use of price caps.

9.4 Incentive regulation – price caps

Price caps set the maximum price that a service provider can charge for a specified period. They allow the service provider to retain profits achieved by increasing volume or reducing costs.

Price caps can be set on the basis of a cost of service approach or by using pre-existing prices as a starting point. In either case prices can be adjusted over time to reflect future cost changes. Typically price caps are set by applying CPI-X adjustments (or RPI-X in the United Kingdom) to a starting point, with CPI a proxy for changes to input prices, and 'X' an estimate of future productivity gains.

In Australia price caps have been applied in economic regulation of airports, gas, electricity and telecommunications. In the United Kingdom they have been used in regulating these sectors as well as water and rail.

As with the tariff setting model price caps have the advantage that they provide clarity and certainty for all of the parties about pricing outcomes.

Price caps have the added advantage that they provide incentives to the service provider to reduce production costs. Where existing prices are used as a starting point price caps may also have the advantage of simplicity.

¹³⁹ King, S. & Maddock, R. 1996, *Unlocking the Infrastructure, The reform of public utilities in Australia*, Allen and Unwin, Sydney.

¹⁴⁰ See Australian Competition and Consumer Commission 1997, *Access Pricing Principles Telecommunications – a draft guide*.

However, price caps also have possible disadvantages. One is that they do not necessarily provide incentives to provide appropriate quality of service standards. This concern arises because price caps provide strong incentives for the service provider to cut costs. One way that this can be achieved is through quality of service reductions.

A second is that price caps may not provide adequate incentives for new investment. This is most likely to be the case where the investment is quality enhancing rather than capacity enhancing.

A third possible disadvantage of price caps, and for that matter any form of tariff setting, is that they do not address non-price terms and conditions of access. These non-price terms and conditions could be used by an operator to prevent access.

On balance the Commission proposes continued use of price caps. The advantages of price caps in terms of incentives for efficient operation of facilities are well documented. Furthermore the Commission considers that the disadvantages of a price cap can be addressed through a well designed and implemented framework.

This submission includes proposals for implementing a price cap. It includes proposals for provisions to provide appropriate incentives for efficient new investment. These provisions are discussed in chapter 10. The submission also proposes ongoing monitoring of quality of service.

In relation to non-price terms and conditions, the Commission notes that airports are vertically separated. When vertically separated service providers normally have every incentive to provide access. The issue is not about access per se, rather about the price of access. By contrast if the service provider is vertically integrated it may have incentives to prevent access through non-price terms and conditions in order to protect its upstream or downstream operations from new entry.

10. INCENTIVES FOR NEW INVESTMENT

10.1 Introduction

Airports are infrastructure intensive operations that require substantial amounts of new investment over time. Price caps may not provide airport operators with sufficient incentives to undertake such investments unless there are additional provisions to compensate them for the costs incurred. The problem can arise when the airport operator cannot increase prices under a price cap, even if airport users want a new investment to go ahead and would be prepared to pay more for the resulting benefits.

In general price caps provide strong incentives to carry out cost saving investments. However, they do not always provide adequate incentives for capacity and quality enhancing investments. The risk is sub-optimal investment – where investments are not undertaken even though the benefits to society as a whole outweigh the costs. Under such circumstances additional provisions to provide airport operators with the incentives to carry out investment are warranted.

This chapter considers possible distortions to investment incentives under a price cap and options for addressing them. Section 10.2 outlines circumstances where a price cap does and does not provide adequate incentives for new investment. Section 10.3 sets out possible options for addressing investment distortions that may arise under a price cap. Section 10.4 proposes revised new investment provisions.

To assist it develop this submission the Commission sought advice from the Network Economics Consulting Group. Its paper “Treatment of New Investment at Regulated Airports” is provided at attachment D.

10.2 Price caps - when are new investment provisions required?

Under a price cap airport operators can improve their profit performance in two ways. One is to reduce costs, the other to increase revenues for any given cost structure. Airport operators will have strong incentives to carry out investments which achieve either of these objectives. In such cases price caps should achieve efficient investment outcomes without any additional investment incentive provisions. In practice investments may not achieve either objective but still be socially desirable.

Airport operators may carry out investments for a number of purposes. These can be classified as follows:

- cost saving investments;
- capacity enhancing investments;
- quality enhancing investments; and
- replacement of assets.

This section assesses the extent to which price caps provide adequate incentives for investment in each of these categories. A more detailed assessment is provided in NECG's paper (see attachment D).

Cost saving investments

Cost saving investments typically reduce ongoing operating and maintenance costs or extend assets lives. An example could be investment into new runway flanks which reduce runway cleaning requirements.

No additional incentive mechanisms should be required to achieve efficient levels of investment into cost saving investments *if the cost savings are achieved by the airport operator*. Under a price cap such investments should add to the airport operator's profitability if they reduce total costs over time.

By contrast, if the cost savings accrue to airport users, the airport operator may have no incentives to carry out such invests. This arises because of vertical separation of the airport operator from airlines and other service providers at the airport. If vertically integrated the entity would have every incentive to carry out such cost saving investments irrespective of where the cost saving were achieved. If vertically separated, the airport operator is unlikely to benefit from investments that reduce costs to airport user costs unless there are additional investment provisions outside the price cap.

Capacity enhancing investments

Typically capacity enhancing investments pave the way for traffic growth over time. In turn under a price cap such increases in traffic volume translate into higher revenues. An airport operator will have strong incentives to carry out such investments if the additional revenues from the new facilities exceed the costs of constructing them. Whether or not this would be the case is an empirical question, dependent on the incremental cost of new facility, the additional traffic volume generated and the per unit revenue generated under the price cap.

Forward looking pricing models such as the pricing model proposed by Turvey¹⁴¹ show the conditions under which a capacity enhancing investment will pay for itself under a price cap – and by implication the conditions under which it will not. Such models take into account:

- the investment requirements resulting from projected demand over the regulatory period;

106 Turvey, R., (1969), 'Marginal Cost', *Economic-Journal*, 79(314), June 1969, pp. 282-99.
(1971), 'Rates of Return, Pricing and the Public Interest', *Economic-Journal*, 81(323 813), Sept. 1971, pp. 489-501.
(1974), 'How to Judge when Price Changes will Improve Resource Allocation', *Economic-Journal*, 84(336), Dec. 1974, pp. 825-32.

- the net additional (efficient) costs to the service provider of the new investment, or as Turvey describes it the “marginal cost” of the investment¹⁴²; and
- the revenue impact of the projected demand growth.

NECG’s report to the Commission sets up a model to explore these issues in the context of a CPI-X price cap. The model establishes the conditions under which a capacity enhancing or cost saving investment will pay for itself.

In general the more direct and the stronger the relationship between the cost of capacity enhancing investments and the additional revenues generated by them, the less need there is for additional investment incentives outside the price cap. Conversely, there is a stronger case for additional new investment provisions the less direct the relationship.

In practice determining whether a capacity enhancing investment pays for itself may be difficult. One of the main complications is identifying the extent to which the investment generates increased traffic. As an example, additional runway capacity accommodates more aircraft take offs and landings during peak periods. However, this additional traffic does not necessarily add to total traffic volumes. The additional peak period capacity may merely allow airlines to switch from off-peak to peak period time slots. In these circumstances the investment may be better characterised as a quality enhancing investment.

The case for having new investment provisions outside the price cap is stronger the less well understood the relationship between costs and revenues. Under these circumstances the risk is under-investment by airport operators.

Quality enhancing investments

Quality of service improvements can take many forms. These include:

- runway lighting, fuel containment and other investments which improve safety;
- cleanliness and spaciousness of airport passenger terminals;
- speed and reliability of baggage processing equipment;
- availability of aerobridges; and
- and adequacy of vehicle access to the terminals.

As discussed above the availability of runway landing and take-off slots during peak periods may also be a quality measure.

Poor quality of service may deter some people from travelling, especially if the service provided results in delays or reduces availability of peak period services. As such quality enhancing investments may generate additional traffic volumes and revenues. Nevertheless quality improvements are unlikely to significantly contribute to improved

¹⁴² This includes the impact on operating as well as capital costs.

revenues. This is because the relationship between the quality of airport services and traffic volumes is likely to be weak except in extreme conditions. Given this, investment provisions to provide additional incentives for quality of service investments would seem to be warranted.

Replacement of assets

This type of investment maintains the existing service potential of assets. It typically involves like-for-like replacement of assets. NECG's report concludes that there is no basis for additional investment provisions to cover such investments:

To the extent that this investment represents the most efficient means of maintaining without enhancement existing service potential, it is most appropriate to treat such investments as though they were a form of maintenance expenditure.

Given the neutral impact on both costs and revenues over time from planned like-for-like cyclic renewal of assets, investments with a maintenance purpose should be included within the price cap. These would provide no basis for modifying the price cap parameters.¹⁴³

Investments with multiple purposes

Often investments serve more than one purpose. For example, the Multi-user Integrated Terminal proposed by Adelaide Airport is likely to address each of the purposes discussed above. It will increase capacity, replace existing assets, improve quality of service, and may improve airline operating costs. It may be desirable to separate out the costs of the investment attributable to the different purposes and pass through investment costs or provide investment incentives in other ways according to the principles discussed above. This may not be possible to do in practice. At a minimum it would be administratively complex.

10.3 Options for implementing investment provisions

The above discussion suggests that there are a number of scenarios where investment incentive provisions would be desirable. They arise where investments are considered desirable by users and were the users would be willing to pay for the improvements. Under a pure price cap such price increases are not possible – resulting in under-investment in the circumstances discussed above.

This section considers four options for implementing investment provisions:

- No additional new investment provisions;
- Set X values to accommodate anticipated new investment;
- Adjust prices as new investments come on-line;
- A hybrid of the above options.

¹⁴³ NECG, Treatment of New Investment at Regulated Airports, Report for the ACCC, April 2001, page 12. (check)

In each case the investment provisions compensate the airport operator for the costs and risks incurred in undertaking an investment, either through price rises or through adjustments to the price cap parameters.

This section assesses each of the options against specified objectives. First the objectives for assessing the options are discussed. Then the options are assessed against the objectives drawing on the Commission's experience to date with the current regulatory provisions. The discussion concludes in favour of revised new investment provisions.

Assessing the options - objectives

Any new investment provision should have the following properties:

1. It should promote economically efficient investments;
2. It should address market power concerns; and
3. It should be administratively simple.

For purposes of this assessment these properties will form the basis of the objectives used to assess the various options.

The first of these, that any new investment provision promotes economically efficient investments, addresses the requirements of dynamic efficiency. Dynamic efficiency means that firms (in this case the airport operators) have appropriate incentives to invest, innovate and improve the range and quality of services, increase productivity and lower costs over time. It requires that prices are sufficiently high to provide incentives for the operators to undertake efficient maintenance and upgrading of infrastructure. At the same time it requires mechanisms to address possible "Averch-Johnson" and "gold plating" outcomes.

The second objective, addressing market power concerns, goes to the fundamental efficiency objectives behind regulation in the first place. If the new investment provisions do not address market power that airport operators may have in relation to new investment it may undermine the overall effectiveness of the regulatory regime.

The third objective, administrative simplicity, is important in terms of delivering a workable regulatory framework that is understood by the parties. Simplicity is also important in limiting the costs of administering the regulations for all of the parties, including the airport operators, airport users and the regulator.

Options 1: No additional investment provisions

Under this option the only incentives to carry out investment would be those already inherent in the CPI-X price cap. This approach would not adjust prices to compensate for new investments or factor new investment costs into the determination of X values.

This approach meets two of the three objects outlined above, namely administrative simplicity and addressing market power.

However, it fails the objective of promoting efficient new investment. As discussed in section 10.2 this approach would provide incentives for some types of new investment, but not others. It is likely that certain quality and capacity enhancing investments would not proceed even if welfare enhancing for society as a whole.

This option is not recommended.

Option2: Set X values to accommodate anticipated investment

Setting X values to accommodate anticipated investment is widely used in regulating utility prices in Australia and the U.K.

The Australian gas and electricity codes, which cover regulation of transmission services, adopt this approach. In both cases regulated prices are set using an optimised depreciated replacement cost (ODRC) valuation of assets. Using the building block approach projected operating and maintenance costs are added to a rate of return on the asset base and a return on capital (depreciation) to give allowable revenue. Unit prices are then derived by dividing allowable revenue by projected usage levels. The starting point prices and X values in the CPI-X price cap determine both the price levels and price path¹⁴⁴.

In both cases prices are set for a five-year period. Capital expenditure over the five-year regulatory period is estimated at the start of the regulatory period and added into the asset base. Capital redundancy is also factored in.

Similarly in the U.K. airports regulatory framework, prices are reset each five years based on a review of costs and volume projections. New investment over the five-year regulatory period is estimated by the regulator in consultation with the industry and rolled into the asset base. Where the U.K. model differs from the electricity and gas models is that the asset value used for determining prices is based on the sale price of the airports, not the ODRC value¹⁴⁵.

The approach has a number of desirable properties. In terms of the objective of promoting economically efficient investments it appears to be consistent with forward looking pricing models such as the pricing model proposed by Turvey¹⁴⁶ in that it take into account both projected costs and revenues. In modelling whole of business costs and revenues it also limits compensation to the service provider to that required and addresses the market power objective.

¹⁴⁴ For more details see the Commission's *Draft Statement of Principles for the Regulation of Transmission Revenues*, May 1999.

¹⁴⁵ Note: in the U.K. the airports were floated at around the book value of assets, in Australia they were sold by trade sale

¹⁴⁶ Turvey, R., (1969), 'Marginal Cost', *Economic-Journal*, 79(314), June 1969, pp. 282-99. (1971), 'Rates of Return, Pricing and the Public Interest', *Economic-Journal*, 81(323 813), Sept. 1971, pp. 489-501.

(1974), 'How to Judge when Price Changes will Improve Resource Allocation', *Economic-Journal*, 84(336), Dec. 1974, pp. 825-32.

At the same time the approach has limitations. The main one relates to investment outcomes. Factoring investment into X values may not yield efficient investment levels. There are two main reasons for this.

The first is the difficulty of correctly specifying investment projections for purposes of setting the price cap parameters. In general the regulator will have limited information on which to determine this. At the same time the service provider may have strong incentives to overstate investment requirements since this will give higher price outcomes. Similarly airport users may have incentives to understate investment requirements. One approach might be to set investment projections on the basis of outcomes agreed to by airport operators and airport users. The experience here and in the U.K. suggests that such agreement is difficult to achieve.

A further complication in projecting investment levels over a specified regulatory period is uncertainty about demand levels and costs. The timing and size of new investments is highly sensitive to traffic volume. Costs can also be difficult to determine in advance. For example, projected costs of the proposed multi-user domestic terminal at Adelaide Airport moved substantially following discussions with users. To a large extent the cost revisions reflected the needs of the prospective users.

The second and perhaps more important issue is the incentives for airport operators to carry out the investments once they have been factored into the price cap parameters. The risk is that airport operators will not carry out desirable investments or that they will unnecessarily delay them. The incentives to do this may be strong. Prices are locked in over a fixed period (in Australia and the U.K. this is usually a five-year period) irrespective of the capital expenditure actually carried out.

The risk of under-investment can be addressed by setting service standard requirements. In the U.K., for example, regulation of water transmission and distribution services sets clearly specified service standards. Similarly in Australia the electricity code sets out a number of service standard requirements.

The experience to date in the U.K. suggests that the prospect of operators under-investing is a real risk. Where quality of service requirements are not in place there has been chronic under investment in rail track services subject to CPI-X price caps. There is also some evidence to suggest that airport operators in the U.K. have under invested¹⁴⁷.

In relation to the objective of administrative simplicity, the approach of factoring new investment into the price cap parameters is easy to administer *once the parameters are in place*. However five-year reviews of the price cap parameters in the U.K. have been lengthy and complex. This suggests that the administrative requirements can be quite onerous for all of the parties.

On balance the Commission considers that this approach warrants consideration. It has the potential to deliver efficient investment outcomes and has the attraction of taking a whole of airport perspective in determining the cost and revenue implications of

¹⁴⁷ BAA has underspent against investments factored into the X values. The most significant contributor to this has been the delay to the terminal 5 development at Heathrow Airport.

investments. It has also been widely used in price regulation both in Australia and overseas.

Nevertheless there are downside risks in terms of under investment. If this approach is pursued consideration of options to address these downside risks would be useful, and in particular possible mechanisms to provide incentives for the airport operator to carry out investments as and when required. In the U.K., for example, regulators have stated that they will consider investment under-spending in subsequent reviews. Alternatives might be to penalise operators for poor investment outcomes or simply to monitor and make transparent investment outcomes.

Option 3: Adjust prices as investments come on line

Adjusting prices as investments are made is the approach adopted in the current regulatory framework. Direction number 20 allows the costs of “necessary new investments” to be passed through the price cap provided they have been approved by the regulator following an assessment of the proposal against certain specified criteria. The criteria focus on the support from users for new investment proposals and the relationship between the proposed price increases and costs. Details on the arrangements are provided in chapter 2 of this submission.

In effect the current regime allows for a specified dollar increase in prices. A variant on this is would be a $CPI-X+k$ price cap, in which k is adjusted over time to compensate the airport operator for investments as they are undertaken.

The main advantage of this approach is that it directly links prices to new investments. Price increases are only granted when the investment is undertaken. This removes the possibility that airport operators are compensated for investments not undertaken or investments delayed.

The approach also provides flexibility. It has the capacity to address new investment needs as they arise. In this way the timing and scale of new investments can be determined taking into account the latest information on traffic volumes and costs.

The current arrangements also have the advantage that they encourage airport operators to consult with airport users. One of the problems with any new investment provision is determining appropriate levels of investment and resulting quality of service standards. The difficulty arises because of the subjective nature of quality of service, and the different preferences of different travellers (eg backpackers versus business travellers). Consultation between airport operators and airport users can be an effective means of addressing the issues. It can also address potential concerns about gold plating. Consultation has the potential to work well where, as in this industry, there are a limited number of well-informed users. Brisbane Airport provides an example of how such consultative arrangements can work. There the airport operator has successfully negotiated price increases to recover the costs of around \$30 million in new investments.

At the same time the approach, at least as currently implemented, has some limitations. It is administratively complex. Each pass through must be assessed by the regulator, first to assess whether it meets the definition of “new investment” and secondly how it performs against the assessment criteria in Direction 20. So far the Commission has

received dozens of applications for new investment proposals, including for small items such as drainage works, baggage room fans, installation of doors to passenger terminals and revegetation works. The process imposes administrative costs on the airport operator, airport users and the regulator and in some cases may delay the investment works.

A lack of clarity in the regulatory instruments has added to the administrative complexity of the regime and created considerable uncertainty about what could be passed through the price cap. The Government factored in significant new investment spending into the 'X' values. Airport operators and users were advised of this during the airport sales process. However, the projects or dollar amounts factored in were not disclosed. Subsequent negotiations between airport operators and users failed because of this. In considering new investment proposals airport users argued that the costs could already have been factored into the 'X' values. Airport operators put the position that they would not invest without a pass through. The failure of negotiations and requests from the industry for clarification led the Commission to provide guidance on the new investment provisions¹⁴⁸. Since then airport operators and users have reached agreement on a range of projects. Details are provided in chapter 2.

A further complication is that the framework requires each of the proposals to be assessed individually on their merits. A more satisfactory way to assess the impact of new investments on the airport operator may be to take a whole of airport perspective as is the case with option 2 (setting price cap parameters to accommodate anticipated investment).

In relation to user consultation, while this approach to new investment has a number of advantages there are also risks of strategic gaming, both from airport operators and airport users. For example, incumbent airlines may not support investments that promote and assist new airline entry. NECG considers possible strategic behaviour in its consultancy report in some detail (see attachment D).

Overall the approach of adjusting prices as investments come on line has some merit in terms of investment outcomes and encouraging consultation between airport operators and airport users. However, if pursued as an option, the Commission suggests that three changes should be considered:

- Changes to provide clarity about what can be passed through the price cap and what has already been factored into the price cap parameters;
- Changes to address the administrative complexity of the current pass through provisions. For example, a mechanism to encourage bundling of new investment proposals rather than multiple separate proposals; and
- Changes to limit the assessment of new investment proposals to major proposals.

¹⁴⁸ In April 2000 the Commission released a position paper *new Investment Costs Pass-through – The distinction between “necessary new aeronautical investment” and other forms of expenditure, as it relates to the price cap*. The Commission conducted a public consultation process in developing the paper.

The last of these proposed changes is discussed below in the context of the ‘hybrid’ option.

Option 4: A hybrid

A hybrid model could combine aspects of options 2 and 3. The hybrid option preferred by the Commission would only pass through the costs of major projects. Other projects would be funded by the airport operator, but with compensation through the price cap parameters as in option 2.

The Hybrid model would need to distinguish between investments that could and could not be passed through. There are a number of ways in which this could be done. For example, the pass through provisions could be limited to:

- developments over a specified dollar amount;
- developments requiring development planning approval under the *Airports Act*;
- developments that could not be anticipated at the time the ‘X’ values were set.

As a variant on this airport operators could be asked to set out their forward investment plans over a five-year period, with pass throughs limited to projects not in the plans.

10.4 Revised new investment provisions

The discussion above suggests that having a price cap without provisions to encourage investment (option 1) could result in substantial under investment. Options 2 (factoring anticipated investment spending into the price cap parameters) and 3 (investment pass through provisions) could go a substantial way to addressing concerns about under investment. Nevertheless, as discussed above, both have limitations.

The Commission proposes the inclusion of investment provisions as part of any price cap arrangements to apply to airports. These provisions would compensate users for undertaking investments. Without such provisions it seems likely that investment outcomes would be sub-optimal in that some investments would not be undertaken even if users wanted them and were prepared to compensate the airport operator for undertaking them.

From an economic efficiency point of view any new investment provisions should only compensate airport operators if the price cap provides inadequate incentives by itself. In practice, and as discussed in section 10.2, it is likely to be difficult to distinguish when the price cap provides sufficient incentives and when it does not, especially when an investment combines multiple purposes. Given the likely administrative complexity and possible subjectivity this approach is not recommended. Instead the Commission proposes provisions which cover all investments.

A minimal change option would be to maintain new investment cost pass through provisions, but address the more serious limitations of the approach. This would involve addressing the lack of clarity and high administrative costs associated with the current provisions.

On balance, however, the Commission favours a different approach. It suggests adoption of a hybrid approach provided that it can be set up in a way that is clear and administratively workable. This approach would factor in ongoing smaller investments into the 'X' value or other price cap parameters, but still provide for a pass through of the costs of major projects.

The hybrid approach combines a number of the advantages of options 2 and 3. As with option 3 it would directly link price increases to the investments undertaken for the major investments. It could also be set up in a way that encourages consultation. At the same time the hybrid model would reduce the administrative burden associated with the current arrangements since any pass through provisions would only apply to major projects. Examples of such projects could be major terminal developments such as the Adelaide Airport multi-user integrated terminal.

The challenge with this approach is to provide clarity about what projects are eligible for a pass through. Lack of clarity can result in two problems. The first mirrors those of the current framework. The lack of clarity initially resulted in a failure in consultation and negotiations, with the parties arguing about what is eligible for a pass through rather than focusing on the merits of particular investment proposals.

The second possible problem associated with lack of clarity is the risk of gaming. For example, if a dollar amount is specified as the cut off for the pass through arrangements operators may try to bundle investments to reach the cut off, or gold plate to reach the cut off. Such gaming has been a feature of the current arrangements. One example of this is that even though the current pass through provisions relate to "new investment" some operators have tried to pass through costs which solely relate to labour costs. Another example is the proposal by one operator to recover the costs of investments already carried out by the FAC prior to privatisation.

To address issues of clarity the Commission suggests that there be a clear and workable cut off between what can and can not be passed through. The Commission also suggests that the projects and dollar amounts factored into the price cap parameters should be made available to all interested parties.

11. IMPLEMENTING A PRICE CAP

11.1 Introduction

A number of implementation issues arise if a price cap is adopted. This chapter considers the main issues. Section 11.2 discusses starting point prices and 'X' values for a new price cap. Congestion has arisen as an issue at Sydney Airport. Section 11.3 considers possible implications for a price cap. Clarity of coverage of the price cap is discussed in section 11.4, while section 11.5 considers the legislative base for a price cap.

11.2 Starting point parameters for the price cap

Introduction of new price caps for regulated airports raises the question of what price cap parameters to adopt. Both the starting point prices for the price caps and the 'X' values would need to be reviewed.

Starting point prices

Two options are available for starting point prices. One is to carry over prices from the previous price cap. The second is to reset the prices. Prices could be reset by reference to costs (see for example the Commission's Sydney Airport decision¹⁴⁹) or by reference to some benchmark. A benchmark could set prices based on a 'best practice' airport operation or simply set prices by reference to other comparable.

The current prices are a carry over from the prices charged by the FAC before privatisation. These charges were determined on a network basis. They were also determined on a single till basis. This means that the current charges are unlikely to closely correlate to aeronautical costs.

A number of airport operators argue that their current rate of return on aeronautical assets is low. If this is the case then resetting prices to reflect aeronautical costs would result in price increases. The impact on prices of resetting prices based on some efficient benchmark is less clear. Presumably the resulting prices would be no more than the operator's current costs. The resulting prices could be higher or lower than the current charges.

The Commission proposes the first of the two options for starting point prices, namely a carry over of prices from the existing regulatory arrangements. The alternative is likely to result in significant increases or decreases in charges. Given that these starting point prices relate to existing, mostly sunk assets, there is little if any reason to make such a change from an economic efficiency perspective. Instead the main effect of such a change would be a distributional one, either a transfer from airlines and their passengers to airport operators or visa versa. The Commission notes that there is nothing to suggest that any commitments were made to airport bidders during the sales process to reset prices.

¹⁴⁹ Australian Competition and Consumer Commission, *Sydney Airports Corporation Limited Aeronautical Pricing Proposal, Decision*, April 2001.

These arguments have been recognised in the U.K. There assets are not revalued as part of the current regulatory framework. Instead, and as proposed by the Commission in this submission, prices are carried over from one five year regulatory period to the next.

‘X’ values

The current ‘X’ values were set to reflect “expected general productivity improvements which can be made in the delivery of aeronautical services at each airport”.¹⁵⁰ The Commission provided advice to the government on the X values. The advice was accepted. In formulating its recommendations the Commission modelled the expected costs and revenues of airports. The modelling drew on traffic volume projections and expected cost savings (based on an analysis by BZW of each airport). It also factored in estimates of new investment spending, also provided by BZW.

The Commission proposes that future ‘X’ values are set on the same basis as for the first five-year regulatory period, namely on the basis of expected productivity gains. The ‘X’ values should also reflect the approach adopted to new investment.

An alternative approach could be to retain the current ‘X’ values. Another approach could be to set ‘X’ to zero. In either case the approach would be arbitrary and is not recommended by the Commission.

A less arbitrary approach would be to reset ‘X’ values on the basis of an assessment of costs. However, the Commission does not recommend this approach for the reasons set out in the discussion above about starting point prices.

The Commission conducted a major review of price cap arrangements in the telecommunications industry earlier this year¹⁵¹. The report discusses starting point prices and ‘X’ values in detail. The findings are relevant to the airport price caps. The Commission suggests that the Productivity Commission have regard to the report in considering airport price cap issues.

11.3 Congestion management

The issue of congestion management has been raised in the context of Sydney Airport’s aeronautical pricing proposals. The limited size of Kingsford Smith airport limits the scope for the airport operator to increase capacity, and in particular runway capacity, at the airport. Already many of the peak period slots at the airport are full. As traffic volumes grows the congestion problem will become more acute. The problem is compounded by the Government’s decision not to proceed with the development of an airport at Badgery’s Creek (or other alternatives), the movement cap at the airport and the Government’s protection of landing slots for regional airline users.

¹⁵⁰ Department of Transport and Regional Development, Pricing Policy Paper, November 1996, page 2.

¹⁵¹ Australian Competition and Consumer Commission, *Review of Price Control Arrangements*, February 2001.

In its decision on Sydney Airport's Aeronautical pricing proposal¹⁵², the Commission encouraged the airport operator to introduce appropriate peak period charges. The decision argued that well designed charges would:

- encourage some airlines to switch from peak to off peak period slots; and
- encourage airlines to use slots more intensively, by using larger aircraft during peak periods.

In the context of price cap regulation the question is whether there should be special provisions relating to congestion management.

Under the current regulatory framework the *Airports Act* includes provisions addressing demand management at airports. Part 13 (division 6) of the *Airports Act* establishes a demand management scheme. This allows the Minister to:

- prevent certain aircraft categories from using an airport;
- introduce a slot allocation scheme; and
- limit aircraft movements at an airport.

The Ministerial Directions made pursuant to section 20 of the PS Act also allow the charges under demand manage scheme to be passed through the price cap.

The price cap provides airport operators with the flexibility to rebalance charges. It would allow them to introduce peak charges, minimum charges and other measures to better manage congestion.

In general the price cap should also provide airport operators with incentives to introduced appropriate charging structures. Poorly managed congestion limits the traffic throughput at an airport in terms of passengers and landed tonnes. Under the price cap the airport operators have strong incentives to maximise traffic volumes at the airport. They retain the additional revenues associated with those higher volumes. They also benefit from the additional non-aeronautical revenues generated by increased traffic.

The price cap, then, should encourage the airport operators to set charges which most efficiently use the available infrastructure, in other words the charges which maximise traffic volumes. For this reason there is no clear reason to include congestion management provisions in the prices oversight arrangements.

11.4 Clarity about coverage of the price cap

The current regulatory framework leaves an undue amount of uncertainty as to which services are notified. Some degree of uncertainty is inevitable: cases will always emerge in grey areas that were outside the draftsman's contemplation. However the

¹⁵² Australian Competition and Consumer Commission, *Sydney Airports Corporation Limited Aeronautical Pricing Proposal, Decision*, April 2001, page 207.

airports framework is unclear in relation to a number of services which were in existence at the time of its drafting.

The issue of taxi fees exemplifies the hazy boundary of the price cap. Landside roads are passenger processing facilities. The provision of such facilities is an aeronautical service and thus a declared service. The Commission considers that taxi fees are fees for the use of landside roads and therefore are within the price cap. However, the current instruments do not explicitly address the question of taxi charges, giving rise to some uncertainty about whether or not the charges fall within the price cap. Canberra Airport appealed a Commission decision relating to taxi charges. The Federal Court determined in the Commission's favour, concluding that taxi fees imposed at Canberra Airport are within the price cap. The matter has now been appealed.

The Commission's concern is that the matter of taxis could easily have been addressed in the regulatory instruments. The failure to explicitly address the issue has resulted in unnecessary uncertainty for airport operators and airport users. It has also resulted in substantial costs to the various parties because of the litigation process.

A further area in which the framework is unclear is the exclusion of services which are provided under contract with the FAC. The framework provides:

The facilities referred to in sub-paragraphs 4(a) and 4(b) [which give the meaning of aircraft movement facilities and passenger processing activities respectively] do not include, in relation to an airport, the provision of a service which, on the date the airport lease was granted, was the subject of a contract, lease, licence, or authority given under the common seal of the [FAC].

This excludes from the price cap any income received by airport operators under leases of domestic terminals to Qantas and Ansett. Beyond this the breadth of the exception is uncertain. The FAC had licence agreements with a large number of businesses in various categories, but often not all users in the category. For example, many coach operators had licences to collect and deposit passengers at the terminal kerbside. Many other coach operators did not. This raises a number of questions, for example:

- Are individual users in or out of the cap because of the licence arrangements in place at the time of privatisation?
- Or are individual users excluded when other users in the service category were subject to a lease or licence?
- If so what are the relevant service categories?

The current lease licence distinction also has a limited useful life. Provision that refer to the arrangements at a particular point in time become less viable as time passes.

The Commission proposes that the delineation between services in and out of the cap should be more clearly stated. It also proposes that the lease/licence distinction be removed and replaced with an explicit statement of the services in the cap. The delineation could either list services or service categories.

11.5 Legislative base for a price cap

The current framework uses the PS Act as the legislative base for the price cap. Ministerial Directions made under the PS Act provide details on the coverage of the cap and how it is to be administered by the Commission.

The Commission considers that there are significant difficulties with the PS Act, the Directions and the interrelationship between the two, which render the current arrangements complex and uncertain. In practice there is also the limitation that there are no formal penalties for non compliance with the price cap. This section details those difficulties and proposes that any price cap be framed in a separate part of either the Trade Practices Act or the Airports Act.

General issues under the PS Act

The Productivity Commission is currently reviewing the PS Act. The Commission's submission to the Productivity Commission's Review details the Commission's view of the limitations of the PS Act.¹⁵³ The Commission's views are summarised in the following paragraphs.

Voluntary compliance

Under the PS Act a declared company must, in certain circumstances, notify the Commission of a price increase.¹⁵⁴ Failure to notify exposes a declared company to a penalty of \$10,000.¹⁵⁵ However there is no obligation to comply with a decision made by the Commission in response to a notification.

In the period prior to this review airports have tended to comply with the Commission's decisions on notifications. However the objective of a price cap is to prevent firms with monopoly power from charging higher than efficient prices. A firm which increased prices regardless of a Commission decision is likely to entail an exercise of market power. The Commission considers a regime of voluntary compliance does not sit well with the objective of a price cap.

Assessment criteria

The PS Act provides that, when performing its functions under Part III, the Commission shall have particular regard to:

- The need to maintain investment and employment, including the influence of profitability on investment and employment;
- The need to discourage a person who is in a position substantially to influence a market for goods or services from taking advantage of that power in setting prices; and

¹⁵³ Australian Competition and Consumer Commission 2000 *Submission to the Productivity Commission Review of the Prices Surveillance Act 1983*

¹⁵⁴ PS Act s.22(2)

¹⁵⁵ PS Act s.22(1)

- The need to discourage cost increases arising from increases in wages and changes in conditions of employment inconsistent with principles established by relevant industrial tribunals.¹⁵⁶

These criteria clearly reflect the economic policies of an earlier time, when wage restraint and inflation were key issues. The Commission considers these criteria provide a basis for promoting efficient pricing and restraining the exercise of monopoly power.¹⁵⁷ However the Commission considers it would be preferable to express these criteria unambiguously.

Regulatory processes in response to price notifications

The PS Act does not clearly delineate the actions the Commission can take in response to a price notification and may unduly limit the scope of possible responses. It describes one of the functions of the Commission as “tak[ing] in relation to such notices such actions in accordance with this Part as it considers appropriate.”¹⁵⁸ The PS Act also refers to the Commission either not objecting to the proposed increase or alternatively not objecting to a smaller increase.¹⁵⁹

The PS Act does not expressly confer any other power on the Commission. It may be inferred that the Commission has the power to object to a proposed increase and to request that the Minister approve the holding of an inquiry.¹⁶⁰ Beyond this the position is less clear.

The Commission considers there are a range of other actions which would in appropriate cases enhance the prospect of achieving efficient outcomes. This is well illustrated by conditions which the Commission has attached to its approval of notifications of price increases to recover the cost of new investment projects. For example:

- Approving a price increase on condition that the operator delay the increase until a future time such as when the new asset comes into operation;
- Approving an increase on condition that the operator remove the charge at the end of the project recovery period; and
- Approving a price increase based on estimated project cost but requiring the airport operator to calculate the actual price increase on the basis of actual project costs.

The Commission considers it can properly impose such conditions under the current framework but acknowledges that the position is not beyond doubt. Indeed the

¹⁵⁶ PS Act s.17(3). The matters specifically relating to airports which the Commission must have special regard to are discussed later in this section

¹⁵⁷ Australian Competition and Consumer Commission, 1998, *Draft Statement of Regulatory Approach to Price Notifications* www.accc.gov.au

¹⁵⁸ PS Act s.17(1)(a)

¹⁵⁹ PS Act s.22(2)

¹⁶⁰ PS Act ss.18, 19

Commission has been challenged by airport operators as to its power to impose conditions of this nature. The Commission considers the transparency and efficient administration of a price cap would be enhanced if the framework expressly provided a more flexible range of responses.

Requirement to assess price notifications within 21 days

The Commission is required to assess notifications of proposed price increases within 21 days.¹⁶¹ This is very difficult to achieve. Price notifications for airports generally involve complex economic issues. SACL's proposal to increase landing charges by 130%¹⁶², for example, was complex and with significant implications for the various parties.¹⁶³ Accordingly the Commission consults widely with interested parties and often obtains independent economic advice.

To address this issue the Commission has developed an informal process. The Commission encourages declared companies to submit draft notifications which provide a basis for consultation and analysis.¹⁶⁴ As part of this process the Commission generally issues a draft decision and statement of reasons and seeks further submissions from interested parties. When the consultation process is complete the declared company submits a formal notification.

An informal process is less than ideal. Declared companies retain the right to lodge a notification without prior consultation. A company sticking by its entitlement to formally notify without prior notice would seriously impede the Commission's ability to effectively analyse the issues. In the period prior to this review airport operators tended (though not universally) to follow the informal consultative process. However, as the price cap is intended to constrain firms with market power, the Commission considers a regime of voluntary adherence to an informal procedure is inappropriate.

The alternative, a formal process through Commission inquiries, is also less than ideal. It can be a slow and cumbersome way to deal with narrowly based pricing proposals.

Information gathering powers

The Commission is dependent upon regulated businesses making the notification for the provision of information. The PS Act provides the Commission few powers to gather information. The PS Act provides that the Chairman may issue a notice requiring a person to furnish information or produce documentation relevant to a notification.¹⁶⁵ However the penalty of failure to comply with an information gathering notice is \$1000. By contrast the penalties for failing to comply with an information

¹⁶¹ PS Act s.22

¹⁶² Sydney Airports Corporation Ltd, *Revised Draft Aeronautical Pricing Proposal*, September 2000.

¹⁶³ In the case of SACL's proposals the Government also introduced new regulatory instruments part way through the process requiring re-consideration of a number of matters and a further consultation process.

¹⁶⁴ Australian Competition and Consumer Commission, 1998, *Draft Statement of Regulatory Approach to Price Notifications* www.accc.gov.au

¹⁶⁵ Section 32. The power may also be used for certain other purposes: Section 32(1)(d) and (e)

gathering notice issued under section 155 of the Trade Practices Act are, for a body corporate a fine of up to \$10 000 and, for a natural person, a fine of up to \$2000 or imprisonment for 12 months. The Commission considers the penalty for failing to comply with an information gathering order under the PS Act is unduly light and has the potential to impede the effective administration of a price cap.

A further limitation on the Commission's ability to obtain information under the PS Act is that an individual may refuse to comply with a notice on the ground that it might tend to expose the individual to a penalty.¹⁶⁶ The Commission recognises that information powers must not be unfettered but considers the current privilege goes further than is necessary. The Commission considers a more appropriate solution is to remove the privilege but impose a threshold on the exercise of the power. For example the information gathering power in the Trade Practices Act is not subject to a privilege against self incrimination¹⁶⁷ but may not be exercised by the Chairman unless he has a reason to believe the person has information relating to a matter that may constitute an offence. The Commission considers the removal of the privilege against self-incrimination and the introduction of a threshold on the exercise of the information gathering power would assist the effective administration of a price cap.

The information gathering power in the PS Act is not flexible. It may be exercised against the person who has notified the Commission of a price increase but not against other parties such as the suppliers, customers or competitors of that person. There may be occasions when such parties have information which would assist the Commission to perform its functions. Such parties may not wish to be seen to be cooperating freely with the Commission. The Commission considers this restriction on the use of the PS Act information gathering power restricts its utility as an investigative tool.

Specific issues under the airports framework

A number of additional issues arise under the Ministerial Directions which impose the price cap. These are outlined in the following paragraphs.

Relationship between Ministerial Directions and PS Act criteria

Significant uncertainty arises from the interrelationship between the Directions made by the Minister under section 20 and the assessment criteria set out in the PS Act. Section 17(3) of the PS Act provides that "in exercising its powers and performing its functions under this Act, the Commission shall, *subject to* any directions under section 20, have particular regard to" the matters set out in that provision.¹⁶⁸

The Direction setting out price cap arrangements for regulated airports are made by the Minister pursuant to section 20. This Direction is expressed in mandatory terms. It does not on its face appear to give the Commission discretion to take into account any other considerations such as those in section 17(3).

¹⁶⁶ Section 32(2A). The Commission cannot use section 155 of the Trade Practices Act to circumvent this limitation: Trade Practices Act s.155(2A)

¹⁶⁷ *Pyneboard Pty Ltd v Trade Practices Commission* (1983) 45 ALR 609

¹⁶⁸ These criteria are discussed under the heading Assessment Criteria above

The Commission considers it has broad discretion to determine what matters are relevant to its consideration of notices. The Commission considers the words “subject to” in section 17(3) must be read in light of the general reluctance of courts to adopt a construction of an act that would empower the executive to override it by regulation or subordinate instrument. The mandatory tenor of the Direction sits uneasily with the breadth of the Commission’s discretion.

It is arguable that the mandatory approach of the Direction leads to the invalidating of the Direction. It appears to the Commission to be arguable that, because the Direction leaves the Commission with no real discretion whether to apply the price cap, it goes beyond an instrument directing the Commission to give special consideration to a matter. This casts uncertainty on the legal status of the airports price cap regime.¹⁶⁹

In addition, the Commission notes that it was a clear intention of the Government, in proposing the PS Act in 1983, that the prices surveillance function ‘remain within the framework of government policy, including government policies on pricing by the Commonwealth authorities’. Given the change in the economic environment since 1983 it may now be open to question whether it is appropriate in prices oversight legislation that the Minister has a broad power to issue directions confining the scope of the Commission’s powers under the legislation.

Is the price cap mechanism consistent with the price notification mechanism?

The price cap provides for airport operators to pass-back any over-recoveries in a particular year over the following two years. The provisions for pass-back makes it difficult for the Commission to determine that the overall price cap has been breached until at least the end of year 3 or even later after the commencement of the cap mechanism, and even then it may not be possible.

Furthermore, because the price cap formula operates by reference to a bundle of average prices over an annual period, it is not possible to say that a particular price change breaches or will breach the Act.

The Commission considers a procedure fixing on assessment of specific proposed price increases is an inappropriate mechanism for the administration of the airports price cap. This is essentially because the price cap clearly intends the airports to be able to adjust prices within the basket of declared services, and that overall assessment of the price cap be made at regular intervals, perhaps annually. There would appear to be no need to review individual price changes in order to be able to effectively ensure compliance with the cap.

¹⁶⁹ Consider input from legal unit here. The approach we took in SACL canvassed the relationship between 17(3), the SACL direction and the unit cost direction. The upshot of all that was that the Commission has broad discretion to give these matters the weight it considers appropriate.

Commission's power to conduct annual price cap reviews

As indicated above the Commission conducts annual assessments of compliance by each of the regulated airports (other than Sydney Airport) with the price cap set out in Direction 13. Generally speaking the airports have complied voluntarily with the Commission's requests for information relating to price cap compliance.

In the Commission's view there is insufficient certainty as to the legislative basis for the Commission to either gather information for the annual assessments or to actually conduct such assessments. There is no clear basis for the gathering of information. Section 32 does not provide adequate powers as it only relates to information necessary to consider notifications or conduct inquiries or monitoring activities. The assessments have been conducted to date on the basis that the implementation of the cap effectively requires such reviews. However, arguably apart from the Commission's general powers under section 28 of the Trade Practices Act, these activities are not supported by the provisions of the PS Act, the *Airports Act*, the *Airports Regulations* or any other legislation.

As noted earlier, even if the Commission has power to carry out the assessment, the PS Act does not provide any mechanism for enforcement in the event that an airport is found to have breached the price cap.

An alternative legislative framework

The Commission considers the above discussion clearly demonstrates the need for an alternative framework. The form of a new framework will depend upon what features are thought to be desirable. However it is possible to enumerate a set of core features for a price cap framework:

- The framework should be enforceable and backed by a significant penalties for non-compliance. One option would be to provide for a penalty which was proportional to the amount of over-recovery (say, double the over-recovery);
- The framework should clearly specify the matters the regulator should take into account when considering notifications;
- The framework should clearly define the services which are to be subject to a price cap;
- The framework should specify a flexible range of actions the regulator may take in response to a notification;
- The framework should provide for a realistic period for the regulator to consider notifications;
- The framework should provide for stronger information gathering powers, akin to those under section 155 of the Trade Practices Act.

The Productivity Commission has provisionally recommended that the PS Act be repealed and that a new section should be inserted into the Trade Practices Act to provide for inquiries and prices monitoring in nationally significant markets where

there may be monopolistic pricing. Regardless of its ultimate fate, the Commission considers the current PS Act in its current form does not lend itself to the regulation of airports through CPI – X price cap.

The Commission considers that unless the relevant provisions of the PS Act are substantially strengthened the framework should be enacted as a new part to either the Trade Practices Act or the Airports Act. It would seem especially logical to use the Trade Practices Act if the Productivity Commission’s provisional recommendation that the price monitoring function be housed in that Act is implemented. The Trade Practices Act would further seem logical if it is determined that the information gathering powers in section 155 apply to the airports framework.

12. TRANSPARENCY PROVISIONS

12.1 Introduction

The accounts reporting and monitoring (quality of service monitoring and price monitoring of aeronautical-related services) undertaken by the Commission with respect to airports are designed to provide some transparency of airport operations. Transparency provisions complement more stringent forms of prices oversight.

By undertaking these measures, airport users, regulators, policy makers and the community generally can gain a better understanding of the workings of the aviation market.

The publication of such information allows scrutiny of airport operator performance and behaviour. Such scrutiny may achieve three aims: firstly, it provides information to assist interested parties determine whether or not an operator is misusing any market power that it may have. Secondly the scrutiny may in itself discourage airport operators from misusing any such market power, particularly if there is a threat of further review of the regulatory arrangements and the possibility of re-regulation. Thirdly, it may have a role in easing public concerns about the exercise of market power and provide reassurance that the market is functioning appropriately.

The Productivity Commission recognised such value in transparency measures such as monitoring in its *Review of the Prices Surveillance Act 1983 – Draft Report*.

Additionally, prices oversight provides regulators and governments with an intermediate alternative between price control and complete deregulation.

12.2 Monitoring

There are two types of monitoring that the Commission undertakes in relation to airports. The first, price monitoring, relates to monitoring the costs, revenues and profits of certain aeronautical related services as specified in Direction No. 21. The second is quality of service monitoring pursuant to Part 8 of the *Airports Act 1996*.

Price monitoring of aeronautical-related services

The Government identified aeronautical-related services as services where operators could exert significant market power at individual airports.¹⁷⁰ Those aeronautical-related services to be subject to formal price monitoring were nominated by the Commission following consultation with users and operators.

As previously discussed in chapter 8 it is suggested that the range of services subject to price regulation be extended to include some services previously monitored as aeronautical-related services. Specifically, this is because the Commission has identified market power issues concerning these services. The analysis recognised that

¹⁷⁰ Department of Transport and Regional Development, Pricing Policy Paper, November 1996.

the service may be non-discretionary and supply side substitution possibilities may be low. In cases where these factors are present the Commission has recommended these services be included in the scope of price regulation.

For those services recommended not to be subject to direct price regulation, the Commission recommends that these services should not be subject to any prices oversight, including monitoring.

However, the Commission considers in relation to those airports where deregulation is suggested that some form of prices oversight remain during a transitional period. This would provide reassurance that the market is functioning properly and would allow for comparisons with the regulated airports.

The Commission suggests that the appropriate services to be price monitored at the deregulated airports are the aeronautical services to be subject to price regulation at the regulated airports.

Quality of service monitoring

The Commission is required to monitor quality of service at the 11 privatised airports and Sydney Airport under Part 8 of the *Airports Act 1996*. Quality of service monitoring is required for certain key airport services and facilities.

Quality of service monitoring aims to ensure that airport operators do not reduce service quality as a means of reducing costs while staying within the price cap. Price caps provide incentives for the airport operators to reduce costs. A reduction in costs may sometimes lead to a decline in service quality. Ordinarily, in competitive markets firms there is a price/quality trade off. Typically lower quality yields lower prices. This is unlikely to be the case for the regulated airports. Quality of service monitoring provides scrutiny over service levels. It also allows the Commission to monitor each airport's performance over several years.

Not all factors contributing to service quality are under the airport operators' direct control, but the adequacy of facilities they provide is a major determinant. Service quality performance indicators include efficiency in aircraft movement areas, terminal crowding and waiting times in passenger processing and baggage handling areas. Data is gathered from the airport operators themselves, Airservices Australia, Australian Customs Service and airline and passenger surveys.

The information allows the Commission to assess whether service quality is being maintained, improved or reduced over time. The Commission can then raise any particular problems with the airport operator for their comment. The Commission can take into account such quality of service monitoring in its deliberations on pricing decisions. Reporting on quality of service outcomes can also assist the Government to address any public interest matters other than those related to pricing.

The quality of service measures can be viewed as a compliment to the price cap. They are there because of the possible incentives for the airport operators to reduce quality as a means of cutting costs. Where price caps are not in place quality of service scrutiny is less relevant. The Commission proposes discontinuation of quality of service monitoring at those airports where price caps are removed.

12.3 Accounts reporting

Accounts reporting includes audited profit and loss accounts, balance sheets and cash flow statements together with supporting explanatory statements and notes pursuant to Part 7 of the *Airports Act 1996*. Currently accounts reporting applies to the 11 privatised airports and Sydney Airport.

Accounts reporting provides audited, separate accounts for the aeronautical and non-aeronautical aspects of the business. In some cases both aeronautical and non-aeronautical revenue come from the same asset (for example, landside roads). In such cases accounts reporting shows the allocation of costs, assets and source of revenues between aeronautical and non-aeronautical services. Details are provided in chapter 4.

The accounts reporting provisions are the most appropriate means of ensuring accountability and transparency, particularly as not all airport operators report publicly. The Commission proposes ongoing accounts reporting for regulated airports.

The Commission also proposes continued accounts reporting for the deregulated airports as a transitional measure in conjunction with prices monitoring of aeronautical services. Such reporting would be a useful supplement to prices monitoring in that it would provide information to interested parties on the basis for price changes over time.

Conclusion

Activities such as accounts reporting, prices monitoring and quality of service monitoring will provide accountability and transparency of regulated and deregulated airports. Such measures are particularly important in transitional periods following major changes such as privatisation and deregulation. Having such information available for comparison and analysis allows the effectiveness and results of deregulation to be assessed.

The following table lists the suggested transparency measures for regulated and deregulated airports.

Recommendations:

	Regulated airports	Deregulated airports
Price regulation of aeronautical services?	Yes	No
Accounts reporting?	Yes	Yes
Price monitoring of aeronautical services?	No	Yes
Quality of service monitoring?	Yes	No

ATTACHMENT B: Global airports overview

Chapter 7 of the Commission's submission to the Productivity Commission provides a summary of the various regulatory frameworks as they apply to airport regulation in the United Kingdom, the European Union, New Zealand, the United States and Canada. This attachment provides a more detailed outline of airport regulation in these countries. An examination of these regimes reveals that governments adapt regulation according to changes in airport ownership. Today, more than 100 airports worldwide have been privatised, typically accompanied by comprehensive regulatory controls. Where airports are predominantly government-owned, such as in the United States and Canada, the regulatory regimes are somewhat more relaxed. Nonetheless, a review of future policy directions in these countries shows that as airport privatisation becomes more widespread, there is increasing interest in the merits of price cap regulation.

1. The United Kingdom

The British government established the British Airports Authority (BAA) in 1965. Before then all commercial aviation was controlled by the Ministry of Civil Aviation.¹⁷¹ In 1987 the BAA was privatised under the Airports Act 1986. The BAA owns four English airports -Heathrow, Gatwick, Stansted, and Southampton, and three in Scotland- Glasgow, Edinburgh, and Aberdeen. The Airports Act 1986 also led to the corporatisation of many other British airports. The management of these airports was transferred to public listed companies, but the airports remain owned by municipal governments.

The direct regulation of British airports operates under a two-tier structure. The first level of regulation imposes a broad system of accounts monitoring according to a revenue threshold. In the second instance, airports can be designated by the Secretary of State for more detailed regulation. The Airports Act applies economic regulation to airports whose annual revenue has exceeded £1 million in two of the past three financial years. Once an airport meets the turnover qualification it must apply to the CAA for permission to levy airport charges. A broad system of monitoring is then imposed, where all airport operators must routinely supply the CAA with their annual statutory accounts, schedules of airport charges and any known changes to the charges.¹⁷²

Section 40 of the Airports Act provides for the designation of an airport. Designated airports are subject to more stringent monitoring of their statutory accounts, but the main feature of designation is the price cap regulation, which governs the maximum level of airport charges. Currently, four airports are designated for price regulation: Heathrow, Gatwick, Stansted and Manchester. There are no explicit criteria for airport designation under the Airports Act, but the Government has stated that it considers the relevant criteria to be as follows:¹⁷³

¹⁷¹ British Airports Authority, Our History: before 1990 at <<http://www.baa.co.uk>>, updated January 2001, accessed 14 February 2001.

¹⁷² Civil Aviation Authority (1), *Economic Regulation of Airports-general guidance*, March 2000, p3.

¹⁷³ Civil Aviation Authority (2), *Easyjet application for designation of Luton airport*, July 2000, p1.

- the market position of the airport, including the degree of competition from other airports or modes of transport;
- prima facie evidence of excessive profitability or abuse of a monopoly position;
- the scale and timing of investment, and the implications for profitability; and
- the efficiency and quality of service at the airport.

The task of airport regulation is shared between the UK Civil Aviation Authority (CAA) and the Competition Commission. The CAA is responsible for setting and monitoring price caps for designated airports in consultation with the Competition Commission. The Airports Act 1986 requires the CAA to refer the designated airports to the Competition Commission for regulatory review. The purpose of each review is to reset the price caps in advance of a five-year period. During the review process, the Competition Commission provides the CAA with analyses and recommendations on the price caps, and considers whether the designated airports have acted outside the public interest during the previous five-year period. In instances where the Competition Commission makes a public interest finding, the CAA must impose conditions to remedy or prevent the adverse effects in addition to the price cap requirements. The Office of Fair Trading also has authority to impose conditions on airports to rectify anti-competitive practices.

Price regulation operates according to the combination of a price cap and rate-of-return model, and is set in advance of a five-year period. This is based on the regulator's forecast of demand, the scope for cost efficiencies, and to enable a rate of return which reflects the airport companies' estimated capital investment costs in order to incentivise new investment.¹⁷⁴ Prices are monitored based on an RPI-X (Retail Price Index) cap. The charges are limited to a fixed number of percentage points (X) below the RPI where X reflects various factors including productivity and efficiency gains, effects of technology changes, expected changes in real costs, and an implicit allowable rate of return. The maximum allowable airport charges are levied using a single-till approach.

Exhibit one (see below) provides a perspective on the BAA's pricing conduct following privatisation. At the time the experience led some U.K. commentators to argue in support of regulation of some aeronautical-related facilities and in particular certain landside activities.¹⁷⁵

New Investment

In re-setting the price cap the CAA considers the airport company's future capital investment program. There are no pass-through provisions for new investment under the current regulatory framework. However airports are permitted to pass 95 percent of the costs of implementing new Government security requirements through the price cap.¹⁷⁶

¹⁷⁴ RM Cotterill, *Experience of price caps in UK airport regulation*, November 1999,p2.

¹⁷⁵ E Juan, (ed), *Airport Infrastructure: the emerging role of the private sector-Airports in the United Kingdom, BAA plc*, 1995, p310.

¹⁷⁶ Civil Aviation Authority (3), *Issues for the Airport Reviews, Consultation Paper*, July 2000, p13.

Exhibit 1: Pricing conduct at The BAA airports 1987-1990.

Immediately following its privatisation in 1987, the then chief executive of the BAA, Mr. Jeremy Marshall, stated the company's goal as follows: 'Let us be absolutely clear about our main strategic objective, with no beating about the bush: Profit.'¹⁷⁷

The BAA pursued this objective by attempting to extract revenue from every area of its business. This included proposals to levy charges on taxis for use of the taxi compound, and buses for servicing Heathrow and Gatwick airports. The Office of Fair Trading (OFT) considered numerous complaints about these charges, car parking and duty-free prices, and other restrictions on competition. As a result the BAA dropped its proposals and agreed to index its car parking fees to inflation, along with other undertakings. The OFT then abandoned its plans to request an investigation by the MMC into the BAA's trading practices. Where the BAA had once been perceived as one of the most successful state-owned industries, it quickly attracted a reputation as a 'rapacious monopolist' after privatisation.¹⁷⁸

Access

There is no explicit access regime under British competition law. Essential facilities are not declared by legislation, they are deemed 'essential' on a case by case basis. The Competition Act 1998 allows the Director-General of the Office of Fair Trading to make determinations on access to essential facilities. Where the Director General finds that access to an essential facility is not provided at economically efficient prices, this usually constitutes a breach of the Competition Act by the facility owner unless the restriction can be justified objectively.¹⁷⁹

Future Regulation

The 1998 White Paper on utility regulation outlined the British Government's intention to have the CAA become the primary airport regulator, with the Competition Commission undertaking an appellate role. This policy would require the CAA to conduct the full regulatory review and also to enforce the Competition Act 1998 in the airports sector. The purpose of the proposal is to make airport regulation consistent with the other regulated industries in the United Kingdom. Meanwhile the CAA intends to undertake a fundamental review of its approach to the regulation of designated airports within the framework of the Airports Act 1986. In so doing, the CAA plans to consider issues including but not limited to- the composition of the price cap, the introduction of service quality measures, and criteria for cost pass-throughs.¹⁸⁰

2. The European Union

The direct regulation of the European Union's (EU) air transport industry has a relatively short history. The European Commission (EC) did not adopt its air transport policy until 1987. This package of legislation gives the EC the power to enforce competition rules in air transport sector across all of the EU Member States.

¹⁷⁷ R. Doganis, 1992, *The airport business*, Routledge, London, p32.

¹⁷⁸ Ibid.

¹⁷⁹ Office of Fair Trading, *The Competition Act 1998, Assessment of individual agreements and conduct*, September 1999, p25.

¹⁸⁰ Civil Aviation Authority (3) op. cit., p vi.

The majority of EU airports are state-owned, corporatised enterprises. There is increasing interest in airport privatisation, particularly in Germany. The ownership of European airports usually takes the form of either:

- publicly owned and run by a government department;
- a public corporation (corporatised)- the majority of European airports are operated this way; or
- regional government ownership (UK and France only).¹⁸¹

Airports in Hamburg, Dusseldorf, Berlin, Zurich, Copenhagen, Brussels, Rome, Naples, and Vienna have been partially privatised. The only fully privatised airports in Europe are those owned by the BAA, and Belfast International Airport, which was sold by public tender.

Articles 85 and 86 of the European Community Treaty of Rome contain the general competition rules that govern trade between and within EU Member States. Article 85 prohibits collusive behaviour between firms. Article 86 prohibits the abuse of dominant market position. Both Articles 85 and 86 are used extensively by the Commission in a wide range of competition cases in the airport context.¹⁸²

Airport specific regulation

The EC perceived that certain aspects of the existing infrastructure could limit competition in the aviation industry. Firstly, the EC perceived limited availability of airport slots to be a capacity-limiting factor for airlines, and to impede access for new entrants. The EC therefore issued Council directive 95/93 (slot allocation) to address the problem. Secondly, Council directive 96/67 (ground handling) was introduced to strengthen competitive pressures in the ground handling market and to address problems of discriminatory pricing. Finally, the EC recently introduced an airport charges directive whose intention is to set basic rules to govern airport charges throughout the EU. The directive requires that airport charges comply with the following principles:¹⁸³

1. **Non-discrimination-** Charges must not discriminate between intra-community and domestic air transport services;
2. **Cost-relatedness-** Airport charging systems must reflect the actual costs of services and facilities provided, allowing for a reasonable rate of return on investments, depreciation of assets, and capacity management; and

¹⁸¹ Betancor, O., and Rendeiro, R., *Regulating privatised infrastructures and airport services*, 1999, p22.

¹⁸² For example, the EC prohibited the fees charged at Brussels-Zaventum airport in June 1995. The airport discounted the landing fees according to a traffic threshold. Sabena airlines, Belgium's national carrier, was the only airline that could meet even the lowest traffic threshold and receive discounts. The EC determined this to be discriminatory and an infringement of Article 86 (See Humbert Drabbe, EC Competition Policy in Relation to Airports <<http://www.europa.eu.int>>, updated December 1999, accessed 24 January 2001.

¹⁸³ European Union, Legislation Under Preparation <<http://www.europa.eu.int>>, updated 12 February 2001, accessed 23 February 2001.

3. **Transparency-** Airports are required to disclose detailed information on costing systems for charges. Member States are also required to establish procedures for consultation between airport managers and the airport users.

Member states must implement the directive by January 1 2002. ¹⁸⁴

3. New Zealand

New Zealand has three international airports, Auckland, Wellington, and Christchurch, and a number of provincial airports. New Zealand's airports were originally owned and operated by government controlled entities. Airport infrastructure has been significantly restructured since the late 1980s. Auckland Airport and Wellington Airport have been privatised while a number of other airports are operated as government owned commercially oriented corporations.

New Zealand takes a light-handed approach to airport regulation. The relevant statutes are the *Airport Authorities Act 1986* and the *Commerce Act 1986*.

The *Airports Authority Act* requires airports to consult with airport users about charges and capital expenditure. It does not prescribe how charges are to be set but rather leaves a wide field for negotiation between the parties. The consultation requirement has been the subject of extensive litigation. In *Wellington International Airport v Air New Zealand (1993)*, the Appeal Court disagreed with Air New Zealand's allegation that Wellington Airport did not provide sufficient consultation, and defined 'consultation' as thus:

If the party having the power to make a decision after consultation holds meetings with the parties it is required to consult, provides those parties with relevant information and with such further information as they request, enters the meetings with an open mind, takes due notice of what is said and waits until they have had their say before making a decision, then the decision is properly decided as having been made after consultation."¹⁸⁵

Where proper consultation has not occurred airport users can initiate legal proceedings under Section 4 (2) of the *Airport Authorities Act* to have the prices declared invalid. However, the requirements relating to consultation under the *Airport Authorities Act* are not specific and the interpretation of the requirements by airport companies can limit the effectiveness of the consultation process.¹⁸⁶

¹⁸⁴ Hamburg Airport recently dropped its system of setting fixed fees in favour of a price-cap system in anticipation of the airport charges directive. The system is based on a price-cap rule that commits the airport to reducing user charges over time. The charges paid per passenger are to be reduced by 2% each year, after taking inflation into account. The charges will also be reduced according to passenger increases, allowing airlines to share in additional revenue growth. See California Aviation, Hamburg Airport Announces Plan to Cut Airline Charges Over Time <<http://www.californiaaviation.org>>, updated 6 September 2000, accessed 20 February 2001.

¹⁸⁵ National Economic Research Associates, *Report for the ACCC- Part IIIA of the Trade Practices Act*, November 2000, p30.

¹⁸⁶ New Zealand Ministry of Transport, *Review of New Zealand airport regulation, issues paper*, April 1995, p18.

Airport companies are also subject to the *Commerce Act*. This Act prohibits various forms of anti-competitive conduct in terms similar to Part IV of the *Trade Practices Act*. The *Commerce Act* contains no access provisions. Persons seeking access to essential facilities must rely on section 36 of the *Commerce Act*, which deals with misuse of market power.

The *Commerce Act* also provides that the Commerce Commission may recommend the imposition of price controls where there is limited competition in a market for goods or services and price control is necessary or desirable in the interests of consumers, users or suppliers. The Commerce Commission is currently inquiring whether controls should be imposed in relation to airfield activities at New Zealand's three international airports. 'Airfield activities' are limited to those which enable aircraft to take off and land at airports. However it is acknowledged that thorough examination of these activities will require the Commerce Commission to assess such factors as allocation of assets, revenues and costs between airfield activities and other areas of the airport.

If the Commerce Commission considers price control should be introduced, it will make recommendations as to the scope of price control and as to the conditions it considers would be useful in judging whether price control should be imposed at a particular airport.

Since the inquiry commenced a number of significant changes have been proposed to the *Commerce Act*. The changes are likely to give the Commerce Commission discretion in its approach to administering controls and to make provision for the control of revenues and quality standards (as distinct from controlling prices only). The proposed amendments detail methods by which the Commission can authorise prices, revenues, and quality standards in respect to the supply of controlled goods and services. These are as follows:

- Imposing minimum and maximum prices for, or revenue derived from controlled goods and services.
- The use of a formula such as CPI-X or a sliding scale-type regulation in order to ascertain price/revenue movements.
- The application of other methods considered appropriate by the Commission to determine prices/revenues of controlled goods and services.¹⁸⁷

4. The United States

Airports in the United States are regulated by the Federal Aviation Authority (FAA). The FAA regulates air safety as well as the commercial aspects of airport operations. Federal law currently restricts the sale or lease of airports to private interests. Therefore, most civil aviation airports in the United States (US) remain government owned. Usually they are owned and operated by local governments. Some local and state governments have established airport authorities as separate entities to manage

¹⁸⁷ Ibid.

their airports.¹⁸⁸ Management contracts with private companies are becoming increasingly popular, although none of the large hub airports are privately operated.

The FAA established a pilot program in 1996 to evaluate the benefits of airport privatisation. The program allows the ownership or control of up to five airports to be transferred to private interests. However, the early results indicate that there has been limited interest in airport privatisation. This is largely attributed to the popularity of the current funding system, as detailed in the following section. Airline tenants must also approve of the sale of an airport and have been reluctant to do so.

The FAA administrates two programs to aid the development of airport infrastructure:

1. the Airports Improvement Grant Program, and
2. the Passenger Facility Charge Program.

The former, initiated in 1982, derives funds from various taxes levied upon passengers. By the late 1990s over \$20,000 million had been allocated under this scheme. The Passenger Facility Charge Program allows airport operators to impose charges to fund projects to expand or repair airport infrastructure. Federal approval is required for the implementation of these charges. Airports also raise capital through tax exempt bonds.

The *Airport and Airway Improvement Act 1982* requires airport revenues to be used solely for the capital and operating costs of the airport. Airports are required to set airport charges to recover residual costs using the single till approach. The Act also requires airport operators to make certain assurances in return for the funds distributed by the FAA. Essentially, the airports must agree to provide facilities on a non-discriminatory basis, to levy fair and reasonable airport charges, and to re-invest profits for airport purposes only.¹⁸⁹

Airport charges can reflect but not exceed the full cost to the relevant charging authority of providing the airport, or airport facilities (environmental, navigational, and security) at an airport or within an airport system. The total cost factor allows for a reasonable rate of return on assets after depreciation. The economic regulation of airports is broadly based on the view that by requiring airport operators to reinvest profits into airport facilities only, there will be no incentive for them to impose unfair user charges. Public ownership exempts all airports in the United States from State and Federal anti-trust laws. However, the Department of Transportation has the authority to set aside unreasonable charges.¹⁹⁰

¹⁸⁸ FAA/OST Task Force, *Airport business practices and their impact on airline competition*, October 1999, p2.

¹⁸⁹ Ibid.

¹⁹⁰ See *Los Angeles Airport vs. US Department of Transportation* <<http://lw.bna.com>>, updated 16 February 1999, accessed 20 April 2001.

Access regulation

Airports in the United States are required to provide access to airside services on a non-discriminatory basis. In order to receive airport improvement funds from the FAA, an airport operator must agree to make the airport available for public use without unjust discrimination. Federal law prohibits airport operators from granting air carriers exclusive rights to operate at their airport.¹⁹¹ The FAA also stipulates that an airport cannot deny access to a carrier solely on the basis of non-availability of existing facilities. In such cases the airport must attempt to accommodate the carrier where possible. This directive has since led to expansion projects at many US airports.¹⁹²

5. Canada

The majority of Canadian airports are owned by municipal, provincial, or territorial governments. The National Airports System ('the NAS') consists of Canada's 26 largest airports, which are federally owned by Transport Canada. In 1992 the Canadian government began the process of transferring the management of the NAS airports to airport authorities. These are non-profit organisations established in order to operate and develop the transferred airports. The transfers took place in two rounds. The second round commenced in 1994 following the introduction of the National Airports Policy. The government introduced the transfers as a means of:

- funding expansion in the NAS;
- making Canada's airports more competitive; and
- aiding economic development in local communities.

Under the transfer model, the airport authorities make rental payments to the Government over the term of the lease (usually 60 years + 20-year option) for the use of the land and airport facilities. Transport Canada is responsible for overseeing the entire NAS. The lease arrangements have proved to be lucrative for the department. In 1999, Transport Canada received over \$170 million in rent from the transferred airports. This accounted for more than one quarter of the total transfer revenue since 1992.¹⁹³

The 2000 Report by the Canadian Auditor-General, examined Transport Canada's role in managing the financial and oversight aspects of the transfer process. Several shortcomings were observed. The main concerns raised by the audit were that:

- Transport Canada did not determine the fair market value of the airports to be transferred in the second round of transfers, and in the renegotiations of existing leases. The audit states that the quality of information for decision making has been significantly impaired as a result;

¹⁹¹ FAA/OST, op. cit., p(v).

¹⁹² OECD (1), Competition policy roundtables, *Competition policy and international airport services*, The United States, 1998, p10.

¹⁹³ Report of the Auditor-General of Canada, *Transport Canada, Airport transfers: National Airports System*, October 2000, p10-7.

- The renegotiated leases were not subject to independent review and differed from key government directions; and that
- Eight years into the transfer process, Transport Canada was yet to define its role as the overseer of the NAS and landlord of the transferred airports. The report states that as a result, Transport Canada's oversight of the activities of the airport authorities has been generally inadequate.

The Report also states that these shortcomings represent a clear departure from sound management practice. It concludes that there is a pressing need for Transport Canada to exercise greater diligence in its oversight of the NAS, in contrast to the passive approach it has demonstrated so far.

Canadian airports are not subject to economic regulation. The airports have complete freedom in setting landing charges and passenger fees. Canadian Airport Authorities are expected to follow Public Accountability Principles, which provide a broad accountability framework. The principles contain guidelines to ensure fair access by all airlines, and reasonable user charges.¹⁹⁴ The only statutory control over transferred airports is that they must be non-profit organisations, where similar to the US rules, airport profits can be reinvested for airport purposes only.¹⁹⁵ The Auditor General's report describes the airport authorities as follows:

Airport authorities...are largely monopolies and enjoy a captive market. They can, without regulation, set fees (for example, landing fees) to fund capital works and operations at airports, make any type of investment, and accumulate large reserves, tax-free. Thus, many large airports in the NAS have been given a financial position that enables them to carry out very large projects in a short period of time.¹⁹⁶

Similarly, in its 1995 paper- Perspectives on Public Policy, Canada's Consumer Policy Institute argues that

A non-price regulated airport monopoly is an independent taxing authority with the freedom to abuse its airport monopoly power by arbitrarily increasing aircraft fees and imposing passenger user charges without a third party check or legislative balance.¹⁹⁷

Airport authorities typically raise finance through borrowing, and by levying airport improvement fees (AIFs) on passengers. The AIFs have become an increasingly significant source of revenue for the airport authorities. In 1998, AIFs constituted 22 percent of the combined total revenues of those airport authorities that introduced the fees.¹⁹⁸ Together, these sources of funding have enabled significant capacity expansions at the transferred airports. The Auditor-General's Report states that expansions of this extent would not have been possible under government management.

¹⁹⁴ Ibid, p.10-32.

¹⁹⁵ Juan, op. cit., p113.

¹⁹⁶ Report of the Auditor-General of Canada, op. cit., p10-7.

¹⁹⁷ The Consumer Policy Institute, The Consumer Policy Institute's independent airside model, <<http://www.c-p-i.org>>, updated 27 June 2000, accessed 20 February 2001.

¹⁹⁸ Report of the Auditor-General of Canada, op. cit., p10-19.

There is no specific access regime under the Canadian Competition Act 1985. The only airport-specific access measures are the guidelines of the Public Accountability Principles, under which CAAs are expected to provide fair and reasonable access to user airlines.

The airport authorities are ultimately responsible for ground handling access. The airport operator selects the ground handlers for the airport, in conjunction with a committee of user airlines. There are no statutory limitations on the number of ground handlers at Canadian airports. Currently, the only criteria for restricting access to the ground handling market relate to the ability of the airport to accommodate service providers safely.¹⁹⁹

¹⁹⁹ OECD (2) Competition policy roundtables, *Competition policy and international airport services*, Canada, 1998, p5.

**Australian Competition and
Consumer Commission**

**Review of Airports'
Regulatory Accounts**

May 2001

This report contains 132 pages

ACCC01-tp10307-AirportsRegAccts2ndDRAFT-MR

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1 Introduction

1.1 Background

The Australian Competition and Consumer Commission ("the Commission") administers the regime for the regulation of the principal airports in Adelaide, Alice Springs, Brisbane, Canberra, Coolangatta, Darwin, Hobart, Launceston, Melbourne, Perth, Sydney and Townsville.

The Commission's responsibilities include:

- surveillance and monitoring of prices for aeronautical and non-aeronautical-related services, including administering a price cap for some services;
- monitoring airport service quality;
- administering rules to ensure that competitive businesses can access the services provided by essential facilities at major airports; and
- publishing annual reports of airports' financial and other performances.

The core-regulated airports were to be leased in three phases. The first group was leased in July 1997 and comprised Brisbane, Melbourne and Perth airports. The second phase was leased in May and June 1998 and comprised Adelaide, Alice Springs, Canberra, Coolangatta, Darwin, Hobart, Launceston, and Townsville. Sydney Airport is the final stage in the lease process. At the date of writing this report, the Commonwealth Government has not carried out this final phase.

The Commission has established a regulatory information requirements regime that covers both quality of service monitoring and financial reporting. Under this regime, the Commission collects annual regulatory financial reports for each core-regulated airport.

1.2 Scope and objectives

Our review has examined the financial performance reported by the airports under the regulatory regime. This involved:

- a critical review of the regulatory accounts prepared by the airports for 1997/98, 1998/99 and 1999/00;
- undertaking substantive analysis;

- a review of accounting policies and the basis of preparation of the regulatory accounts;
- comparing the overall profitability of the aeronautical services business segment with that of the non-aeronautical services business segment. More specifically, we examined the allocations of costs applied by the airports; and
- examining the overall results for each airport over 1997/98 to 1999/00.

Our analysis is set out in the remaining sections of this report. We have included:

- an executive summary;
- individual analyses of Melbourne, Brisbane, Perth and Sydney airports;
- combined analysis of the Phase 2 airports; and
- appendices.

1.3 Disclaimer

Please note that, in accordance with our Company's policy, we are obliged to advise that neither the Company nor any member nor employee undertakes responsibility in any way whatsoever to any person or organisation (other than the Australian Competition and Consumer Commission) in respect of information set out in this report, including any errors or omissions therein, arising through negligence or otherwise however caused.

2 Executive Summary

2.1 Introduction

In this summary, we provide a number of general observations which are supported by the detail set out in the body of this report.

2.2 Nature of accounting information and regulatory accounts

Our understanding is that the Commission's Regulatory Information Requirements Guideline ("the Guideline") intends to acquire information to allow the Commission to understand the financial performance of the airports. The Guideline seeks to avoid undue prescription and operates on the premise that regulatory accounts are derived from an airport's statutory accounts. Also, the light handed objectives of the Guideline mean that it seeks to provide the Commission with information that enables it to understand but not "second guess" the regulatory accounting disclosure or the audit opinion thereon. The implications of this are that:

- the regulatory accounts are based on accounting policies that are be employed under Australian Accounting Standards in an airport's statutory accounts;
- the Guideline recognises that reported financial performance is a subjective view, subject to the variations in accounting estimates and policies that arise in statutory accounts; and
- the Commission is necessarily reliant on the care taken by directors to prepare and the auditor to pass an opinion on, the regulatory accounts.

Accordingly, this report does not provide any verification of the information and opinion provided by the directors and auditors, but it does;

- explore the potential for alternative views, where particular subjectivity may have been involved in compiling the regulatory accounts from the statutory accounts; and
- provide explanations of accounting influences over the reported regulatory accounts

2.3 Operating profits and returns

All of the airports we reviewed reported operating profits and positive returns on non-current tangible assets.

Table 2.1: 1999/2000 pre-tax operating returns on non-current tangible assets

	%
Brisbane	8.0
Melbourne	13.0
Perth	18.2
Sydney	3.9
Adelaide	14.0
Alice Springs	1.7
Canberra	4.8
Coolangatta	10.6 ¹
Darwin	1.6
Hobart	17.1
Launceston	6.0
Townsville	10.9

¹ Note: Adjusted to exclude intangible asset values. Refer to section 7.4.

The regulatory accounting framework focuses on operating outcomes of the business, not the capital funding arrangements that the operator may have chosen to finance their investments. A number of the airports have flagged in their regulatory accounts that they do not believe that the regulatory accounts disclose the true financial position of each business segment because interest and amortisation costs are not allocated to specific business segments. We observe that:

- any allocation of interest and amortisation to individual segments is likely to be arbitrary; but
- we understand that the Commission wishes to utilise the regulatory accounting information to determine the segmental operating returns available to investors, not how those returns might be distributed to investors; and

- investors in many airports have chosen to provide significant capital investment by way of subordinated loans rather than shares. We have highlighted the principal examples in the body of this report. Therefore, any analysis of net returns may be confusing because they reflect neither operating performance nor the full returns to shareholders.

By the same token, we have not taken into account intangible assets, which represent goodwill or capitalised transaction costs, in our calculations of operating returns. Lease premia and goodwill represent a capitalisation of expected future earnings. To include them in the capital base of any return calculation would provide commentary on investor expectations rather than the underlying performance of the business. We understand that the Commission wishes the regulatory accounts to provide information on the latter not the former.

We have used non-current intangible assets as the measure of capital invested because:

- it avoids the inclusion of non-operating working capital such as interest on tax payable or receivable;
- it can be used as the basis for analysing returns between aeronautical and non-aeronautical activities; and
- in any event any net operating working capital that may be omitted from the capital base is unlikely to be material to the conclusions drawn from this analysis.

We also emphasise that neither the regulatory accounts nor this analysis seeks to suggest that there is only one acceptable basis of measurement of financial performance. Any form of measurement should be relevant for the purpose it serves. The airports' regulatory accounts provide a base of information to aid understanding and can facilitate a variety of measures.

We consider next, some of the subjective issues that can arise within accounting measures.

2.4 Asset revaluations

Changes in asset values can have a material impact on perceptions of performance provided by returns.

The body of this report highlights a number of instances where assets have been subject to revaluation on acquisition (eg. Sydney airport) or retrospectively after

acquisition, which has given rise to corresponding changes in the value of tangible assets and a lease premium (eg. Brisbane airport).

In general, we comment that asset revaluations and adjustments to lease premia reported by the regulatory accounts reflect adjustments recorded in accordance with Corporations Law and Australian Accounting Standards in audited statutory accounts. The accounting standards allow a variety of accounting treatments.

On the bases of this and that the Guideline seeks to follow Accounting Standards, the adjustments to the asset values and lease premia recorded in the regulatory accounts for each business as a whole, would not seem to necessitate modification by the regulatory accounts.

2.5 Cost and asset allocations

Airports' regulatory accounts commonly disclose a very marked disparity between operating returns for aeronautical and non-aeronautical activities. The former provide very slim margins or losses, whereas the latter usually disclose significant profits. The disaggregation of returns is a product of the disaggregation of revenue, costs and assets. Responsibility for these attributions rests with the directors of the airports. The light-handed approach set out in the Guideline obliges the Commission to depend on the directors' responsibility statement and the auditor's opinion on the regulatory accounts. The alternative to this would be more intrusive disclosure requirements. However, subjectivity is intrinsic to any basis of cost categorisation and attribution. For this reason, the Guideline seeks certain additional information about the bases of allocation to allow the Commission to better understand the bases of allocation.

On the assumption that revenue allocations are fairly stated and not at risk of significant subjectivity, the cost and/or asset allocations disclosed in the regulatory accounts would need to be materially misstated to change the view that aeronautical returns are less than non-aeronautical returns. We emphasise that this is neither a verification of the reported results nor a view on the relative size of aeronautical and non-aeronautical returns. We found that our capacity to provide commentary on the latter was inhibited by the issue set out below.

2.6 Disclosure of bases of allocation

This report does not have the objective of reviewing the airports' regulatory accounts for compliance with the Guideline, or its disclosure requirements. However, the following matter illustrates an issue related to disclosure, that has a practical effect on the understanding available to the Commission.

Generally, the airports have gone to great lengths to meet the Guideline's disclosure requirements for charts of accounts and analysis of cost categories. However, this disclosure as it stands may be of limited use.

We understand that the Commission requires an audit trail to enable it to:

- understand the specific bases of allocation that have been applied to cost categories; and
- the composition of those categories.

In most cases at present, that audit trail does not exist. The Guideline may need to be more specific in its requirements in this regard. Also, airports have provided detailed breakdowns of operating and maintenance expenditure as a sub-category of expenditure as a whole. A more general analysis would be required to facilitate an audit trail. Again, the wording of the Guideline's detailed requirements could be reviewed. The danger at present is that links in the audit trail are missing which results in the airports providing significant detail but with limited benefit to the Commission.

A review of the Guideline's requirements in this area could either deliver a more useful outcome with more focused disclosure requirements and/or obviate unnecessary disclosure. An alternative could be to reduce allocation disclosure but to compensate with additional, more specific audit requirements.

3 Melbourne Airport

3.1 Background

Melbourne Airport is operated by Australia Pacific Airports (Melbourne) Pty Ltd ("APAM"), who took over its operations from the Federal Airports Corporation ("FAC") in July 1997. APAM paid \$1.3 billion for a 50-year lease of the airport, with an option for a further 49-year lease at the end of this period.

The regulatory accounts state that aeronautical services include aircraft refuelling, aircraft maintenance sites and buildings, freight facilities and car parking, and non-aeronautical activities include property rental and commercial airport operations.

3.2 Summary

Operating profits and financial position

Operating profits steadily increased over the three-year period to 30 June 2000. However, Melbourne Airport is highly geared. As a result, operating profits funded interest payments resulting in net losses over the three-years. At 30 June 2000, the majority of shareholders' financial interests were in the form of shareholder loans (\$287m) rather than shareholders' equity (\$21m). Using the 8% average interest rate and other information indicated by notes 25 and 2 to the statutory accounts, we can infer that about \$22m of interest was payable to shareholders. In 2000, the net earnings attributable to shareholders after interest, was a \$20m loss. Accordingly, the net earnings and interest accruing to shareholders for 2000 after amortisation charges of \$7m and before interest payable to others, would have been about \$2m. We also note that there are other borrowings and interest payable to related parties.

Revenue and cost allocations

Non-aeronautical activities achieved stronger earnings before interest, tax and amortisation than aeronautical activities. Revenue has been allocated to aeronautical and non-aeronautical activities broadly on a 33:67 basis, while total costs have been allocated about a 55:45 basis.

Asset revaluation

Melbourne Airport undertook an independent valuation of its assets during 1999/00. This resulted in revaluation increments of \$63.4m. However these were not booked in the accounts.

Asset transfers

During 1998/99 and 1999/00 Melbourne reclassified aeronautical assets, as non-aeronautical in its regulatory accounts. This will have had the effect of increasing aeronautical and decreasing non-aeronautical returns reported in the regulatory accounts.

Aeronautical and non-aeronautical returns

The overall operating return on tangible non-current assets for Melbourne Airport increased from 11.2% to 13.0% over the three years to 30 June 2000. However, the aeronautical business segment reported a return of the order of 3% to 4%, while the non-aeronautical business segment reported returns of 27% to 32%.

3.3 Overall financial position

3.3.1 Profit and loss statement

The following tables summarise Melbourne Airport's overall performance and financial position over the three-year period. Table 3.9 at the end of this section provides a more detailed analysis.

Table 3.1: Profit and loss statements (summarised)

	<i>1997/98</i>	<i>1998/99</i>	<i>1999/00</i>
	<i>(\$'000)</i>	<i>(\$'000)</i>	<i>(\$'000)</i>
Revenue	144,679	153,390	167,240
Costs	67,181	70,705	73,086
Operating profit	77,498	82,685	94,154
Abnormal items	-	-	-
Earnings before interest, tax and amortisation	77,498	82,685	94,154
Amortisation	4,050	6,935	6,970
Interest	103,028	105,182	107,580
Earnings before tax	(29,580)	(29,432)	(20,333)
Tax charge	-	-	43
Loss after tax	(29,580)	(29,432)	(20,290)

Melbourne Airport attributes the 16% increase in turnover over the three years to 30 June 2000 to strong passenger growth.

3.3.2 Balance sheet

Table 3.2: Balance sheets (summarised)

Table 3.10 at the end of this section provides further details.

	1997/98 (\$'000)	1998/99 (\$'000)	1999/00 (\$'000)
Total assets	1,347,591	1,345,073	1,334,591
Total liabilities	1,287,171	1,304,085	1,313,893
Net assets	70,420	40,988	20,698
Share capital	100,000	100,000	100,000
Accumulated profits (losses)	(29,580)	(59,012)	(79,302)
Total shareholders' equity	70,420	40,988	20,698

Non-current borrowings

Non-current borrowings account for over 97% of total liabilities and comprise:

- secured senior and junior borrowings; and
- unsecured non-trade payables to the airport's ultimate parent entity in the wholly owned group.

Provisions

There are both current and non-current provisions for employee entitlements. The reversal of these provisions should they be surplus to requirements, could impact on the reported profit of the airport in future years. However, the regulatory accounts do not appear to disclose any reversals that might have an undue impact on reported profits of either business segment. The types of provisions reported by Melbourne Airport appear to be consistent with normal business practice.

Shareholders' equity

Shareholders' equity is made up of issued capital of 100,000 fully paid \$1 ordinary shares less accumulated losses.

The balance sheets show declining net assets caused by net losses.

Capital commitments

The statutory accounts state that the airport had capital commitments of \$7.2 million for property, plant and equipment at 30 June 2000.

3.3.3 Ratio analysis

Appendix 1 provides definitions of the following financial ratios.

Table 3.3: Overall business ratios

Key ratios	1997/98	1998/99	1999/00
Liquidity:			
Current ratio	0.3	0.5	0.3
Profitability:			
Operating profit margin (%)	53.6	53.9	56.3
Operating return on tangible non-current assets	11.2	12.0	13.0
Post tax return on equity (%)	(42.0)	(71.8)	(98.4)
Leverage:			
Debt to equity ratio	18.0	31.6	62.8
Debt to assets ratio	0.9	1.0	1.0
Debt coverage ratio (years)	13.3	12.9	11.4
Interest cover (times)	0.7	0.7	0.8

We comment that:

- Notes 13 and 15 of the 2000 statutory accounts indicate that shareholders and other related party loans amount to \$448m or approximately 34% of borrowings.

However, note 2 to the statutory accounts indicates that all interest (including that on bank borrowings) is payable to the parent entity or other related parties. While this apparent inconsistency may require clarification, it does nonetheless seem reasonable to conclude that the airport's financing structure allows returns to shareholders and related parties through interest charges.

- Liquidity ratios measure the airport's liquidity and capacity to pay its short-term liabilities. A current ratio of less than one indicates that additional short-term liquidity may be needed. Melbourne Airport reports current ratios of less than one for at each of the annual reporting dates. APAM's consolidated balance sheet indicates that the group had a current ratio of 0.3 as at 30 June 2000, and hence may not have been in a strong position to support Melbourne Airport at 30 June 2000. However, additional long-term borrowings were made during the year and that the Directors' Declaration in the 2000 statutory accounts indicates that in the Directors' opinion there are reasonable grounds to believe that the company (APAM) would be able to pay its debts and when they become due and payable, based on future positive operating cash flow and financing facilities available as detailed in note 1 to the statutory accounts. Note 24 to the statutory accounts also indicates that over \$64m of borrowing facilities were available but not drawn down, at 30 June 2000.
- The negative returns on equity highlight losses caused by interest charges on borrowings.
- Leverage ratios reflect the relative interests of shareholders and debt holders. The Airport's borrowings appear to be required to finance operations. The balance sheet does not indicate that Melbourne Airport is on-lending to group companies or other entities.

3.4 Financial indicators for aeronautical and non-aeronautical business segments

Table 3.4: Profit and loss statements

	1997/98		1998/99		1999/00	
	<i>Aero</i> (\$'000)	<i>Non-aero</i> (\$'000)	<i>Aero</i> (\$'000)	<i>Non-aero</i> (\$'000)	<i>Aero</i> (\$'000)	<i>Non-aero</i> (\$'000)
Revenue ¹	53,014	90,990	52,511	100,496	55,160	111,823
Costs ²	39,494	27,546	39,710	30,863	39,277	33,700
Operating profit before interest	13,520	63,444	12,801	69,633	15,883	78,123
Abnormal items	-	-	-	-	-	-
Earnings before interest amortisation tax	13,520	63,444	12,801	69,633	15,883	78,123

¹ Operating revenue items, such as grazing and tenant revenue that have not been allocated within the profit and loss statement have not been included in the disaggregated results in this table. These are relatively immaterial.

² Immaterial expense items, such as maintenance add-backs, that have not been allocated to aeronautical and non-aeronautical activities in the profit and loss statement have not been included in the disaggregated results in this table.

3.4.1 Other ratios

Table 3.5: Additional disaggregated business ratios

Key disaggregated business ratios	1997/98			1998/99			1999/00		
	<i>Total</i>	<i>Aero</i>	<i>Non-aero</i>	<i>Total</i>	<i>Aero</i>	<i>Non-aero</i>	<i>Total</i>	<i>Aero</i>	<i>Non-aero</i>
<i>Revenue allocation (%)</i>		37	63		34	66		33	67
<i>Cost allocation (%)</i>		59	41		56	44		54	46
<i>Operating profit margin (%)</i>	53.6	25.5	69.7	53.9	24.4	69.3	56.3	28.8	69.9
<i>Operating profit allocation (%)</i>		18	82		16	84		17	83
Tangible non-current assets attributed (\$m)	692.9	463.1	229.8	687.5	444.5	243.0	672.0	429.0	243.0
<i>Assets attributed (%)</i>		67	33		65	35		59	41
<i>Depreciation attributed (%)</i>		65.5	34.5		60.9	39.1		55.0	45.0
<i>Average useful life of assets implied by depreciation (yrs)</i>	31.7	32.3	30.5	28.2	29.9	25.5	27.5	29.7	24.9
<i>Operating return on non-current tangible assets (%)</i>	11.2	2.9	27.6	12.0	2.9	28.7	13.0	3.7	32.2

3.4.2 Cost allocations

The 1999/2000 regulatory accounts indicate the following cost attributions. These appear typical for the three years under review. The regulatory accounts provide further detail.

Table 3.6: Summary of cost allocations 1999/2000

	<i>Aeronautical</i>	<i>Non-aeronautical</i>	<i>Total</i>	
Directly attributed	\$20.2m	\$14.3m	\$34.5m	47%
Indirectly attributed	\$19.1m	\$19.5m	\$38.6m	53%
	\$39.3m 54%	\$33.8m 46%	\$73.1m	100%

Subjectivity in accounting treatment be assumed to be more likely for indirectly attributed costs where the outcome can depend on the basis of allocation chosen. The cost drivers used by the airport to allocate indirectly attributable costs are summarised below.

Table 3.7: Disclosed cost drivers and allocations

<i>Cost category</i>	<i>Cost driver</i>	<i>% of total indirectly attributed costs</i>
Depreciation	Function of relevant asset	30
Salary and wages	Labour-hour work analysis by department section	24
Services and utilities	Historical metered usage (ie. floor area, labour hours, kW)	21
Property maintenance	Labour hours and materials used	8
Other costs	Labour hours, floor area, airport areas analysis	17

We observe that:

- the average useful life of assets implied by depreciation charges does not vary significantly between aeronautical and non-aeronautical activities; and

- the allocation of salaries and wages implies a similar average rate of pay between aeronautical and non-aeronautical activities.

However, it would be unwise to draw specific conclusions about the appropriateness of the cost allocations from these observations above. We draw the reader's attention to our general commentary on cost allocation provided in Section 2 of this report.

We can test the hypothesis that there is a difference between aeronautical and non-aeronautical returns by testing its sensitivity to potential changes in cost and asset allocations. (We assume that allocation of revenue is more readily determined and not subject to significant accounting subjectivity).

We consider the following scenarios that might equalise the 1999/00 aeronautical and non-aeronautical returns in Table 3.5, to 13%.

Change of asset allocations only

We estimate that \$307m of assets would need to be reallocated from aeronautical to non-aeronautical activities to equalise the returns.

Change in cost allocations only

If one assumes that subjectivity is principally only likely to exist for indirectly allocated costs, then Table 3.6 indicates that the minimum possible costs attributable to the aeronautical segment would be \$20.2m. (In practice, any scenarios where there are no indirectly allocated costs would seem unlikely.) Accordingly, if all indirectly attributable costs were allocated to the non-aeronautical segment, the 1999/00 returns would be:

<i>Total</i>	<i>Aeronautical</i>	<i>Non- aeronautical</i>
<u>13%</u>	<u>8%</u>	<u>24%</u>

Conclusion

On the basis of these simple sensitivity tests, it seems reasonable to conclude that, notwithstanding the potential for some degree of subjectivity in accounting allocations, the allocations of costs or/and assets would need to be materially misstated to change the view that Melbourne Airport earns significantly lower returns

from aeronautical activities than non-aeronautical activities. We again draw the reader's attention to the more general conclusions we have drawn in Section 2 but do not repeat here for the sake of brevity.

3.5 Review of accounting policies

3.5.1 Accounting for Depreciation

There has been a change in the estimated useful lives for buildings, used in the depreciation calculation, over the three-year period:

1997/98	25 to 40 years
1998/99	10 to 25 years
1999/00	10 to 40 years

These changes do not appear to reveal material changes to depreciation charges and asset balances.

3.5.2 Asset revaluation

Melbourne Airport undertook an independent valuation of its assets during 1999/00. Jones Lang Lasalle Advisory Services Pty Limited valued land, buildings, roads and runways and other infrastructure, and Edward Rushton Australia Pty Limited valued plant and equipment.

This resulted in revaluation increments of \$25.5m for land, \$20.2m for buildings, \$15.7m for roads, runways and other infrastructure and \$2.0m for plant and equipment. However, both the regulatory accounts and the statutory accounts state that the directors decided not to book the revaluation in the 1999/00 accounts. No details have been provided in the accounts to indicate whether these unbooked revaluation increments would relate to the aeronautical or non-aeronautical business segments. Also, the reason why the revaluation increments have not been booked is not disclosed. However, we note that the statutory accounts that disclose the unbooked revaluation, are subject to an unqualified audit opinion. This implies that the auditor is satisfied that the balance sheet is presented fairly notwithstanding that the revaluation increments have not been booked. There is no reason to suppose a contrary view from the information provided in the regulatory accounts

3.5.3 Leasehold land and lease premium amortisation

Leasehold land has been allocated to the aeronautical and non-aeronautical business segments. The lease premium has been allocated to the non-aeronautical business segment. The lease premium is the excess of the purchase price less the fair values of the assets acquired.

Prior to 1 July 1998, the acquisition cost of land leased and the lease premium were being amortised over the expected passenger traffic for the first 15 years, then written off on a straight-line basis for the remaining period of the lease. From 1 July 1998, the methodology changed to straight-line amortisation over the period of the lease, which is 99 years.

3.5.4 Lease premium adjustment

Note 11 to the statutory accounts for 2000 disclose that \$41.5m was transferred from the lease premium to tangible assets. This arose from the expiry of a number of ground leases for buildings built by tenants, where the ownership reverted to APAM. The \$41m represents an independent valuation at acquisition date, July 1997. We observe that this treatment is subject to an unqualified audit report on the statutory accounts. Also from a first principles standpoint, the airport has realised valuable assets on expiry of the leases. On the basis that it is necessary to account for the assets to avoid understatement of tangible assets in the balance sheet, transferring the value from the lease premium to the asset register would seem to be more prudent than any alternative that might increase the overall net value of the business on expiry of the leases.

3.5.5 Asset transfers

During 1998/99 and 1999/00 Melbourne Airport transferred assets between aeronautical and non-aeronautical business segments. This accounting policy differs to the others discussed above because it is unique to the regulatory accounts and is outside the ambit of the Accounting Standards and Corporations Law and policies that would normally be applied for statutory accounting purposes.

Table 3.8: Asset transfers (at net book value)

	1998/99		1999/00	
	<i>Aero (\$'000)</i>	<i>Non-aero (\$'000)</i>	<i>Aero (\$'000)</i>	<i>Non-aero (\$'000)</i>
Land	(133)	133	1	(1)
Buildings	1,020	(1,020)	(2,663)	2,663
Land Improvement	(5,296)	5,296	(2,773)	2,773
Plant & Machinery	(383)	383	(1,123)	1,123
Works in Progress	-	-	(4,637)	4,637
<i>Total</i>	<i>(4,792)</i>	<i>4,792</i>	<i>(11,195)</i>	<i>11,195</i>

The net cumulative effect at 30 June 2000 is a transfer of \$16m from aeronautical to non-aeronautical activities.

The reasons for these transfers are set out in the notes to the regulatory accounts. They principally appear to result from revisions to the bases of asset allocation and transfers out of work in progress as assets became commissioned. However this does not appear to be material in the context of over \$1.3bn non-current tangible assets.

Table 3.9: Melbourne Airport: Profit and Loss Statement

	1997/98	1998/99	1999/00
	(\$'000)	(\$'000)	(\$'000)
Revenue:			
Aero	53,014	52,511	55,160
Non-aero	90,990	100,496	111,823
Not allocated	675	383	257
<i>Total</i>	<i>144,679</i>	<i>153,390</i>	<i>167,240</i>
Costs:			
Depreciation			
Aero	14,318	14,856	14,465
Non-aero	7,544	9,537	11,844
Salaries and wages			
Aero	8,770	9,746	9,787
Non-aero	3,054	4,115	4,847
Services and utilities			
Aero	4,423	4,767	5,783
Non-aero	4,241	8,433	8,973
Property maintenance			
Aero (including maintenance add-backs)	2,810	2,768	2,891
Non-aero	1,356	1,313	1,573
APS costs			
Aero	3,014	2,920	2,830
Non-aero	-	-	-
Other			
Aero	6,159	4,653	3,521
Non-aero	11,351	7,465	6,463
Total costs			
Aero	39,494	39,710	39,277
Non-aero	27,546	30,863	33,700
Not allocated	141	132	109
<i>Total</i>	<i>67,181</i>	<i>70,705</i>	<i>73,086</i>

Melbourne Airport: Profit and Loss Statement (continued)

	1997/98	1998/99	1999/00
	(\$'000)	(\$'000)	(\$'000)
Operating profit			
Aero	13,520	12,801	15,883
Non-aero	63,444	69,633	78,123
Not allocated	534	251	148
<i>Total</i>	<u>77,498</u>	<u>82,685</u>	<u>94,154</u>
Abnormal items			
Aero	-	-	-
Non-aero	-	-	-
<i>Total</i>	<u>-</u>	<u>-</u>	<u>-</u>
Earnings before interest, tax and amortisation			
Aero	13,520	12,801	15,883
Non-aero	63,444	69,633	78,123
Not allocated	534	251	148
<i>Total</i>	<u>77,498</u>	<u>82,685</u>	<u>94,154</u>
Amortisation			
Aero	-	-	-
Non-aero	4,050	6,935	6,907
Earnings before interest and tax	<u>73,448</u>	<u>75,750</u>	<u>87,247</u>
Interest expense	<u>103,028</u>	<u>105,182</u>	<u>107,580</u>
Earnings before tax	(29,580)	(29,432)	(20,333)
Tax charge	<u>-</u>	<u>-</u>	<u>-</u>
Profit (loss) after tax	(29,580)	(29,432)	(20,290)
Dividends paid	<u>-</u>	<u>-</u>	<u>-</u>
Movement in retained earnings	(29,580)	(29,432)	(20,290)

Table 3.10: Melbourne Airport: Balance Sheet

	1997/98 (\$'000)	1998/99 (\$'000)	1999/00 (\$'000)
Current assets:			
Cash (not allocated)	62	34	165
Receivables			
Aero	5,818	4,688	4,642
Non-aero	3,112	3,809	6,129
Inventories			
Aero	690	590	521
Non-aero	22	166	147
Accrued revenue			
Aero	-	146	54
Non-aero	-	314	26
Other			
Aero	174	-	-
Non-aero	43	-	-
Total current assets			
Aero	6,682	5,424	5,217
Non-aero	3,177	4,289	6,302
Not allocated	62	34	165
Total	<u>9,921</u>	<u>9,747</u>	<u>11,684</u>
Non-current assets:			
Property, plant and equipment			
Aero	463,058	444,512	429,009
Non-aero	229,813	242,949	294,478
Intangibles			
Aero	-	-	-
Non-aero	654,799	647,865	599,420
Total non-current assets			
Aero	463,058	444,512	429,009
Non-aero	884,612	890,814	893,898
Total	<u>1,347,670</u>	<u>1,335,326</u>	<u>1,322,907</u>
Total assets			
Aero	469,740	449,936	434,226
Non-aero	887,789	895,103	900,200
Not allocated	62	34	165
Total	<u>1,357,591</u>	<u>1,345,073</u>	<u>1,334,591</u>
Melbourne Airport: Balance Sheet (continued)			
	1997/98 (\$'000)	1998/99 (\$'000)	1999/00 (\$'000)

Current liabilities			
Creditors (not allocated)	13,680	7,204	12,200
Borrowings (not allocated)	20,861	8,702	20,231
Provisions			
Aero	2,506	2,299	2,425
Non-aero	836	986	1,194
Total current liabilities			
Aero	2,506	2,299	2,425
Non-aero	836	986	1,194
Not allocated	34,541	15,906	32,431
Total	<u>37,883</u>	<u>19,191</u>	<u>36,050</u>
Non-current liabilities			
Borrowings (not allocated)	1,248,997	1,284,569	1,277,573
Provisions			
Aero	218	228	181
Non-aero	73	97	89
Total non-current liabilities			
Aero	218	228	181
Non-aero	73	97	89
Not allocated	1,248,997	1,284,569	1,277,573
Total	<u>1,249,288</u>	<u>1,284,894</u>	<u>1,277,843</u>
Total liabilities			
Aero	2,724	2,527	2,606
Non-aero	909	1,083	1,283
Not allocated	1,283,538	1,300,475	1,310,004
Total	<u>1,287,171</u>	<u>1,304,085</u>	<u>1,313,893</u>
Net assets	70,420	40,988	20,698
Shareholders' equity			
Share capital	100,000	100,000	100,000
Accumulated (losses)	(29,580)	(59,012)	(79,302)
Total shareholder's equity	<u>70,420</u>	<u>40,988</u>	<u>20,698</u>

4 Brisbane Airport

4.1 Background

Brisbane Airport is operated by Brisbane Airports Corporation Ltd ("BACL"), who took over its operations from the Federal Airports Corporation ("FAC") in July 1997. BACL paid \$1.397 billion for a 50-year lease of the airport, with an option for a further 49-year lease at the end of this period.

The regulatory accounts state that aeronautical services at Brisbane airport include landing fees, security charges and parking charges, and non-aeronautical services include retail and duty free, car parking, other trading (ie. service stations and car hire), property rental and other miscellaneous services.

4.2 Summary

Operating profits and capital structure

Operating profits increased from 1997/98 to 1998/99, but declined in 1999/00. Brisbane Airport is highly geared. As a result, operating profits have been absorbed by interest payments resulting in net losses over the three-year period.

At 30 June 2000, a significant proportion of shareholders' financial interests appear to be by way of shareholder loans (\$288m) in addition to shareholders' equity (a further \$301m). Using the 15% average interest rate and other information indicated by note 24 to the statutory accounts, it seems reasonable to infer that about \$40m of interest was payable to shareholders. In 2000, the net earnings attributable to shareholders after interest was a \$113m loss. Accordingly, the net earnings available to provide interest and returns to shareholders, would have been a loss of about \$73m.

During 1999/00 the airport restructured its debt. The new arrangements raised \$51 million from existing shareholders and replaced \$820 million of syndicated bank debt with \$350 million of domestic bonds and \$510 million of bank facilities. As a result of debt restructuring and asset revaluations, the 1999/00 accounts reported abnormal costs of approximately \$88 million.

Returns on assets

The airport had operating returns on non-current tangible assets of 14.0% and 16.2% for 1997/98 and 1998/99, and 8.0% in 1999/00. The fall in the last year appears to reflect the effect of asset revaluations. Abnormal expenses have not been taken into account in calculating these returns.

Adjustments to the value of tangible assets acquired on 2 July 1997 and other asset revaluations

During 1999/00 Brisbane Airport reviewed the value of tangible assets acquired on 2 July 1997. Brisbane Airport's statutory accounts indicate that the values of land, runways, taxiways and aprons acquired on 2 July 1997 were increased by \$267 million at the beginning of the 1999/00, which resulted in a corresponding decrease in the value of the lease premium. This adjustment was allocated on a 75:25 basis between the aeronautical and non-aeronautical business segments.

During 1999/00, Brisbane Airport also revalued leasehold land, buildings and runways, taxiways, and aprons. This resulted in further revaluation gains of \$163.9 million. \$84.5 million was allocated to the aeronautical business segment and \$79.4 million to the non-aeronautical business segment.

But for these revaluation gains, shareholder equity would have fallen to about \$60m at 30 June 2000.

Abnormal items – 1999/2000

The airport has allocated a write-off of borrowing costs of \$75.4 million between the aeronautical and non-aeronautical business segments, on the basis of total assets utilised. Section 3.5 of the Regulatory Information Requirements Guideline does not require interest costs to be disaggregated into either aeronautical or non-aeronautical activities. In its regulatory accounts for 1999/00, Brisbane Airport followed this guidance. However, it has allocated the abnormal expenses for the write-off of borrowing costs. This would appear to be an inconsistent treatment.

We also note that the 1999/00 audit opinion explicitly states that the auditor has not examined nor expressed an opinion on the disaggregation of these abnormal expenses between aeronautical and non-aeronautical activities. However, we also note that there appears to be sufficient transparency in disclosure to allow the Commission to reverse for the disaggregation of these items where necessary.

The abnormal expenses adjusting depreciation and amortisation of \$12.7 million reported in 1999/00, relate to expenses that would have been incurred in 1997/98

and 1998/99 and therefore, would have had an affect on earnings reported in those years (ie. \$10.0 million in 1997/98 and \$2.7 million in 1998/99) had they been identified at the time. To indicate the retrospective effect on the profit and loss statements for 1997/98 and 1998/99, we prepared pro-forma profit and loss statements. These are set out in section 4.4. They disclose the adjustment of small profits to losses for the aeronautical segments.

Revenue and cost allocations

The non-aeronautical business segment achieved stronger earnings before interest, tax and amortisation than the aeronautical business segment. Revenue has been allocated to aeronautical and non-aeronautical activities on a 30:70 basis, while total costs have been allocated on almost a 65:35 basis.

The overall operating returns¹ on tangible non-current assets for Brisbane Airport was between 14% and 16% in 1997/98 and 1999/00, and 8% in 1999/00. However, the aeronautical business segment reports lower returns of 1%, while the non-aeronautical business segment reports returns around 40%.

Sensitivity tests that indicate that operating returns for the aeronautical segment appear intrinsically lower than those for the non-aeronautical segment.

4.3 Overall financial position

4.3.1 Profit and loss statement

The following tables summarise Brisbane Airport's overall performance and financial position over the three-year period. Table 4.17 provides more detail.

¹ Before abnormal items.

Table 4.1: Profit and loss statement (summarised)

	1997/98	1998/99	1999/00
	(\$'000)	(\$'000)	(\$'000)
Revenue	117,124	123,517	129,531
Costs	54,479	52,663	61,257
Operating profit	62,645	70,854	68,274
Abnormal items	2,039	(704)	(88,116)
Earnings before interest, tax and amortisation	64,684	70,150	(19,842)
Amortisation	6,597	14,442	23,324
Interest	69,920	75,646	69,484
Earnings before tax	(11,833)	(19,938)	(112,650)
Tax charge	-	-	-
Loss after tax	(11,833)	(19,938)	(112,650)

The abnormal expenses in 1997/98 and 1998/99 largely relate to Year 2000 rectification costs.

The abnormal expenses of \$88.1 million in 1999/00 comprise:

- a write-off of borrowing costs of \$75.4 million, and
- adjustments for depreciation and amortisation of \$12.7 million, as a result of the increase in the value of assets acquired on 2 July 1997 and the corresponding decrease in the cost of the lease premium.

Table 4.15 illustrates that much of the increase in costs in 1999/2000 has arisen from depreciation charges which seem to have increased because of the asset revaluation but also general "across the board" increases

4.3.2 Balance sheet

Table 4.18 at the end of this section provides further detail.

Table 4.2: Balance sheet (summarised)

	1997/98 (\$'000)	1998/99 (\$'000)	1999/00 (\$'000)
Total assets	1,460,432	1,445,456	1,547,588
Total liabilities	1,216,366	1,221,328	1,247,056
Net assets	244,066	224,128	300,532
Share capital	2,550	255,899	281,095
Reserves	253,349	-	163,858
Accumulated (losses)	(11,833)	(31,771)	(144,461)
Total shareholders' equity	244,066	224,128	300,492

Non-current borrowings

At 30 June 2000, non-current borrowings accounted for over 98% of total liabilities. Non-current borrowings comprise:

- bank loans and domestic bonds secured by first ranking mortgages over the airport lease and a fixed and floating charge over the company's assets and undertakings;
- mezzanine bonds secured by a second ranking mortgage and charges;
- unsecured shareholder loans repayable after 50 years; and
- unsecured convertible notes with interest paid annually in arrears.

Provisions

There are both current and non-current provisions for employee entitlements. The reversal of these provisions should they be surplus to requirements, could impact on the reported profit of the airport in future years. However, we have not identified any reversals which might have an undue impact on reported profits of either business segment. The types of provisions reported appear to be consistent with normal business practice.

Shareholders' equity

At 30 June 2000, shareholders' equity comprised of issued and paid-up capital of 2.805 million fully paid ordinary shares, accumulated profits/losses and an asset revaluation revenue of \$163.9m. The latter arose from the revaluations carried out in 1999/00.

The movement in net assets and shareholders' equity over the three years can be summarised as follows.

Table 4.3: Movements in net assets and shareholder equity

	1997/98 \$m	1998/99 \$m	1999/00 \$m
Share capital			
Opening balance	\$2.6	\$2.6	\$256m
Transfer from share premium account		\$253.4m	
255,000 shares issued net of transaction costs			\$25.2m
Closing balance	\$2.6m	\$256m	\$281m
Retained earnings			
Opening balance	-	\$(11.8)m	\$(31.7)m
Profit and loss account	\$(11.8)m	\$(19.9)m	\$(112.7)m
Closing balance	\$(11.8)m	\$(31.7)m	\$(144.4)m
Revenues			
Opening balance	\$253.4m	\$253.4m	-
Transfer to share capital	-	\$(253.4)m	-
Asset revaluation surplus	-	-	\$163.9m
Closing balance	\$253.4m	-	\$163.9m
Total net assets and shareholder equity	\$244.1m	\$224.7m	\$300.3m

Capital commitments

The statutory accounts disclose capital commitments of \$21.0 million at 30 June 2000. These commitments are in accordance with the terms and conditions of the Sale Agreement with the Commonwealth, whereby BACL is required to spend a minimum amount on capital items in the first 10 years of operation, based on certain passenger/traffic forecasts.

4.3.3 Ratio analysis

Definitions of the following financial ratios are set out in Appendix 1.

Table 4.4: Overall business ratios

Key ratios	1997/98	1998/99	1999/00
Liquidity:			
Current ratio	2.7	3.0	1.8
Profitability:			
Operating profit margin (%)	53.5	57.4	52.7
Operating profit return on tangible non-current assets (%)	14.0	16.2	8.0
Post-tax return on equity (%)	(4.8)	(8.9)	(6.3)
Leverage:			
Debt to equity ratio	4.9	5.3	3.2
Debt to assets ratio	0.8	0.8	0.8
Debt coverage ratio (years)	15.9	16.2	18.2
Interest cover (times)	0.9	0.9	1.0

We comment that:

- The reduction in operating returns in 1999/00 appears to be largely due to the effects of the asset revaluations booked in that year. These increased the asset base.
- Liquidity ratios measure the airport's liquidity and capacity to pay its short-term liabilities. A current ratio of less than one could indicate that additional short-term liquidity may be required.

- Leverage ratios calculate the relative investments of shareholders and debt holders. The ratios for Brisbane Airport indicate that it is highly geared. Borrowings appear to finance operations. There is no evidence from its balance sheet that Brisbane Airport is on-lending to group companies or other entities.

4.4 Financial indicators for aeronautical and non-aeronautical business segments

Table 4.5: Profit and loss statements

	1997/98		1998/99		1999/00	
	<i>Aero</i>	<i>Non-aero</i>	<i>Aero</i>	<i>Non-aero</i>	<i>Aero</i>	<i>Non-aero</i>
	(\$'000)	(\$'000)	(\$'000)	(\$'000)	(\$'000)	(\$'000)
Revenue	38,093	79,031	37,057	86,460	38,211	91,320
Costs	34,387	20,092	34,090	18,569	38,016	23,241
Operating profit	3,706	58,939	2,963	67,891	195	68,079
Abnormal items ¹	(31)	2,070	(550)	(154)	(9,559)	(3,150)
Earnings before interest and tax after abnormals ¹	3,675	61,009	2,413	67,737	(9,364)	66,729

¹ Excludes write off of borrowing costs and lease premium amortisation. See discussion below.

4.4.1 Revenue

We note that over the three years a total of \$5.1m of revenue described as "non aeronautical" has been recorded as aeronautical. It is not clear from the regulatory accounts what this represents. The Commission may wish to seek further information from the Airport.

4.4.2 Abnormal items

1999/00 Abnormal expenses have been attributed to aeronautical and non-aeronautical activities in accordance with the Commission's Guideline as follows:

Table 4.6: 1999/00 abnormal expenses

	<i>Total \$'000</i>	<i>Aero \$'000</i>	<i>Non-aero \$'000</i>	<i>Not allocated \$'000</i>
Depreciation	9,256	9,256	-	-
Leasehold land amortisation	1,653	303	1,350	-
Write-off of borrowing costs	75,409	-	-	75,409
Amortisation of lease premium	<u>1,798</u>	<u>-</u>	<u>-</u>	<u>1,798</u>
	<u>88,116</u> ⁽¹⁾	<u>9,559</u>	<u>1,350</u>	<u>77,207</u>

The 1999/00 regulatory accounts allocate all abnormal items between aeronautical and non-aeronautical activities in accordance with the directors' view of net profitability of activities.

We comment that:

- the allocation of leasehold land amortisation on 18:82 basis between the aeronautical and non-aeronautical business segments reflects the distribution of revised leasehold land assets in the aeronautical and non-aeronautical segmented balance sheets; but
- Section 3.5 of the Regulatory Information Requirements Guideline does not require certain items to be disaggregated into either aeronautical or non-aeronautical activities. In its regulatory accounts for 1999/00, Brisbane Airport has not allocated interest costs into aeronautical or non-aeronautical activities. However, it has allocated abnormal expenses for the write-off of borrowing costs to aeronautical or non-aeronautical activities. This would appear to be an inconsistent treatment.

The 1999/00 audit opinion explicitly states that the auditor has neither examined nor expressed an opinion on:

- the disaggregation of interest expense, amortisation of borrowings and lease premium, and write-off of borrowing costs between aeronautical and non-aeronautical services in the profit and loss statement (schedule 1.0); and
- the disaggregation of the lease premium and other borrowing costs between aeronautical and non-aeronautical services in the balance sheet (schedule 2.0).

However, this is probably not a serious concern for the Commission because:

- abnormal items are not included in much of the analysis set out here; and
- Table 4.7 illustrates that adjustments and restatements can be readily made if necessary.

Abnormal expenses of depreciation and amortisation of \$12.7 million reported in 1999/00, relate to expenses that would have been incurred in 1997/98 and 1998/99 and therefore, would have an affect on earnings reported in those years (ie. \$10.0 million in 1997/98 and \$2.7 million in 1998/99).

The 1999/00 statutory accounts set out details of the impact on amortisation and depreciation for these earlier years as follows:

Table 4.7: Retrospective depreciation and amortisation

	<i>1997/98</i> <i>(\$'000)</i>	<i>1998/99</i> <i>(\$'000)</i>
Runways, taxiways and aprons	4,635	4,635
Lease premium	4,563	(2,775)
Leasehold land	<u>826</u>	<u>826</u>
	<u>10,024</u>	<u>2,686</u>

To estimate the retrospective effect of these expenses on the profit and loss statement for 1997/98 and 1998/99, we prepared pro forma profit and loss statements.

Table 4.8: Proforma profit and loss statements

	1997/98		1998/99	
	<i>Aero</i> (\$'000)	<i>Non-aero</i> (\$'000)	<i>Aero</i> (\$'000)	<i>Non-aero</i> (\$'000)
Revenue	38,093	79,031	37,057	86,460
Costs				
As reported (see Table 4.5)	<u>34,387</u>	<u>20,092</u>	<u>34,090</u>	<u>18,369</u>
Original operating profit	<u>3,706</u>	52,360	2,967	53,449
Retrospective adjustments to depreciation				
Runways, etc	4,635	-	4,635	-
Leasehold land (18:82 allocation assumed)	<u>149</u>	<u>677</u>	<u>149</u>	<u>677</u>
Restated costs	<u>39,171</u>	<u>20,769</u>	<u>38,874</u>	<u>19,246</u>
Operating profit (loss)	(1,078)	51,683	(1,817)	54,870

Note: In accordance with the Commission's Guideline, we have not allocated the amortisation of the lease premium to either activity segment.

Table 4.9: Additional disaggregated business ratios

Key disaggregated business ratios	1997/98			1998/99			1999/00		
	<i>Total</i>	<i>Aero</i>	<i>Non-aero</i>	<i>Total</i>	<i>Aero</i>	<i>Non-aero</i>	<i>Total</i>	<i>Aero</i>	<i>Non-aero</i>
<i>Revenue allocation (%)</i>		32	68		30	70		30	70
<i>Cost allocation (%)</i>		63	37		65	35		62	38
<i>Operating profit allocation¹ (%)</i>		6	94		4	96		<1	>99
Tangible non-current assets attributed (\$m)	448	302	146	438	291	147	852	528	324
<i>Assets attributed (%)</i>		67	33		66	34		62	38
<i>Depreciation attributed (%)</i>		68.8	31.2		69.0	31.0		65.8	34.2
Average useful life of assets implied by depreciation (yrs)	22.1	21.1	24.4	20.5	19.1	23.5	29.2	32.9	22.0
Operating Return on tangible non- current assets (%) ¹	14.0	1.2	40.4	16.2	1.0	46.2	8.0	0.0	21.0

¹ Before abnormal items.

Table 4.10: Three year growth

	<i>Aeronautical</i>	<i>Non-aeronautical</i>
Revenue	<1%	16%
Costs	11%	16%
Operating profits	-95%	16%

Table 4.11: Composition of revenue, expenses and operating profits

	<i>Aeronautical:Non-aeronautical ratios</i>	
	<i>1997/98</i>	<i>1999/00</i>
Revenue	1:2.1	1:2.4
Costs	1:0.6	1:0.6
Operating profits	1:15.9	1:34.9

These figures indicate that non-aeronautical activities have been the principal source of income growth and operating profits reported by the airport. Non-aeronautical income has grown more strongly over the period than aeronautical income. Also, costs attributed to the aeronautical sector have increased while revenue remains constant. However, the narrower margins reported for the aeronautical sector are more sensitive to changes in revenue and costs than the greater, non-aeronautical margins. Should the Commission wish to understand the basis of the relative profitability of the two business segments, it would seem necessary to understand the underlying bases of cost allocations.

4.4.3 Cost allocations

Brisbane Airport has disclosed that it has allocated its costs according to the following cost drivers:

Table 4.12: Cost allocations (Based on 1999/00 figures)

Cost category	Cost driver	% of total costs	Aero (%)	Non-aero (%)
Depreciation	Associated asset function	37	65	35
Property maintenance	Associated asset function	9	71	29
Services and utilities	Historical metered usage	14	24	26
APS costs	Landed tonne basis	7	100	-
Other expenses	Area, landed tonnes staff function	18	54	46
Salaries and wages	Staff function	14	75	25

We make the following general comments:

- Depreciation charges are allocated to aeronautical and non-aeronautical activities on a 70:30 basis over 1998/99, and changed to a 65:35 basis in 1999/00. This appears to reflect the impact of asset revaluations.
- The regulatory accounts do not seem to provide any analysis or disclosure of the extent to which expenses may have been directly attributed or allocated.

However, we can test the hypothesis that there is a difference between aeronautical and non-aeronautical returns by testing its sensitivity to potential changes in cost and asset allocations. (We assume that allocation of revenue is more readily determined and less likely to be subject to significant accounting subjectivity).

We consider the following scenarios that might equalise the 1999/00 aeronautical and non-aeronautical returns in Table 4.10 to 8%.

Change of asset allocations only

The operating profits attributed to the aeronautical segments are so low for each of the three years that it appears difficult to conceive any asset reallocation that might be within the bounds of reasonableness, could bring about an equalisation of returns. Therefore, cost allocations appear to be the principal area of focus.

Table 4.13: Change in cost allocations only

	<i>Aeronautical \$m</i>	<i>Non-aeronautical \$m</i>
Asset allocations per Table 4.10	528	324
Overall return	8%	8%
Required operating profit	42	26
Reported operational profit (Table 4.6)	-	68
Required cost allocation	42	(42)

However, Table 4.6 indicates that there is only \$38m of cost in the aeronautical segment. Therefore, it seems reasonable to conclude that on the basis of the information provided in the regulatory accounts:

- the returns on aeronautical activities are intrinsically lower than those on non-aeronautical activities; and
- even if there was significant subjectivity or variation in the cost allocations, there could still be significant differences in returns between aeronautical and non-aeronautical returns.

WE also reviewed the allocation of incremental changes in cost from 1998/99 to 1999/00. Table 4.11 indicates that over the three years under review aeronautical revenue has remained almost constant but costs have risen by about 11%. This has brought about a significant fall in aeronautical operating margins.

The following table analyses this increase in costs.

Table 4.14: Analysis of three year increase in aeronautical costs (refer to Table 4.18 for more details)

	1997/98	1999/00	Difference	
	\$m	\$m	\$m	%
Depreciation	\$12.3	\$13.0	\$2.7	22%
Salaries and wages	-	\$6.5	\$6.5	-
Services and utilities	\$1.7	\$2.1	\$0.4	24%
Property maintenance	-	\$4.0	\$4.0	-
APS	\$2.9	\$4.4	\$1.5	52%
Other	\$17.6	\$6.1	-\$11.5	-65%
	<u>\$34.4</u>	<u>\$38.0</u>	<u>\$3.6</u>	<u>11%</u>

We observe that:

- changes in salaries and wages, property maintenance and “other” appears to reflect reallocations between cost categories in part at least, although each of these three categories which were recorded in both 1998/99 and 1999/00 recorded relatively small changes between those two years;
- depreciation and APS charges also would have accounted for a \$4.2m increase in costs but for the effect of other cost reductions;
- APS costs are directly attributable to the aeronautical segment; and
- it seems reasonable to conclude that depreciation and APS costs rather than accounting subjectivity could account for the erosion of aeronautical operating margins.

We also draw the reader’s attention to the generic cost allocations observations in Section 2.

4.5 Review of accounting policies

4.5.1 Adjustment to the value of tangible assets acquired on 2 July 1997

During 1999/00 Brisbane Airport undertook a detailed review of the value of tangible assets acquired on 2 July 1997. As a result of this review, the cost of land, runways, taxiways and aprons acquired on 2 July 1997 were adjusted upwards by \$267 million at the beginning of the 1999/00, which resulted in a corresponding decrease in the cost of the lease premium.

Brisbane Airport appears to have applied AASB 1013 *Accounting for Goodwill*, which discusses subsequent changes in cost of acquisition. The accounting standard states that “*where it becomes known, subsequent to acquisition, that assets or liabilities existed at the date of acquisition but were not recognised, an adjustment must be made in respect of those assets and liabilities and, where relevant, in respect of the amount of goodwill or discount on acquisition*”.

We conclude that the adjustment meets financial accounting requirements on the basis that it is set out in the statutory accounts and is accompanied by a directors' responsibility statement and an unqualified audit opinion.

Table 4.15: Allocation of adjustment to 1997 values

<i>Fixed asset category</i>	<i>Total adjustments (\$'000)</i>	<i>Aero (\$'000)</i>	<i>Non-aero (\$'000)</i>
Land	80,384	14,720	65,664
Runways & taxiways	<u>175,698</u>	<u>175,698</u>	-
	<u>256,082</u>	<u>190,418</u>	<u>65,664</u>

We have not been able to reconcile the above adjustment of \$256.1 million to the \$267 million reported by Brisbane Airport in the notes to its regulatory accounts. While this difference is not critical to the results of this analysis, should the Commission need to understand the difference, it may wish to request further information from the airport.

4.5.2 Asset revaluations

During 1999/00, Brisbane Airport also undertook an asset revaluation on leasehold land, buildings and runways, taxiways, and aprons that resulted in revaluation gains of \$163.9 million. The following table sets out how this has been allocated between aeronautical and non-aeronautical business segments.

Table 4.16: 199/00 Asset revaluations

<i>Fixed asset category</i>	<i>Total revaluation (\$'000)</i>	<i>Aero (\$'000)</i>	<i>Non-aero (\$'000)</i>
Land	53,798	9,952	43,946
Runways & taxiways	40,874	40,874	-
Pax Terminal Building	63,728	32,532	31,196
Other Buildings	<u>5,456</u>	<u>1,231</u>	<u>4,225</u>
	<u>163,856</u>	<u>84,489</u>	<u>79,367</u>

4.5.3 Depreciation

Brisbane Airport depreciates leasehold land and property, plant and equipment on a straight-line basis. A reassessment of the remaining useful life of runways, taxiways and aprons was effected from 1 July 1999.

Prior to 1 July 1999, the remaining useful life of runways, taxiways and aprons was determined to be 40 years from the date of Brisbane Airport acquired the right to operate the airport. From 1 July 1999, the remaining useful life of the significant components of runways, taxiways and aprons is considered to be:

Surface wearing courses	4 to 15 years
Underlying runway structure	97 years

Depreciation of runways, taxiways and aprons in 1999/00 has been calculated on this revised basis. The effect of this change has been a decrease in depreciation expense of runways, taxiways and aprons in the current financial year of \$2.2 million.

We note that depreciation charges in the 1999/00 regulatory accounts reflect changes in depreciation charges as a result of:

- the adjustment to the value of tangible assets acquired on 2 July 1997 at the beginning of 1999/00,
- asset revaluations undertaken during 1999/00, and
- this reassessment of the remaining useful life of runways, taxiways and aprons from 1 July 1999.

4.5.4 Amortisation

Amortisation expenses include amortisation of the lease premium and, of borrowing costs. Prior to 1 July 1998, the lease premium was amortised on an inverse sum of the digits basis. This method of calculating amortisation expenses was changed from 1 July 1998 to a straight-line basis for the remaining period of the lease.

Borrowing costs are the costs incurred in establishing borrowing facilities and renegotiating interest rate swap agreements, which are deferred and amortised on a straight-line basis over the anticipated term of the applicable borrowings.

Table 4.17: Brisbane Airport - Profit and Loss Statement

	1997/98	1998/99	1999/00
	(\$'000)	(\$'000)	(\$'000)
Revenue:			
Aero	38,093	37,057	38,211
Non-aero	79,031	86,460	91,320
Not allocated	-	-	-
<i>Total</i>	<i>117,124</i>	<i>123,517</i>	<i>129,531</i>
Costs:			
Depreciation			
Aero	12,267	12,995	14,983
Non-aero	5,573	5,837	7,794
Salaries and wages			
Aero	-	6,006	6,523
Non-aero	-	1,907	2,218
Services and utilities			
Aero	1,619	1,993	2,053
Non-aero	6,553	4,806	6,428
Property maintenance			
Aero (including maintenance add-backs)	-	3,837	3,973
Non-aero	-	1,358	1,642
APS costs			
Aero	2,920	3,012	4,346
Non-aero	-	-	-
Other			
Aero	17,581	6,251	6,138
Non-aero	7,966	4,661	5,159
Total costs			
Aero	34,387	34,094	38,016
Non-aero	20,092	18,569	23,241
Not allocated	-	-	-
<i>Total</i>	<i>54,479</i>	<i>52,663</i>	<i>61,257</i>
Operating profit			
Aero	3,706	2,963	195
Non-aero	58,939	67,891	68,079
Not allocated	-	-	-
<i>Total</i>	<i>62,645</i>	<i>70,854</i>	<i>68,274</i>

	1997/98	1998/99	1999/00
Brisbane Airport – Profit and Loss Statement (continued)			
	(\$'000)	(\$'000)	(\$'000)
Abnormal items			
Aero	(31)	550	35,997
Non-aero	2,070	154	52,119
<i>Total</i>	<i>2,039</i>	<i>704</i>	<i>88,116</i>
Earnings before interest, tax and amortisation			
Aero	3,675	2,413	(35,802)
Non-aero	61,009	67,737	15,960
Not allocated	-	-	-
<i>Total</i>	<i>64,684</i>	<i>70,150</i>	<i>(19,842)</i>
Amortisation	6,597	14,442	23,324
Earnings before interest and tax	58,087	55,708	(43,166)
Interest expense	69,920	75,646	69,484
Earnings before tax	(11,833)	(19,938)	(112,650)
Tax charge	-	-	-
(Loss) after tax	(11,833)	(19,938)	(112,650)
Dividends paid	-	-	-
Movement in retained earnings	(11,833)	(19,938)	(112,650)

Table 4.18: Brisbane Airport - Balance Sheet

	1997/98 (\$'000)	1998/99 (\$'000)	1999/00 (\$'000)
Current assets:			
Cash (not allocated)	37,940	45,296	23,550
Receivables			
Aero	3,023	3,876	4,068
Non-aero	3,027	3,244	(89)
Inventories			
Aero	150	136	426
Non-aero	303	315	13
Accrued revenue			
Aero	481	115	151
Non-aero	(167)	(74)	1,516
Other			
Aero	46	466	52
Non-aero	24	240	103
<i>Total current assets</i>			
Aero	3,700	4,593	4,697
Non-aero	3,187	3,725	1,543
Not allocated	37,940	45,296	23,550
Total	<u>44,827</u>	<u>53,614</u>	<u>29,790</u>
Non-current assets:			
Lease Premium (not allocated)	938,240	928,968	
Lease Premium			
Aero	-	-	-
Non-aero	-	-	653,375
Other - Borrowing Costs (not allocated)	29,210	24,342	-
Other - Borrowing Costs			
Aero	-	-	4,525
Non-aero			
Leasehold Land			
Aero	43,710	43,236	34,111
Non-aero	10,019	9,922	152,156
Property, plant and equipment			
Aero	258,638	248,188	493,511
Non-aero	135,788	137,186	171,739

Brisbane Airport - Balance Sheet (continued)

	1997/98	1998/99	1999/00
	(\$'000)	(\$'000)	(\$'000)
<i>Total non-current assets</i>			
Aero	302,348	291,424	532,147
Non-aero	145,807	147,108	985,651
Not allocated	967,450	953,310	0
Total	1,415,605	1,391,842	1,517,798
Total assets			
Aero	306,048	296,017	536,844
Non-aero	148,994	150,833	987,194
Not allocated	1,005,390	998,606	23,550
Total	1,460,432	1,445,456	1,547,588
Current liabilities			
Creditors (not allocated)	8,690	9,420	12,187
Other (not allocated)	6,186	6,667	2,142
Provisions			
Aero	1,183	1,239	1,423
Non-aero	354	393	470
<i>Total current liabilities</i>			
Aero	1,183	1,239	1,423
Non-aero	354	393	470
Not allocated	14,876	16,087	14,329
Total	16,413	17,719	16,222
Non-current liabilities			
Bank Loans (not allocated)	928,200	931,400	934,600
Shareholder Loans (not allocated)	255,000	255,000	280,500
Convertible Notes (not allocated)	10,000	10,000	10,000
Other (not allocated)	6,611	7,044	5,600
Provisions			
Aero	109	-	101
Non-aero	33	-	33
Not allocated	0	165	
<i>Total non-current liabilities</i>			
Aero	109	-	101
Non-aero	33	-	33
Not allocated	1,199,811	1,203,609	1,230,700
Total	1,199,953	1,203,609	1,230,834

Brisbane Airport - Balance Sheet (continued)

	1997/98	1998/99	1999/00
	(\$'000)	(\$'000)	(\$'000)
Total liabilities			
Aero	1,292	1,239	1,524
Non-aero	387	393	503
Not allocated	1,214,687	1,219,696	1,245,029
Total	1,216,366	1,221,328	1,247,056
Net assets	244,066	224,128	300,532
Shareholder's equity			
Share capital	2,550	255,899	281,095
Reserves	253,349	-	163,858
Accumulated profits / (losses)	(11,833)	(31,771)	(144,461)
Total shareholder's equity	244,066	224,128	300,492

5 Perth Airport

5.1 Background

Perth Airport is owned and operated by Westralia Airports Corporation Limited ("Westralia") since 2 July 1997. Westralia paid \$639 million for a 50-year lease of the airport, with an option for a further 49-year lease at the end of this period.

Aeronautical services of Perth airport include aircraft refuelling, aircraft maintenance sites and buildings, freight facilities and car parking. Non-aeronautical services include duty free and other retail outlets, other trading (ie. service stations and car hire), property rental and miscellaneous services.

5.2 Summary

Operating profits

Operating profits increased over the three years to 30 June 2000, but Perth Airport is highly geared. As a result, operating profits are used to service interest payments with the airport making net losses over the three-year period.

At 30 June 2000, shareholder equity amounted to nearly \$68m. Additionally, shareholder loans amounted to \$163m. Note 2 to the 2000 statutory accounts indicates that \$15m of interest was payable in 1999/00 under these loans. On this basis, the net earnings available to provide interest and returns to shareholders, would have been a loss of about \$7m.

Adjustment to the value of tangible assets acquired on 2 July 1997

During 1998/99 Perth Airport undertook a detailed review of the value of tangible assets acquired on 2 July 1997. Its statutory accounts indicate that the valuations of land, runways, taxiways and aprons acquired on 2 July 1997 were increased by \$23.4 million at the beginning of 1998/99. This resulted in a corresponding adjustment to the cost of the lease franchise fee of which \$22.5m was allocated to the aeronautical business segment.

Discussion of the accounting treatment of this adjustment of \$23.4 million is set out in section 5.5.

Revenue and cost allocations

The non-aeronautical business segment achieving stronger earnings before interest, tax and amortisation than the aeronautical business segment. Revenue has been allocated to aeronautical and non-aeronautical activities on a 30:70 basis, while total costs have been allocated on almost a 65:35 basis.

Returns on assets

The returns on tangible non-current assets were 16% for 1997/98 and 1998/99, and increased to 18% in 1999/00. However, the aeronautical business segment reports lower returns of 1% to 3%, while the non-aeronautical business segment reports returns of 29% to 33%

Large cost or asset reallocations would be necessary, to change the conclusion that aeronautical returns earn significantly less than non-aeronautical returns. It seems reasonable to conclude that the regulatory accounts would need to be materially misstated to change the conclusion that there are differences in returns.

5.3 Overall financial position

5.3.1 Profit and loss statement

Table 5.1: Profit and loss statements (summarised)

	1997/98 (\$'000)	1998/99 (\$'000)	1999/00 (\$'000)
Revenue	60,903	65,304	69,678
Costs	(30,642)	(31,830)	(32,026)
Operating profit	30,261	33,474	37,652
Abnormal items	(509)	(1,167)	(932)
Earnings before interest, tax and amortisation	29,752	32,307	36,720
Amortisation	(7,666)	(9,567)	(7,360)
Interest	(49,014)	(50,323)	(51,758)
Earnings before tax	(26,928)	(27,583)	(22,398)
Tax charge	-	-	-
(Loss) after tax	(26,928)	(27,583)	(22,398)

Table 5.10 at the end of this section provides a more detailed analysis.

Perth Airport reported increasing operating profits for the three years to 30 June 2000. This increase was driven by a 25% increase in turnover and constrained costs over the three years.

Abnormal expenses

Perth Airport recorded abnormal expenses of \$2.6 million over the three-years to 30 June 2000. These largely related to:

- adjustments to depreciation of runways, taxiways and aprons and amortisation of the lease franchise fee as a result of adjustments from 1 July 1998 to the cost of runways, taxiways and aprons acquired at 2 July 1997;

- GST readiness and Y2K readiness costs of over 1999/00;
- redundancy costs during 1999/00;
- disposal of assets during 1999/00; and
- redundancy costs in 1998/99.

5.3.2 Balance sheet

Table 5.2: Balance sheet summarised

	1997/98	1998/99	1999/00
	(\$'000)	(\$'000)	(\$'000)
Total assets	692,522	675,483	671,026
Total liabilities	574,885	585,429	603,370
Net assets	117,637	90,054	67,656
Share capital	144,565	144,565	144,565
Accumulated (losses)	(26,928)	(54,511)	(76,909)
Total shareholders' equity	117,637	90,054	67,656

Table 5.11 provides more detail.

Non-current assets

Intangible assets account for over 60% of total non-current assets and comprise a lease franchise fee and other capitalised costs.

Debt capital

The statutory accounts indicate that non-current borrowings account for over 97% of total liabilities and at 30 June 2000 comprised:

- secured bank loans, AUD bonds and USD bonds that amounted to \$424m , and
- unsecured shareholder loans amounting to \$163m.

The 1999/00 statutory accounts indicate that Westralia entered into a cross-currency foreign currency swap that effectively hedged all USD foreign exchange and interest rate risks associated with the USD bond's coupon payments and principal repayment on maturity.

The accounts also indicate that the airport has \$82.9 million of financing facilities that include a stand-by letter of credit, bank overdrafts, and bank loan facilities. The airport had unused financing facilities of \$37.4 million at 30 June 2000.

Provisions

There are both current and non-current provisions for employee entitlements. The reversal of these provisions should they be surplus to requirements, could impact on the profit reported by aeronautical or non-aeronautical segment. However, we have not identified any reversals that might have an undue impact. The types of provisions reported appear to be consistent with normal business practice.

Shareholder equity

Shareholders' equity is made up of share capital of 144,564,744 fully paid \$1 ordinary shares and accumulated losses.

Capital commitments

The statutory accounts state that the airport has capital commitments of \$3.6 million for the acquisition of plant and equipment contracted for at 30 June 2000 but not recognised as liabilities. In addition, it is reported that, as part of its tender for the Perth Airport lease, Westralia committed to the Commonwealth Government to fund capital expenditure for aeronautical infrastructure and other improvements of \$54.6 million during 1998/99 to 2001/02 and an additional \$33.3 million during 2002/03 to 2006/07. Westralia reports that it is seeking to renegotiate these commitments.

5.3.3 Ratio analysis

Definitions of the following financial ratios are set out in Appendix 1.

Table 5.3: Overall business ratios

Key ratios	1997/98	1998/99	1999/00
Liquidity:			
Current ratio	1.15	1.14	1.02
Profitability:			
Operating profit margin (%)	47.7	51.3	54.0
Operating return on tangible non-current assets (%)	16.3%	16.3%	18.2%
Return on equity (%)	(22.9)	(30.6)	(33.1)
Leverage:			
Debt to equity ratio	4.7	6.3	8.7
Debt to assets ratio	0.8	0.8	0.9
Debt coverage (years)	18.8	18.6	18.8
Interest cover (times)	0.6	0.6	0.7

We comment that:

- Liquidity ratios measure the airport's liquidity and capacity to pay its short-term liabilities. A current ratio of less than one indicates that additional short-term liquidity may be required.
- Leverage ratios reflect the relative interests of shareholders and debt holders. The ratios for Perth Airport indicate that it is highly geared. Borrowings appear to finance operations. Its balance sheet does not indicate that Westralia is on-lending to group companies or other entities.

5.4 Financial indicators for aeronautical and non-aeronautical business segments

Table 5.4: Profit and loss statement (summarised)

	1997/98		1998/99		1999/00	
	<i>Aero</i> (\$'000)	<i>Non-aero</i> (\$'000)	<i>Aero</i> (\$'000)	<i>Non-aero</i> (\$'000)	<i>Aero</i> (\$'000)	<i>Non-aero</i> (\$'000)
Revenue	18,988	41,915	18,819	46,485	20,471	49,207
Costs	18,413	12,229	18,238	13,592	17,595	14,431
Operating profit	575	29,686	581	32,893	2,876	34,776
Abnormal items	(322)	(187)	(1,283)	(116)	(553)	(379)
Earnings before interest, tax and amortisation	253	29,499	(702)	32,777	2,323	34,397

Table 5.5: Three year growth

	<i>Aeronautical</i>	<i>Non-aeronautical</i>
Revenue	8%	17%
Costs	(5)%	18%
Operating Profits	500%	17%

Table 5.6: Composition of revenue, expenses and operating profits

	<i>Aeronautical:Non-aeronautical ratios</i>	
	<i>1997/98</i>	<i>1999/00</i>
Revenue	1:2.2	1:2.4
Costs	1:0.7	1:0.8
Margins	1:49	1:12

The variations in aeronautical profit reflect the effect of modest changes to a very small profit figure rather than any large scale changes.

Non-aeronautical revenue and costs have grown at an average annual rate of about 8%. Aeronautical revenue has grown at 4% per annum on average. This, together with a small reduction in allocated cost, has led to the increase in aeronautical profit in 1999/00. Table 5.10 indicates that aeronautical costs fell in 1999/00 largely through reductions in depreciation, property maintenance and "other" costs, although these falls were offset by a rise in APS and screening costs.

Table 5.7: Additional disaggregated business ratios

Key disaggregated business ratios	1997/98			1998/99			1999/00		
	<i>Total</i>	<i>Aero</i>	<i>Non-aero</i>	<i>Total</i>	<i>Aero</i>	<i>Non-aero</i>	<i>Total</i>	<i>Aero</i>	<i>Non-aero</i>
<i>Revenue allocation (%)</i>		31	69		29	71		29	71
<i>Cost allocation (%)</i>		60	40		57	43		55	45
<i>Operating profit margin (%)</i> ¹	50	3	71	51	3	71	54	14	71
<i>Operating profit allocation (%)</i>		2	98		2	98		8	92
<i>Assets attributed (\$m)</i>	186	84	102	205	98	107	201	94	107
<i>Assets attributed (%)</i>		45	55		48	52		42	58
<i>Depreciation attributed (%)</i>		69	31		71	29		68.8	31.2
<i>Average useful life of assets implied by depreciation (yrs)</i>	24.0	15.2	43.4	25.0	16.9	44.9	25.0	17.0	42.7
<i>Operating return on tangible non-current assets (%)</i>	16.3	0.7	29.1	16.3	0.6	30.7	18.2	3.1	32.5

¹ Before abnormals.

Table 5.8: Cost drivers allocations (1999/00)

Cost category	Cost driver	% of total costs	Aero (%)	Non-aero (%)
Salaries and wages	Individual employee level and time spent on activities	21%	70	30
Depreciation	Underlying assets	25%	70	30
Services and utilities	kW/hr consumption, floor area, terminal building activity	28%	20	80
Maintenance	Building activity	6%	60	40
APS and screening costs	All aeronautical	9%	100	0
Other costs		12%	53	47

Table 5.7 indicates that, unlike some other airports, significantly different average depreciation rates appear to have been applied to aeronautical and non-aeronautical assets, with aeronautical assets bearing much of the depreciation. Should the Commission have a requirement to understand better the attribution of assets and depreciation, then it may wish to examine this allocation more closely.

We can test the hypothesis that there is a difference between aeronautical and non-aeronautical returns by testing its sensitivity to potential changes in cost and asset allocations. (We assume that allocation of revenue is more readily determined and less likely to be subject to significant accounting subjectivity).

We consider the following scenarios that might equalise the 1999/00 aeronautical and non-aeronautical returns in Table 5.7, to 18%.

Change of asset allocations only

The operating profits attributed to the aeronautical segments are so low for the three years that a disproportionate asset reallocation would be required to bring about an equalisation of returns. Therefore, cost allocations appear to be the principal area of focus.

*Change of cost allocations only***Table 5.9: Change in cost allocations only (1999/00)**

	<i>Aeronautical \$m</i>	<i>Non-aeronautical \$m</i>
Asset allocations per Table 5.7	94	107
Overall return	18%	18%
Required operating profit	17	20
Reported operational profit (Table 5.4)	3	35
Required cost reallocation	(15)	15

Table 5.4 indicates that there is only \$18m of cost in the aeronautical segment. The above calculation indicates that the great majority of this cost would need to be reallocated to equalise the returns. Therefore, it seems reasonable to conclude that on the basis of the information provided in the regulatory accounts that the returns on aeronautical activities are intrinsically lower than those on non-aeronautical activities.

Combination of asset and cost reallocations

The return calculation could also be brought about by a combination of changes in views of asset and cost allocations. However, even if say \$8m of cost, a material amount in relation to total aeronautical costs, were reallocated in 1999/00, approximately \$33m of assets would also have to be reallocated.

Conclusion

It seems reasonable to infer that notwithstanding potential subjectivity in cost and asset allocations, the regulatory accounts would need to be materially misstated to change the conclusion aeronautical activities have an intrinsically lower return on assets than non aeronautical activities. We also draw the reader's attention to the general comments we make on cost allocations in Section 2.

5.5 Review of accounting policies

5.5.1 Asset revaluations

During 1998/99, Perth Airport undertook an assessment of the fair value of runways, taxiways and aprons acquired on 2 July 1997 using a depreciated optimised replacement value. The valuation was reviewed by an independent consultant and approved by the Board of Directors.

This assessment of the fair value of runways, taxiways and aprons acquired on 2 July 1997 was also reported in the statutory accounts for Westralia. We noted no variation between the accounting treatment for this assessment in the regulatory accounts and the statutory accounts for the airport.

As a result of this review, the values of runways, taxiways and aprons acquired on 2 July 1997 were increased by \$23.4 million at the beginning of the 1998/99. This resulted in an adjustment to the lease franchise fee arising upon acquisition. An abnormal amount of \$0.2 million was also recorded in the 1998/99 accounts to adjust for amortisation of the lease franchise fee reported in 1997/98. In accord with the Commission's Requirements, this has not been allocated to either business segment.

This treatment appears to be consistent with AASB 1013 *Accounting for Goodwill*, which discusses subsequent changes in cost of acquisition. The Accounting Standard states that "*where it becomes known, subsequent to acquisition, that assets or liabilities existed at the date of acquisition but were not recognised, an adjustment must be made in respect of those assets and liabilities and, where relevant, in respect of the amount of goodwill or discount on acquisition*".

\$22.5m of the total adjustment of \$23.4m, was allocated to the aeronautical business segment, and \$0.9 million was allocated to the non-aeronautical business segment.

The useful lives of taxiways, runways and aprons were amended concurrently with the adjustment in the cost of runways, taxiways and aprons acquired on 2 July 1997. This resulted in:

- an abnormal expense of \$0.9 million to record depreciation expenses for 1997/98 not previously recorded; and
- depreciation charges for 1998/99 that take into account the revised useful lives of taxiways, runways and aprons reflected as at 1 July 1998.

5.5.2 Lease franchise fee and expenditure carried forward

Perth Airport records a lease franchise fee as intangible assets and associated capitalised costs as tangible assets on its balance sheet. The lease franchise fee represents the "goodwill" element paid by Westralia on acquisition of the Perth Airport lease, being the difference between the purchase price and the fair value of the net tangible assets acquired.

The lease franchise fee is amortised on a straight-line basis over the life of the lease, 99 years.

Expenditure carried forward is amortised on a straight-line basis. These costs include:

- bid costs, which are costs relating to the Perth Airport bid and acquisition, amortised over 99 years;
- finance costs, which are all fees and costs incurred in establishing the funding facilities for the acquisition of the Perth Airport lease, amortised over 5 years;
- US note issue finance costs, which are all fees and costs incurred in refinancing the debt structure, amortised over 5 years; and
- masterplan costs, which are all fees and costs incurred in the development of the masterplan, amortised over 5 years.

Table 5.10: Perth Airport - Profit and Loss Statement

	1997/98	1998/99	1999/00
	(\$'000)	(\$'000)	(\$'000)
Revenue:			
Aero	18,988	18,819	20,471
Non-aero	41,915	46,485	49,207
Not allocated	-	-	-
<i>Total</i>	<i>60,903</i>	<i>65,304</i>	<i>69,678</i>
Costs:			
Depreciation			
Aero	5,229	5,706	5,417
Non-aero	2,355	2,333	2,455
Salaries and wages			
Aero	4,565	4,534	4,585
Non-aero	1,768	1,679	2,064
Services and utilities			
Aero	1,730	1,601	1,580
Non-aero	4,998	6,365	7,267
Property maintenance			
Aero (including maintenance add-backs)	1,728	1,564	1,177
Non-aero	326	399	760
APS costs			
Aero	2,128	2,183	2,214
Non-aero	-	-	-
Passenger Screening			
Aero	-	-	486
Non-aero	-	-	-
Check Bag Screening			
Aero	-	-	41
Non-aero	-	-	-
Other			
Aero	3,033	2,650	2,095
Non-aero	2,782	2,816	1,885
Total costs			
Aero	18,413	18,238	17,595
Non-aero	12,229	13,592	14,431
Not allocated	-	-	-
<i>Total</i>	<i>30,642</i>	<i>31,830</i>	<i>32,026</i>

Perth Airport - Profit and Loss Statement (continued)

	1997/98	1998/99	1999/00
	(\$'000)	(\$'000)	(\$'000)
Operating profit (loss)			
Aero	575	581	2,876
Non-aero	29,686	32,893	34,776
Not allocated	0	0	0
<i>Total</i>	<i>30,261</i>	<i>33,474</i>	<i>37,652</i>
Abnormal items			
Aero	(322)	(1,283)	(553)
Non-aero	(187)	(120)	(379)
Not allocated	-	236	-
<i>Total</i>	<i>(509)</i>	<i>(1,167)</i>	<i>(932)</i>
Earnings before interest, tax and amortisation			
Aero	253	(702)	2,323
Non-aero	29,499	32,773	34,397
Not allocated	0	236	0
<i>Total</i>	<i>29,752</i>	<i>32,307</i>	<i>36,720</i>
Amortisation expenses	7,666	9,567	7,360
Earnings before interest and tax	<i>22,086</i>	<i>22,740</i>	<i>29,360</i>
Interest expense	49,014	50,323	51,758
Earnings before tax	(26,928)	(27,583)	(22,398)
Tax charge	-	-	-
(Loss) after tax	(26,928)	(27,583)	(22,398)
Dividends paid	-	-	-
Movement in retained earnings	(26,928)	(27,583)	(22,398)

Table 5.11: Perth Airport - Balance Sheet

	1997/98 (\$'000)	1998/99 (\$'000)	1999/00 (\$'000)
Current assets:			
Cash (not allocated)	6,035	6,982	7,969
Receivables			
Aero	1,512	1,682	1,576
Non-aero	1,905	2,817	1,919
Inventories			
Aero	-	-	-
Non-aero	58	68	72
Accrued revenue			
Aero	271	124	76
Non-aero	222	1,074	2,811
Other			
Aero	8,678	1,534	947
Non-aero	2,314	2,094	751
Total current assets			
Aero	10,461	3,340	2,599
Non-aero	4,499	6,053	5,553
Not allocated	6,035	6,982	7,969
Total	20,995	16,375	16,121
Non-current assets:			
Property, plant and equipment			
Aero	79,708	96,540	92,217
Non-aero	102,203	104,719	104,859
Lease Franchise Fee (not allocated)	449,434	421,920	417,570
Expenditure carried forward	36,441	31,956	36,286
Other			
Aero	3,539	2,217	2,000
Non-aero	202	1,756	1,973
Total non-current assets			
Aero	83,247	98,757	94,217
Non-aero	102,405	106,475	106,832
Not allocated	485,875	453,876	453,856
Total	671,527	659,108	654,905
Total assets			
Aero	93,708	102,097	96,816
Non-aero	106,904	112,528	112,385

Perth Airport - Balance Sheet (continued)

	1997/98 (\$'000)	1998/99 (\$'000)	1999/00 (\$'000)
Not allocated	491,910	460,858	461,825
Total	692,522	675,483	671,026
Current liabilities			
Creditors (not allocated)	16,415	12,821	14,345
Borrowings (not allocated)	7	-	-
Provisions			
Aero	1,325	1,084	1,038
Non-aero	513	401	467
Total current liabilities			
Aero	1,325	1,084	1,038
Non-aero	513	401	467
Not allocated	16,422	12,821	14,345
Total	18,260	14,306	15,850
Non-current liabilities			
Borrowings (not allocated)	556,528	571,020	587,418
Provisions			
Aero	70	75	70
Non-aero	27	28	32
Total non-current liabilities			
Aero	70	75	70
Non-aero	27	28	32
Not allocated	556,528	571,020	587,418
Total	556,625	571,123	587,520
Total liabilities			
Aero	1,395	1,159	1,108
Non-aero	540	429	499
Not allocated	572,950	583,841	601,763
Total	574,885	585,429	603,370
Net assets	117,637	90,054	67,656
Shareholder's equity			
Share capital	144,565	144,565	144,565
Accumulated (losses)	(26,928)	(54,511)	(76,909)
Total shareholder's equity	117,637	90,054	67,656

6 Sydney Airport

6.1 Background

Sydney Airport is a Commonwealth Government owned airport that is operated by Sydney Airports Corporation Limited ("SACL"). On 1 July 1998, SACL acquired a 50-year lease, to operate Sydney Airport, together with an option to renew for a further 49 years from the Commonwealth Government. The acquisition was funded by a combination of debt and equity with the total consideration being \$1,433 million.

Sydney Airport is subject to similar regulatory arrangements as the privatised "core regulated" airports, including prices monitoring arrangements and accounts reporting. However, Sydney Airport is not subject to neither a price cap on aeronautical services, nor section 192 of the Airports Act.

The regulatory accounts for Sydney Airport indicate that:

- Aeronautical revenue comprises landing fees and international terminal charges, charges for the recovery of counter terrorist first response costs, time-based aircraft parking fees and tonnage-based passenger and baggage screening charges, check-in counter revenue, domestic terminal charges, parking infringement notices and any proceeds from the sale of aeronautical assets; and
- Non-aeronautical revenue is made up of:
 - retail revenue – rent due from tenants whose activities include duty free, food and beverage, other retail, banking and currency and advertising;
 - property revenue – rent due from airport property, including terminals, buildings and other leased areas;
 - commercial trading revenue – time-based charges from public and staff parking and concession charges from car rental; and
 - proceeds from the sale of non-aeronautical assets.

6.2 Summary

Operating profits

Sydney Airport reported a decline in operating margins from 46% to 38% over the two years. This was due to higher operating costs in 1999/00. SACL's annual

report for 1999/00 attributed these higher costs to the full-year effect of additional resources and requirements post-corporatisation, new operational services and extra operating resources required for construction and business development programs.

While SACL has substantial borrowings, it is less highly geared than other major airports and continues to generate sufficient operating profit to meet interest payments and provide net profits.

Asset revaluations and transfers

Sydney Airport revalued its assets as at 1 July 1998 and its additions to 30 June 1999 at recoverable amounts being the amounts earned from current revenue streams using discounted cash flows. This resulted in revaluation gains of \$1,088 million. Of this total, \$274 million was allocated to the aeronautical business segment and \$814 million to the non-aeronautical business segment.

Cost allocations and returns on assets

The non-aeronautical business segment reports stronger earnings than the aeronautical business segment. Revenue has been allocated to aeronautical and non-aeronautical activities on almost a 40:60 basis, while total costs have been allocated on about a 65:35 basis. As a result over the two years, the non-aeronautical business segment shows operating margins of 65% and 70% compared to 7% and a loss for the aeronautical business segment.

The return on tangible non-current assets was 5% in 1998/99 and 4% in 1999/00. However, the aeronautical business segment reported returns of between 1% and minus 1% while the non-aeronautical business segment reported returns of 8% and 9%.

We tested the sensitivity of the disparity in returns between the aeronautical and non-aeronautical segments, to potential subjectivity in cost allocations. We found that it would be necessary to reallocate over 50% of total aeronautical costs in to the non-aeronautical business segment, to change the conclusion that aeronautical returns are less than non-aeronautical returns.

6.3 Overall financial position

6.3.1 Profit and loss

Table 6.1: Profit and loss statements (summarised)

	1998/99 (\$'000)	1999/00 (\$'000)
Revenue	297,459	312,702
Costs	160,504	192,543
Operating profit	136,955	120,159
Abnormal items	-	-
Earnings before interest and tax	136,955	120,159
Interest	46,630	57,463
Earnings before tax	93,325	62,696
Tax charge	45,353	19,854
Profit after tax	47,972	42,842
Dividends paid	29,038	25,744
Movement in retained profits at the end of the financial year	18,934	17,098

SACL's annual report for 1999/00 attributes the increased costs in that year, to the full-year effect of additional resources and requirements post-corporatisation, new operational services (passenger and checked bag screening), and extra operating resources required for construction and business development programs. During 1999/00, Sydney Airport also undertook a number of special projects, including the Y2K rollover program, GST systems development, privatisation preparation and Olympic games preparation totalling in excess of \$9 million. The disaggregated accounts in Table 6.12 indicate that:

- most of the increases in expenses were in the aeronautical services segment, where cost rose by \$21m over the year. This rise was principally attributable to increased depreciation (\$10.7m) and services and utilities (\$4.6m); and

- non-aeronautical costs increased by \$11m, largely to unspecified "other" costs (\$3.3m increase) and services and utilities (\$2.5m increase).

No abnormal items were reported over the two-year period. Interest expenses on borrowings totalled approximately 34% of operating profits in 1998/99 and 48% in 1999/00. Sydney Airport reports in its 1999/00 annual report that its debt portfolio has increased steadily since corporatisation to help fund capital investment, and the increase in interest expenses also reflects higher interest rates.

6.3.2 Balance sheet

Table 6.2: Balance sheets (summarised)

	1998/99	1999/00
	(\$'000)	(\$'000)
Total assets	2,924,393	3,251,001
Total liabilities	1,023,670	1,333,180
Net assets	1,900,723	1,917,821
Share capital	794,000	794,000
Reserves	1,087,789	1,087,789
Accumulated profits	18,934	36,032
Total shareholders' equity	1,900,723	1,917,821

Non-current assets

There was substantial capital investment during 1999/00. Major projects included the SA2000 Project, the taxiway enhancement project and the domestic terminal precinct elevated road project. SACL does not account for any lease premium or other intangible assets. However, major revaluation surpluses on tangible assets have arisen on acquisition.

Debt capital

The statutory accounts indicate that non-current borrowings for accounted for 83% of total liabilities in 1998/99 and 91% in 1999/00. The SACL Group completed a \$1,900 million debt raising in August 1999. This was used to repay the \$683.5 million debt portion of the airport's acquisition price to the Commonwealth Government and the \$100 million loan transferred from the FAC. It also provided

facilities to meet the SACL's capital expenditure program. The debt raising comprised:

- an unsecured floating rate bank loan repayable on 4 March 2002;
- short-term floating rate notes issued under a revolving \$600 million note program and supported by a \$450 million, 364 day stand-by facility; and
- fixed interest notes repayable on 15 March 2004.

Share capital and reserves

Share capital is made up of 100,000,100 fully paid ordinary shares. On incorporation, 100 shares were issued at \$1 per share, fully paid. A further 100 million shares were issued on 30 June 1998 at \$7.94 per share, fully paid, as part of consideration for the acquisition of the Sydney Airport business by SACL.

The majority of shareholders' equity comprises \$1.1bn of asset revaluation reserve which arose on acquisition of the airport's assets.

Contingent liabilities

The SACL 1999/00 annual report indicated that that a number of international airlines using the airport have commenced proceedings against SACL in the Federal Court of Australia claiming breach of contract, estoppel, misrepresentation and negligence.

The claims relate to SACL's proposal to increase aeronautical charges payable by the airlines, and disruption allegedly suffered and increased operating costs allegedly incurred as a result of the major upgrade and expansion of the international terminal.

Sydney Airport reports that these actions are in the early stages and the airlines have not yet quantified their claims. However, this contingent liability appears to be a material claim against the airport, and may materially impact future financial performance if the liability was to be realised.

Provisions

There are both current and non-current provisions for employee entitlements. The reversal of these provisions should they be surplus to requirements, could impact on the reported profit of the airport in future years. However, we have not identified any

reversals which might have an undue impact on reported profits. The types of provisions reported appear to be consistent with normal business practice.

Dividends

The following dividends were paid and provided for:

Table 6.3: Dividends

	<i>1998/99</i> <i>(\$'000)</i>	<i>1999/00</i> <i>(\$'000)</i>
Interim dividend	13,524	13,747
Final dividend	<u>15,514</u>	<u>11,997</u>
	<u>29,038</u>	<u>25,744</u>

Sydney Airport is the only core-regulated airport that has paid dividends to its shareholders over the periods we have reviewed, although others have made interest payments to shareholders in their capacity as holders of debt.

6.3.3 Ratio analysis

Definitions of the following financial ratios are set out in Appendix 1.

Table 6.4: Overall business ratios

Key ratios	1998/99	1999/00
Liquidity:		
Current ratio	0.45	0.45
Profitability:		
Operating profit margin (%)	46.0	38.4
EBIT return on tangible non-current assets (%)	5.3	3.9
Return on equity (%)	2.5	2.2
Leverage:		
Debt to equity ratio	0.47	0.64
Debt to assets ratio	0.31	0.38
Debt coverage (years)	8.6	10.8
Interest cover (times)	3.1	2.1

We comment that:

- Liquidity ratios measure the airport's liquidity and capacity to pay its short-term liabilities. A current ratio of less than one indicates that additional short-term liquidity may be required. Sydney Airport reports current ratios of less than one. The airport's cash flow statement highlights large cash outflows for the acquisition of property, plant and equipment over the two years.
- Leverage ratios calculate the relative interests of shareholders and debt holders in a business. The ratios for Sydney Airport highlight increasing debt which has been invested in development of the international terminal as well as other tangible assets.

6.4 Financial indicators for aeronautical and non-aeronautical business segments

More details are provided in Table 6.12.

Table 6.5: Disaggregated profit and loss statements

	1998/99		1999/00	
	<i>Aero</i> (\$'000)	<i>Non-aero</i> (\$'000)	<i>Aero</i> (\$'000)	<i>Non-aero</i> (\$'000)
Operating revenue	113,704	180,514	120,052	190,001
Costs	104,920	55,584	126,003	66,540
Operating profit (loss)	8,784	124,930	(5,951)	123,461
Abnormal items	-	-	-	-
Earnings before interest and tax	8,784	124,930	(5,951)	123,461

SACL's statutory accounts for the two years report lower aeronautical revenue reported than the regulatory accounts showing higher revenues than in the statutory accounts. The additional revenue was attributable to passenger check-in facilities, domestic terminal infrastructure charges and parking infringement notices, not classified as aeronautical revenue in the statutory accounts but is required to be so classified by section 3.6 of the Commission's Regulatory Requirements Guideline.

Table 6.6: Additional disaggregated business ratios

Key disaggregated business ratios	1998/99			1999/00		
	<i>Total</i>	<i>Aero</i>	<i>Non- aero</i>	<i>Total</i>	<i>Aero</i>	<i>Non- aero</i>
<i>Revenue allocation (%)</i> ¹	99	38	61	99	38	61
<i>Cost allocation (%)</i>		65	35		65	35
<i>Operating profit margin</i>						
<i>Operating profit allocation (%)</i>		7	93		(5)	105
<i>Tangible non-current assets attributed (\$m)</i>	2,573	1,175	1,399	3,062	1,574	1,487
<i>Assets attributed (%)</i>		46	54		51	49
<i>Depreciation attributed (%)</i>		63	37		67	34
<i>Average useful life of assets implied by depreciation (yrs)</i>	45.2	32.7	66.6	43.6	33.7	63.2
<i>Return on non-current tangible assets (%)</i>	5.3	0.7	8.9	3.9	(0.4)	8.2

¹ The regulatory accounts indicate that approximately \$3m of revenue mostly comprising unspecified non-operating revenue and dividends was not allocated in either year.

Table 6.7: Two year growth

	<i>Aeronautical</i>	<i>Non-aeronautical</i>
Revenue	6%	5%
Costs	20%	20%
Operating profits	(167)%	(1)%

Table 6.8: Composition of revenue, expenses and operating profits

	<i>Aeronautical:Non-aeronautical ratios</i>	
	<i>1998/99</i>	<i>1999/00</i>
Revenue	1:1.6	1:1.6
Costs	1:0.6	1:0.6
Operating profits	1:14.2	(1):21.7

These figures appear to indicate that:

- revenues for both aeronautical and non-aeronautical activities have grown at about the same rate;
- costs for both activities increased by about 20%;
- the increases in costs exceeded the increases in revenues for both activities leading to reduced margins in 1999/2000;
- however, the relatively low margins for the aeronautical activities in 1999/00 are much more sensitive to changes in costs and revenues than the non-aeronautical margins. Accordingly, losses were recorded for the aeronautical activities in 1999/00.

The increases in costs can be analysed as follows:

Table 6.9: 1998/99 to 1999/00 changes in costs

	Aeronautical		Non-aeronautical	
	<i>\$m</i>	%	<i>\$m</i>	%
Depreciation	+10.7	+30%	+2.6	+12%
Salaries and wages	+2.2	+9%	+2.1	+28%
Services and utilities	+4.6	+45%	+2.5	+21%
Property maintenance	+0.4	+3%	+0.4	+11%
APS costs	+0.1	+2%	-	-
Other costs	+3.0	+21%	+3.3	+28%
	+21.0	+20%	+11.0	+20%

The above table indicates that:

- the majority of the cost increases have been attributed to the aeronautical segment;
- the principal components of the increases in aeronautical costs are increases in depreciation and services and utilities; and
- the attribution of the majority of depreciation to the aeronautical segment appears to be broadly consistent with Tabled 6.13 which indicates that the majority of the capital assets commissioned in the year have been attributed to the aeronautical segment.

Table 6.10: Cost drivers and allocations (1999/2000)

<i>Cost category</i>	<i>Cost driver</i>	<i>% of total costs</i>	<i>Aero (%)</i>	<i>Non-aero (%)</i>
Depreciation	Asset specific	36%	66	36
Salaries and wages	Employee specific	19%	74	25
Property maintenance	Based on resource usage by department, by employee, by maintenance type, by specific asset	10%	75	25

<i>Cost category</i>	<i>Cost driver</i>	<i>% of total costs</i>	<i>Aero (%)</i>	<i>Non-aero (%)</i>
APS costs	Direct allocation to aeronautical	3%	100	-
Other costs	Based on resource usage by department, by employee, by activity	17%	53	47
Services and utilities	Based on resource usage by department, by employee, by activity	15%	52	48

We comment that the average rate of pay in the aeronautical and non-aeronautical segments appears similar; and

We can test the hypothesis that there is a difference between aeronautical and non-aeronautical returns by testing its sensitivity to potential changes in cost and asset allocations. (We assume that allocation of revenue is more readily determined and less likely to be subject to significant accounting subjectivity).

We consider the following scenarios which might equalise the 1999/00 aeronautical and non-aeronautical returns in Table 6.5, to 8%.

Change of asset allocations only

The operating profits attributed to the aeronautical segment are so low in relation to tangible asset values that it appears difficult to conceive any asset reallocation that might be within the bounds of reasonableness, could bring about an equalisation of returns. Therefore, cost allocations appear to be the principal area of focus.

Table 6.11: Change in cost allocations

	<i>Aeronautical \$m</i>	<i>Non-aeronautical \$m</i>
Asset allocations per Table 6.6	1,574	1,487
Overall return	3.9%	3.9%
Required operating profit	61	58
Reported operational profit (Table 6.5)	(6)	124
Required cost allocation	(67)	67

Table 6.5 indicates that in 199/00 there was \$126m of cost in the aeronautical segment. Therefore, it seems reasonable to conclude that on the basis of the information provided in the regulatory accounts that the cost and/or asset allocations in regulatory accounts would need to be significantly misstated to change the conclusion that the returns for the aeronautical segment are less than those for the non-aeronautical segment.

We observe that the regulatory accounts are subject to an unqualified auditor's opinion and on this basis assume that the likelihood of a misstatement that would cause this conclusion to change is low.

We also draw the reader's attention to our overall comments on cost allocations in Section 2.

6.5 Review of accounting policies

6.5.1 Asset revaluations and asset transfers

SACL's statutory accounts indicate that the directors undertook a valuation of property, plant and equipment at 1 July 1998. Jones Lang LaSalle Advisory conducted a valuation of:

- non-specialised assets at market value existing use having regard to the earnings potential of the assets; and
- all other assets at ODRC.

However, the directors also considered the recoverable amount that could be earned from the assets from current revenue streams using discounted cash flows. This amount exceeded cost.

The directors concluded that property, plant and equipment on hand at 1 July 1998 should be recorded at the recoverable amount at that date, and that additions to 30 June 1999 should be included at the recoverable amount of these additions at the date acquired.

The valuation resulted in revaluation gains of \$1,088 million with \$274 million allocated to the aeronautical business segment and \$814 million to the non-aeronautical business segment.

The 1999/00 regulatory accounts indicate transfer of \$35.4 million of leasehold land from the non-aeronautical business segment to the aeronautical business segment. The regulatory accounts for 1999/00 imply that the apportionment has been based on independent valuation advice received from Jones Lang LaSalle during the year. Although one might not expect independent valuers to directly advise on a regulatory accounting issue such as the allocation of assets between business segments, it would be reasonable to assume that the directors based their decision to reallocate on the valuer's advice.

While in principle a transfer of assets between aeronautical and non-aeronautical activities would influence the calculation of returns, we note that \$35m is not material in the context of non-current tangible asset base of over \$3.2bn.

Table 6.12: Sydney Airport - Profit and Loss Statement

	1998/99 (\$'000)	1999/00 (\$'000)
Revenue:		
Aero	113,704	120,052
Non-aero	180,514	190,001
Not allocated	3,241	2,649
<i>Total</i>	<u>297,459</u>	<u>312,702</u>
Costs:		
Depreciation		
Aero	35,934	46,654
Non-aero	21,001	23,549
Salaries and wages		
Aero	25,490	27,712
Non-aero	7,437	9,581
Services and utilities		
Aero	10,278	14,871
Non-aero	11,641	14,151
Property maintenance		
Aero (including maintenance add-backs)	12,611	13,031
Non-aero	3,825	4,237
APS costs		
Aero	6,383	6,515
Non-aero	-	-
Other		
Aero	14,224	17,220
Non-aero	11,680	15,022
Total costs		
Aero	104,920	126,003
Non-aero	55,584	66,540
Not allocated	-	-
<i>Total</i>	<u>160,504</u>	<u>192,543</u>
Operating profit (loss)		
Aero	8,784	(5,951)
Non-aero	124,930	123,461
Not allocated	3,241	2,649
<i>Total</i>	<u>136,955</u>	<u>120,159</u>

Sydney Airport - Profit and Loss Statement (continued)

	1998/99	1999/00
	(\$'000)	(\$'000)
Abnormal items		
Aero	-	-
Non-aero	-	-
<i>Total</i>	-	-
Earnings before interest and tax		
Aero	8,784	(5,951)
Non-aero	124,930	123,461
Not allocated	3,241	2,649
<i>Total</i>	136,955	120,159
Interest expense	43,630	57,463
Earnings before tax	93,325	62,696
Tax charge	45,353	19,854
Profit after tax	47,972	42,842
Dividends paid	29,038	25,744
Movement in retained earnings	18,934	17,098

Table 6.13: Sydney Airport - Balance Sheet

	1998/99 (\$'000)	1999/00 (\$'000)
Current assets:		
Cash (not allocated)	1,987	7,382
Receivables		
Aero	8,286	9,360
Non-aero	7,629	7,808
Not allocated	52,900	6,098
Accrued revenue		
Aero	-	96
Non-aero	-	7,661
Prepayments (not allocated)	4,089	7,705
<i>Total current assets</i>		
Aero	8,286	9,456
Non-aero	7,629	15,469
Not allocated	58,976	21,185
Total	<u>74,891</u>	<u>46,110</u>
Non-current assets:		
Property, plant and equipment		
Aero	1,174,452	1,574,081
Non-aero	1,398,820	1,487,422
Receivables	10,000	10,000
Investments	3,398	34,190
Work in progress	249,042	90,357
Other	13,790	8,841
<i>Total non-current assets</i>		
Aero	1,174,452	1,574,081
Non-aero	1,398,820	1,487,422
Not allocated	276,230	143,388
Total	<u>2,849,502</u>	<u>3,204,891</u>
Total assets		
Aero	1,182,738	1,583,537
Non-aero	1,406,449	1,502,891
Not allocated	335,206	164,573
Total	<u>2,924,393</u>	<u>3,251,001</u>
Current liabilities		
Accounts payable (not allocated)	52,846	68,961
Borrowings (not allocated)	49,000	9,000

Sydney Airport - Balance Sheet (continued)

	1998/99 (\$'000)	1999/00 (\$'000)
Provisions		
Aero	4,354	4,813
Non-aero	1,306	1,665
Not allocated	60,513	17,868
<i>Total current liabilities</i>		
Aero	4,354	4,813
Non-aero	1,306	1,665
Not allocated	162,359	95,829
Total	168,019	102,307
Non-current liabilities		
Borrowings (not allocated)	850,000	1,216,000
Provisions		
Aero	745	684
Non-aero	223	236
Not allocated	4,683	13,953
<i>Total non-current liabilities</i>		
Aero	745	684
Non-aero	223	236
Not allocated	854,683	1,229,953
Total	855,651	1,230,873
Total liabilities		
Aero	5,099	5,497
Non-aero	1,529	1,901
Not allocated	1,017,042	1,325,782
Total	1,023,670	1,333,180
Net assets	1,900,723	1,917,821
Shareholder's equity		
Share capital	794,000	794,000
Reserves		
Aero	274,340	274,340
Non-aero	813,449	813,449
Retained profits	18,934	36,032
<i>Total shareholder's equity</i>	1,900,723	1,917,821

7 Phase 2 Airports

This section of the report sets out a higher level review of the Phase 2 airport's regulatory accounts. These airports comprise Adelaide, Alice Springs, Canberra, Coolangatta, Darwin, Hobart, Launceston and Townsville.

Disaggregated regulatory financial statements for 1998/99 and 1999/00 for each of these airports are summarised in Appendix 2.

7.1 Overall financial position

7.1.1 Operating results

Table 7.1: Operating results for Phase 2 Airports

	<i>Turnover</i>		<i>Operating profits²</i>		<i>Operating margins</i>	
	<i>1998/99 (\$'000)</i>	<i>1999/00 (\$'000)</i>	<i>1998/99 (\$'000)</i>	<i>1999/00 (\$'000)</i>	<i>1998/99 (%)</i>	<i>1999/00 (%)</i>
Adelaide	46,264	49,309	24,161	29,541	52.2	59.9
Alice Springs	4,742	4,607	425	417	9.0	9.1
Canberra	9,427	10,627	3,042	4,030	32.3	37.9
Coolangatta	11,449	12,393	1,782	3,243	15.6	26.2
Darwin	10,512	11,675	374	1,054	3.5	9.0
Hobart	5,844	5,495	2,057	2,082	35.8	37.9
Launceston	4,157	4,439	993	1,264	23.9	28.5
Townsville	6,213	5,799	1,003	1,543	16.1	26.6

² Before abnormal items, amortisation and interest.

Table 7.2: Operating returns on non-current, tangible assets for Phase 2 Airports

	<i>Operating return on non-current tangible assets</i>	
	<i>1998/99</i> <i>(%)</i>	<i>1999/00</i> <i>(%)</i>
Adelaide	15.3	14.0
Alice Springs	1.6	1.7
Canberra	4.3	4.8
Coolangatta	8.4	10.6 ¹
Darwin	0.6	1.6
Hobart	18.2	17.1
Launceston	5.8	6.0
Townsville	6.5	10.9

¹ Note: Adjusted to exclude intangible asset values. Refer to section 7.4.

7.1.2 Profitability

In summary:

- the airports reported operating profits over the two years;
- with the exception of Coolangatta and Launceston, the Phase 2 airports reported some abnormal items on their profit and loss statements, largely related to profits or losses on the sale of assets. Townsville Airport also reported abnormal expenses relating to acquisition-related stamp duty and legal fees in 1998/99 and redundancy payments in 1999/00; and
- interest expenses on borrowings resulted in all Phase 2 airports reporting net losses after tax over the two years.

7.1.3 Liquidity

A current ratio of less than one indicates that additional short-term liquidity may be required.

Over the two years, Adelaide, Alice Springs, Coolangatta, Hobart and Townsville reported current ratios of greater than one.

We note that Adelaide Airport share capital is stapled to loan notes totalling \$189m that cannot be traded separately. Also, the loan notes are subordinated to all other creditors. Accordingly, the airport's statutory accounts also treat this loan capital as part of shareholders' total interests. A deficiency on shareholders' equity was recorded in 1999 and eliminated in 2000 through an asset revaluation rather than trading profits. However, it seems reasonable to infer from the statutory accounts that the subordinated nature of the loan notes implies that they provide a form of shareholder capital additional to shares, revenues and accumulated losses.

Over the two years, Canberra, Darwin and Launceston reported current ratios of less than one. We also note that the statutory accounts for 1999/00 disclose for:

- Canberra Airport, significant investments in property, plant and equipment;
- Darwin Airport, borrowing costs and cash outflows for investments in property, plant and equipment ; and
- Launceston Airport, investments in property, plant and equipment and repayments of borrowings.

We also note that Alice Springs, Coolangatta and Darwin Airports reported net liabilities, ie negative shareholder equity. Prima facie this means that, notwithstanding short-term liquidity indicated by the current ratio, total liabilities exceed total assets. Generally, this would usually mean that additional capital is required to be invested in a business to maintain financial viability and/or continued support is required from debt holders.

We also note that:

- the Directors' Declaration accompanying the 2000 statutory accounts of Gold Coast Airports Ltd (Coolangatta Airport) indicates that the directors have reasonable grounds to believe that the company will be able to pay its debts as and when they become due and payable;
- the 2000 statutory accounts for Coolangatta were subject to unqualified audit reports; and
- the statutory accounts for Darwin and Alice Springs also had unqualified audit reports and indicate substantial debt that appears to have been issued to group companies.

7.2 Disaggregated results

Table 7.3: Disaggregated operating margins for Phase 2 Airports

	1998/99		1999/00	
	<i>Aero</i> (%)	<i>Non-aero</i> (%)	<i>Aero</i> (%)	<i>Non-aero</i> (%)
Adelaide	(15.1)	70.9	12.0	71.9
Alice Springs	(35.3)	46.2	(50.3)	47.5
Canberra	(4.9)	68.2	(18.4)	77.3
Coolangatta	(21.6)	50.2	6.2	(3.1)
Darwin	(58.6)	62.3	(56.7)	64.3
Hobart	26.7	52.0	28.3	52.5
Launceston	(16.5)	45.3	(6.0)	46.5
Townsville	(35.8)	54.4	(25.5)	58.2

The above table highlights that with the exception of Coolangatta in 1999/00, higher profit margins are being achieved for the non-aeronautical business segments than for the aeronautical business segments.

Table 7.4: Revenue and cost allocations for Phase 2 Airports

	1998/99		1999/00	
	<i>Revenue</i> <i>Aero:non-</i> <i>aero</i>	<i>Expenses</i> <i>Aero:non-</i> <i>aero</i>	<i>Revenue</i> <i>Aero:non-</i> <i>aero</i>	<i>Expenses</i> <i>Aero:non-</i> <i>aero</i>
Adelaide	22:78	52:48	20:80	39:60
Alice Springs	46:54	68:32	39:61	65:35
Canberra	49:51	76:24	41:59	78:22
Coolangatta	48:52	70:30	47:53	60:40
Darwin	49:51	80:20	46:54	79:21
Hobart	66:34	75:25	60:40	70:30
Launceston	35:65	53:47	34:66	51:49

	1998/99		1999/00	
	<i>Revenue Aero:non- aero</i>	<i>Expenses Aero:non- aero</i>	<i>Revenue Aero:non- aero</i>	<i>Expenses Aero:non- aero</i>
Townsville	42:58	69:31	38:62	65:35

We tested the sensitivity of the disparities in returns between the aeronautical and non-aeronautical segments, to potential subjectivity in cost allocations. We estimated the proportions of aeronautical costs that would need to be reallocated to the non-aeronautical business segments, to change the conclusion that aeronautical returns are less than non-aeronautical returns.

Table 7.5: Reallocation of aeronautical costs to non-aeronautical costs

	<i>% of aero costs to be reallocated to non-aero</i>
Adelaide	140 to 190
Alice Springs	35 to 45
Canberra	55 to 70
Coolangatta	30 to 40
Darwin	40 to 45
Hobart	30 to 40
Launceston	55 to 60
Townsville	50 to 65

Table 7.5 indicates that it seems reasonable to conclude that the regulatory accounts would need to be materially misstated to change the conclusion that there are differences in returns.

7.3 Asset revaluations and transfers

Adelaide, Canberra and Coolangatta airports undertook asset revaluations during 1999/00.

Adelaide Airport

Table 7.6: Revaluation gain for Adelaide Airport

<i>Fixed asset category</i>	<i>Total revaluation (\$'000)</i>	<i>Aero (\$'000)</i>	<i>Non-aero (\$'000)</i>
Freehold land	200	-	200
Leasehold land	34,556	22,486	12,070
Runways, taxiways and aprons	(10,239)	(10,211)	(28)
Roads and carparks	2,692	1,796	896
Fences and gates	108	103	5
Lighting and visual aids	11,885	11,520	365
Passenger terminal buildings	(322)	(158)	(164)
Other permanent buildings	5,648	306	5,342
Main services	6,168	2,257	3,911
Aerobridges	302	302	-
Fixed plant and equipment	865	319	546
Movable plant & equipment	195	157	38
Motor-vehicles – heavy	54	27	27
Motor vehicles - light	<u>(121)</u>	<u>(68)</u>	<u>(53)</u>
	<u>51,991</u>	<u>28,836</u>	<u>23,155</u>

The basis of the valuation has not been disclosed in either the regulatory accounts or the statutory accounts for the airport. Both accounts state that, “*revaluations are made in accordance with a regular policy whereby independent valuations are obtained every three years and carrying amounts adjusted accordingly*”.

The revaluation increment was credited directly to revenues and did not pass through the airport's profit and loss account.

Canberra Airport

Property, plant and equipment (except for leasehold land) were independently valued as at 30 June 1999 based on a depreciated optimised replacement cost basis.

Land was valued at 30 June 1999 based on a residual value on allocation of the airport purchase price. The non-aeronautical land was revalued at directors valuations as at 30 June 2000. The aeronautical land has not been revalued.

Revaluation gains of \$8.0 million were recorded in 2000 for the non-aeronautical business segment. The airport also transferred leasehold land of \$0.4 million from the non-aeronautical business segment to the aeronautical business segment.

During 1999/00, Canberra Airport also transferred assets between the aeronautical and non-aeronautical business segment. These are summarised below:

Table 7.7: Allocation of asset transfers for Canberra Airport

	<i>Total (\$'000)</i>	<i>Aero (\$'000)</i>	<i>Non-aero (\$'000)</i>
Buildings & infrastructure	(68)	(187)	119
Motor vehicles	-	37	(37)
Plant & equipment	(62)	-	(62)
Computer equipment	62	38	24
Assets under construction	68	<u>28</u>	<u>40</u>
<i>Total</i>		<u>(84)</u>	<u>84</u>

We note that these amounts do not seem material in relation to total non-current assets of \$85m.

Coolangatta Airport

The airport commissioned an independent valuation of assets during 1999/00. Buildings, facilities, civil infrastructure and associated plant and equipment were valued on a depreciated optimised replacement cost. Mobile plant and equipment,

computers, office equipment, furniture, carpet and room air conditioning units were valued on a fair market value basis.

The regulatory accounts for 1999/00 have not provided details of the value of any revaluation increments or decrements. The notes to the regulatory accounts state that, "the directors were of the opinion that the carrying values of the assets were not overstated at 30 June 2000. The directors of Coolangatta Airport have elected not to book the revaluation increments to the accounts under ss334(5) of the Corporations Law and in compliance with AASB 1041".

7.4 Intangible assets

The following airports disclosed intangible assets which generally comprise lease rights or franchise fees and other capitalised costs, in accordance with the Commission's Regulatory Information Requirements.

Table 7.8: Intangible assets

	<i>Balance at 30 June 2000 \$m</i>
Adelaide	206
Alice Springs	3
Darwin	28
Hobart	27
Launceston	2

However, in 1999/00 the regulatory accounting statements appear to have included with tangible asset values, intangible asset values of \$44.5m for the aeronautical business segment and \$47.1m for the non-aeronautical segment.

Both years' treatment appears inconsistent with section 3.4 of the Commission's Regulatory Information Requirements. Accordingly, we have adjusted the asset bases in Table 7.2 by amounts of the intangible asset values.

The Commission may wish to discuss this matter with the airport's regulatory auditors to clarify this accounting treatment and the understanding provided by the regulatory accounts.

7.5 Provisions

Generally, provisions relate to employee entitlements such as annual leave and long service leave, tax payable and deferred tax liabilities.

Table 7.9: Provision balances

	1998/99 (\$'000)		1999/00 (\$'000)	
	Current	Non-current	Current	Non-current
Adelaide	-	-	4	-
Alice Springs	369	31	332	20
Canberra	832	16	967	16
Coolangatta	41	-	14	-
Darwin	679	70	655	-
Hobart	652	243	560	245
Launceston	426	99	521	191
Townsville	463	124	371	135

The disclosed provisions appear to be consistent with general accounting practice. There does not appear to have been any significant movements in the balance of provisions over the two years to 30 June 2000 that could have an under effect on the profits reported for either business segment.

Appendix 1 – Financial ratios

Liquidity ratios:

Current ratio = Current assets / Current liabilities

Profitability ratios:

Return on equity = Net profit after tax / Shareholders' equity

Return on tangible non-current assets = Operating profits/Tangible non-current
assets

Operating profit margin = Operating profits before interest and abnormal
items/Revenue

Leverage ratios:

Debt to equity ratio = Total debt / Total Shareholders' equity

Debt to assets ratio = Total borrowings / Total assets

Debt coverage = All financial debt / Gross cash flow

(where, gross cash flow = earnings before interest and tax + depreciation)

Interest coverage = Earnings before interest and tax / Interest

Appendix 2 – Phase 2 Airports' disaggregated regulatory accounts

Presented in alphabetic order

- Adelaide
- Alice Springs
- Canberra
- Coolangatta
- Hobart
- Launceston
- Townsville

Adelaide Airport Profit and Loss Statement:

	1998/99 (\$'000)	1999/00 (\$'000)
Revenue:		
Aero	10,031	9,867
Non-aero	36,233	39,442
Not allocated	-	-
<i>Total</i>	<u>46,264</u>	<u>49,309</u>
Costs:		
Depreciation		
Aero	2,359	2,301
Non-aero	2,104	2,163
Salaries and wages		
Aero	10	1,001
Non-aero	7	969
Services and utilities		
Aero	-	383
Non-aero	423	2,158
Property maintenance		
Aero (including maintenance add-backs)	-	249
Non-aero	-	278
APS costs		
Aero	-	1,240
Non-aero	-	-
Consultants and advisors		
Aero	-	738
Non-aero	-	279
General administration		
Aero	-	576
Non-aero	-	647
Leasing		
Aero	-	3
Non-aero	-	4
Other		
Aero	9,173	2,190
Non-aero	8,026	4,589

Adelaide Airport Profit and Loss Statement (continued):

	1998/99 (\$'000)	1999/00 (\$'000)
Total costs		
Aero	11,543	8,681
Non-aero	10,560	11,087
Not allocated		
<i>Total</i>	<u>22,102</u>	<u>19,768</u>
Operating profit (loss)		
Aero	(1,512)	1,186
Non-aero	25,673	28,355
Not allocated	-	-
<i>Total</i>	<u>24,161</u>	<u>29,541</u>
Abnormal items		
Aero	11	(30)
Non-aero	6	(288)
Not allocated	4	-
<i>Total</i>	<u>17</u>	<u>(318)</u>
Earnings before interest, tax and amortisation		
Aero	(1,501)	1,156
Non-aero	25,679	28,067
Not allocated	4	-
<i>Total</i>	<u>24,182</u>	<u>29,223</u>
Amortisation of land		
Aero	562	559
Non-aero	295	309
Amortisation of intangibles (not allocated)	5,657	2,920
Earnings before interest and tax	<u>17,668</u>	<u>25,435</u>
Interest expense	<u>29,931</u>	<u>32,886</u>
Earnings before tax	(12,263)	(7,451)
Tax (credit)	<u>-</u>	<u>(320)</u>
(Loss) after tax	(12,263)	(7,131)
Dividends paid	<u>-</u>	<u>-</u>
Movement in retained earnings	(12,263)	(7,131)

Adelaide Airport Balance Sheet:

	1998/99 (\$'000)	1999/00 (\$'000)
Current assets:		
Cash (not allocated)	35,565	31,918
Receivables (not allocated)	-	-
Inter-company current accounts (not allocated)	23,229	22,979
Receivables		
Aero	936	-
Non-aero	757	-
Inventories		
Aero	-	-
Non-aero	-	-
Accrued revenue		
Aero	250	1
Non-aero	411	847
Other		
Aero	-	-
Non-aero	-	227
<i>Total current assets</i>		
Aero	1,186	1
Non-aero	1,168	1,074
Not allocated	58,794	56,401
Total	<u>61,148</u>	<u>57,476</u>
Non-current assets:		
Property, plant and equipment		
Aero	99,046	130,897
Non-aero	59,830	81,366
Intangibles (not allocated)	208,946	206,068
<i>Total non-current assets</i>		
Aero	99,046	130,897
Non-aero	59,830	81,366
Not allocated	208,946	206,068
Total	<u>367,822</u>	<u>418,331</u>
Total assets		
Aero	100,232	130,898
Non-aero	60,998	82,440
Not allocated	267,740	262,469
Total	<u>428,970</u>	<u>475,807</u>

Adelaide Airport Balance Sheet (continued):

	1998/99 (\$'000)	1999/00 (\$'000)
Current liabilities		
Creditors		
Aero	2,382	695
Non-aero	1,790	744
Provisions		
Aero	-	-
Non-aero	-	-
Other		
Aero	-	-
Non-aero	-	-
<i>Total current liabilities</i>		
Aero	2,382	1,714
Non-aero	1,790	2,174
Not allocated	0	0
Total	<u>4,172</u>	<u>3,888</u>
Non-current liabilities		
Borrowings (not allocated)	434,794	437,055
<i>Total non-current liabilities</i>		
Aero	-	-
Non-aero	-	-
Not allocated	434,794	437,055
Total	<u>434,794</u>	<u>437,055</u>
Total liabilities		
Aero	2,382	1,714
Non-aero	1,790	2,174
Not allocated	434,794	437,055
Total	<u>438,966</u>	<u>440,943</u>
Net assets	(9,996)	34,864
Shareholder's equity		
Share capital	1,905	1,905
Reserves	-	51,991
Accumulated profits / (losses)	<u>(11,901)</u>	<u>(19,032)</u>
<i>Total shareholder's equity</i>	(9,996)	34,864

Alice Springs Airport Profit and Loss Statement:

	1998/99	1999/00
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	(\$'000)	(\$'000)
Revenue:		
Aero	2,166	1,812
Non-aero	2,576	2,795
Not allocated	-	-
<i>Total</i>	<u>4,742</u>	<u>4,607</u>
Costs:		
Depreciation		
Aero	1,159	1,095
Non-aero	343	342
Salaries and wages		
Aero	502	492
Non-aero	509	499
Services and utilities		
Aero	399	368
Non-aero	155	140
Property maintenance		
Aero (including maintenance add-backs)	192	257
Non-aero	84	122
APS costs		
Aero	345	-
Non-aero	-	-
Passenger Screening		
Aero	-	161
Non-aero	-	-
Other		
Aero	333	351
Non-aero	296	363
Total costs		
Aero	2,930	2,724
Non-aero	1,387	1,466
Not allocated	-	-
<i>Total</i>	<u>4,317</u>	<u>4,190</u>

Alice Springs Airport Profit and Loss Statement (continued):

	1998/99 (\$'000)	1999/00 (\$'000)
Operating profit (loss)		
Aero	(764)	(912)
Non-aero	1,189	1,329
Not allocated	0	0
<i>Total</i>	<u>425</u>	<u>417</u>
 Abnormal items		
Aero	83	-
Non-aero	28	-
<i>Total</i>	<u>111</u>	<u>-</u>
 Earnings before interest, tax and amortisation		
Aero	(681)	(912)
Non-aero	1,217	1,329
Not allocated	0	0
<i>Total</i>	<u>536</u>	<u>417</u>
 Amortisation (not allocated)	90	86
 Earnings before interest and tax	<u>446</u>	<u>331</u>
 Interest expense	<u>2,987</u>	<u>3,023</u>
 Earnings before tax	(2,541)	(2,692)
 Tax credit/(charge)	<u>(74)</u>	<u>-</u>
 (Loss) after tax	(2,615)	(2,692)
 Dividends paid	<u>-</u>	<u>-</u>
 Movement in retained earnings	(2,615)	(2,692)

Alice Springs Balance Sheet:

	1998/99 (\$'000)	1999/00 (\$'000)
Current assets:		
Cash (not allocated)	961	787
Receivables		
Aero	316	220
Non-aero	160	424
<i>Total current assets</i>		
Aero	316	220
Non-aero	160	424
Not allocated	961	787
Total	<u>1,437</u>	<u>1,431</u>
Non-current assets:		
Property, plant and equipment		
Aero	15,680	14,587
Non-aero	6,876	6,739
Intangibles (not allocated)	3,253	3,169
<i>Total non-current assets</i>		
Aero	15,680	14,587
Non-aero	6,876	6,739
Not allocated	3,253	3,169
Total	<u>25,809</u>	<u>24,495</u>
Total assets		
Aero	15,996	14,807
Non-aero	7,036	7,163
Not allocated	4,214	3,956
Total	<u>27,246</u>	<u>25,926</u>
Current liabilities		
Creditors (not allocated)	687	462
Borrowings (not allocated)	-	-
Provisions		
Aero	205	179
Non-aero	164	153

Alice Springs Balance Sheet (continued):

	1998/99 (\$'000)	1999/00 (\$'000)
<i>Total current liabilities</i>		
Aero	205	179
Non-aero	164	153
Not allocated	687	462
Total	<u>1,056</u>	<u>794</u>
 Non-current liabilities		
Borrowings (not allocated)	28,774	30,419
Provisions		
Aero	15	10
Non-aero	16	10
 <i>Total non-current liabilities</i>		
Aero	15	10
Non-aero	16	10
Not allocated	28,774	30,419
Total	<u>28,805</u>	<u>30,439</u>
 Total liabilities		
Aero	220	189
Non-aero	180	163
Not allocated	29,461	30,881
Total	<u>29,861</u>	<u>31,233</u>
 Net assets	(2,615)	(5,307)
 Shareholder's equity		
Share capital	-	-
Accumulated profits / (losses)	<u>(2,615)</u>	<u>(5,307)</u>
 <i>Total shareholder's equity</i>	(2,615)	(5,307)

Canberra Airport Profit and Loss Statement:

	1998/99 (\$'000)	1999/00 (\$'000)
Revenue:		
Aero	4,637	4,372
Non-aero	4,790	6,255
Not allocated	-	-
<i>Total</i>	<u>9,427</u>	<u>10,627</u>
Costs:		
Depreciation		
Aero	1,895	1,928
Non-aero	259	283
Salaries and wages		
Aero	1,160	1,099
Non-aero	465	394
Services and utilities		
Aero	124	224
Non-aero	318	79
Property maintenance		
Aero (including maintenance add-backs)	367	493
Non-aero	-	36
Other		
Aero	1,318	1,434
Non-aero	479	627
Total costs		
Aero	4,864	5,178
Non-aero	1,521	1,419
Not allocated	-	-
<i>Total</i>	<u>6,385</u>	<u>6,597</u>
Operating profit (loss)		
Aero	(227)	(806)
Non-aero	3,269	4,836
Not allocated	0	0
<i>Total</i>	<u>3,042</u>	<u>4,030</u>

Canberra Airport Profit and Loss Statement (continued):

	1998/99 (\$'000)	1999/00 (\$'000)
Abnormal items		
Aero		(245)
Non-aero		(65)
<i>Total</i>	-	<i>(310)</i>
Earnings before interest, tax and amortisation		
Aero	(227)	(1,051)
Non-aero	3,269	4,771
Not allocated	-	-
<i>Total</i>	<i>3,042</i>	<i>3,720</i>
Amortisation		
Aero	-	-
Non-aero	-	-
Earnings before interest and tax	<i>3,042</i>	<i>3,720</i>
Interest expense	<i>4,056</i>	<i>5,167</i>
Earnings before tax	(1,014)	(1,447)
Tax credit/(charge)	<i>(395)</i>	<i>(749)</i>
(Loss) after tax	(619)	(2,196)
Dividends paid	-	-
Movement in retained earnings	(619)	(2,196)

Canberra Airport Balance Sheet:

	1998/99 (\$'000)	1999/00 (\$'000)
Current assets:		
Cash (not allocated)	425	-
Cash		
Aero	-	(161)
Non-aero	-	(89)
Receivables		
Aero	515	419
Non-aero	391	281
Inventories		
Aero	-	-
Non-aero	-	-
Accrued revenue		
Aero	40	-
Non-aero	42	-
Other		
Aero	-	-
Non-aero	1	-
Total current assets		
Aero	555	258
Non-aero	434	192
Not allocated	425	-
Total	1,414	450
Non-current assets:		
Property, plant and equipment		
Aero	57,560	56,434
Non-aero	12,185	27,485
Intangibles		
Aero	-	-
Non-aero	-	-
Future income tax benefits		
Aero	-	23
Non-aero	-	30
Other		
Aero	472	480
Non-aero	193	18

Canberra Airport Balance Sheet (continued):

	1998/99 (\$'000)	1999/00 (\$'000)
<i>Total non-current assets</i>		
Aero	58,032	56,937
Non-aero	12,378	27,533
Total	<u>70,410</u>	<u>84,470</u>
Total assets		
Aero	58,587	57,195
Non-aero	12,812	27,725
Not allocated	425	0
Total	<u>71,824</u>	<u>84,920</u>
Current liabilities		
Creditors (not allocated)	156	3,697
Borrowings (not allocated)	832	967
Provisions		
Aero	413	215
Non-aero	168	19
Deferred income tax liability		
Aero	-	-
Non-aero	-	48
Other		
Aero	-	22
Non-aero	-	32
<i>Total current liabilities</i>		
Aero	413	237
Non-aero	168	99
Not allocated	988	4,664
Total	<u>1,569</u>	<u>5,000</u>
Non-current liabilities		
Borrowings (not allocated)	61,011	64,844
Provisions		
Aero	10	12
Non-aero	4	4
<i>Total non-current liabilities</i>		
Aero	10	12
Non-aero	4	4
Not allocated	61,011	64,844
Total	<u>61,025</u>	<u>64,860</u>

Canberra Airport Balance Sheet (continued):

	1998/99 (\$'000)	1999/00 (\$'000)
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Total liabilities

Aero	423	249
Non-aero	172	103
Not allocated	61,999	69,508
Total	<u>62,594</u>	<u>69,860</u>

Net assets

9,230 15,060

Shareholder's equity

Share capital	10,000	10,000
Reserves	-	8,
Accumulated profits / (losses)	<u>(770)</u>	<u>(2,966)</u>

Total shareholder's equity

9,230 15,060

Coolangatta Airport Profit and Loss Statement:

	1998/99 (\$'000)	1999/00 (\$'000)
Revenue:		
Aero	5,519	5,804
Non-aero	5,930	3,593
Not allocated	-	2,996
<i>Total</i>	<u>11,449</u>	<u>12,393</u>
Costs:		
Depreciation		
Aero	1,642	1,618
Non-aero	1,066	1,077
Salaries and wages		
Aero	1,311	792
Non-aero	326	495
Services and utilities		
Aero	101	111
Non-aero	564	571
Property maintenance		
Aero (including maintenance add-backs)	620	599
Non-aero	81	96
APS costs		
Aero	788	725
Non-aero	-	-
Other		
Aero	2,251	1,602
Non-aero	917	1,464
Total costs		
Aero	6,713	5,447
Non-aero	2,954	3,703
<i>Total</i>	<u>9,667</u>	<u>9,150</u>
Operating profit (loss)		
Aero	(1,194)	357
Non-aero	2,976	
Not allocated	0	2,996
<i>Total</i>	<u>1,782</u>	<u>3,243</u>

Coolangatta Airport Profit and Loss Statement (continued):

	1998/99 (\$'000)	1999/00 (\$'000)
Abnormal items		
Aero	-	-
Non-aero	-	-
<i>Total</i>	<hr/> -	<hr/> -
EBITA		
Aero	(1,194)	3,950
Non-aero	2,976	
Not allocated	-	-
<i>Total</i>	<hr/> 1,782	<hr/> 3,243
Amortisation	<hr/> -	<hr/> -
EBIT	1,782	3,243
Interest expense	<hr/> 4,544	<hr/> 5,252
Earnings before tax	(2,762)	(2,009)
Tax credit/(charge)	<hr/> (93)	<hr/> -
(Loss) after tax	(2,855)	(2,009)
Dividends paid	<hr/> -	<hr/> -
Movement in retained earnings	(2,855)	(2,009)

Coolangatta Airport Balance Sheet:

	1998/99 (\$'000)	1999/00 (\$'000)
Current assets:		
Cash (not allocated)	17,055	15,825
Receivables		
Aero	366	517
Non-aero	320	233
Accrued revenue		
Aero	2	220
Non-aero	155	222
Other		
Aero	-	52
Non-aero	1	71
Total current assets		
Aero	368	789
Non-aero	476	526
Not allocated	17,055	15,825
Total	<u>17,899</u>	<u>17,140</u>
Non-current assets:		
Property, plant and equipment		
Aero	16,496	62,038
Non-aero	4,680	52,903
Intangibles		
Aero	45,317	-
Non-aero	48,050	-
Total non-current assets		
Aero	61,813	62,038
Non-aero	52,730	52,903
Total	<u>114,543</u>	<u>114,941</u>
Total assets		
Aero	62,181	62,827
Non-aero	53,206	53,429
Not allocated	17,055	15,825
Total	<u>132,442</u>	<u>132,081</u>

Coolangatta Airport Balance Sheet (continued):

	1998/99 (\$'000)	1999/00 (\$'000)
Current liabilities		
Creditors (not allocated)	882	2,179
Provisions		
Aero	23	-
Non-aero	18	-
Not allocated	-	14
Other unearned revenue		
Aero	820	-
Non-aero	-	-
Not allocated	-	1,198
<i>Total current liabilities</i>		
Aero	843	-
Non-aero	18	-
Not allocated	882	3,391
Total	<u>1,743</u>	<u>3,391</u>
Non-current liabilities		
Borrowings (not allocated)	132,865	132,865
<i>Total non-current liabilities</i>		
Aero	-	-
Non-aero	-	-
Not allocated	132,865	132,865
Total	<u>132,865</u>	<u>132,865</u>
Total liabilities		
Aero	843	-
Non-aero	18	-
Not allocated	133,747	136,256
Total	<u>134,608</u>	<u>136,256</u>
Net assets	(2,166)	(4,175)
Shareholder's equity		
Share capital	615	615
Accumulated profits / (losses)	<u>(2,781)</u>	<u>(4,790)</u>
<i>Total shareholder's equity</i>	(2,166)	(4,175)

Darwin Airport Profit and Loss Statement:

	1998/99 (\$'000)	1999/00 (\$'000)
Revenue:		
Aero	5,111	5,334
Non-aero	5,401	6,341
Not allocated	-	-
<i>Total</i>	<u>10,512</u>	<u>11,675</u>
Costs:		
Depreciation		
Aero	3,415	3,329
Non-aero	318	311
Salaries and wages		
Aero	1,073	1,123
Non-aero	809	847
Services and utilities		
Aero	1,169	1,052
Non-aero	200	247
Property maintenance		
Aero	565	707
Non-aero	75	139
APS costs		
Aero	964	879
Non-aero	-	-
Other		
Aero	918	988
Non-aero	633	720
Passenger Screening		
Aero	-	279
Non-aero	-	-
Total costs		
Aero	8,104	8,357
Non-aero	2,035	2,264
<i>Total</i>	<u>10,139</u>	<u>10,621</u>

Darwin Airport Profit and Loss Statement (continued):

	1998/99	1999/00
	(\$'000)	(\$'000)
Operating profit (loss)		
Aero	(2,993)	(3,023)
Non-aero	3,366	4,077
Not allocated		
<i>Total</i>	<u>373</u>	<u>1,054</u>
 Abnormal items		
Aero	1	-
Non-aero	-	-
<i>Total</i>	<u>1</u>	<u>-</u>
 EBITA		
Aero	(2,992)	(3,023)
Non-aero	3,366	4,077
Not allocated	-	-
<i>Total</i>	<u>374</u>	<u>1,054</u>
 Amortisation (not allocated)	<u>512</u>	<u>473</u>
 EBIT	(138)	581
 Interest expense	<u>10,490</u>	<u>10,711</u>
 Earnings before tax	(10,116)	(10,130)
 Tax credit	<u>133</u>	<u>-</u>
 (Loss) after tax	(9,983)	(10,130)
 Dividends paid	<u>-</u>	<u>-</u>
 Movement in retained earnings	(9,983)	(10,130)

Darwin Airport Balance Sheet:

	1998/99 (\$'000)	1999/00 (\$'000)
Current assets:		
Cash (not allocated)	1	1
Receivables		
Aero	1,227	866
Non-aero	496	1,230
Inventories		
Aero	-	-
Non-aero	-	-
Accrued revenue		
Aero	-	-
Non-aero	-	-
Other (not allocated)	96	28
Total current assets		
Aero	1,227	866
Non-aero	496	1,230
Not allocated	97	29
Total	<u>1,820</u>	<u>2,125</u>
Non-current assets:		
Property, plant and equipment		
Aero	54,213	52,203
Non-aero	11,299	11,283
Intangibles (not allocated)	28,015	27,555
Total non-current assets		
Aero	54,213	52,203
Non-aero	11,299	11,283
Not allocated	28,015	27,555
Total	<u>93,527</u>	<u>91,041</u>
Total assets		
Aero	55,440	53,069
Non-aero	11,795	12,513
Not allocated	28,112	27,584
Total	<u>95,347</u>	<u>93,166</u>
Current liabilities		
Creditors (not allocated)	1,310	1,256
Borrowings (not allocated)	383	1,831

Darwin Airport Balance Sheet (continued):

	1998/99 (\$'000)	1999/00 (\$'000)
Provisions		
Aero	378	371
Non-aero	301	284
<i>Total current liabilities</i>		
Aero	378	371
Non-aero	301	284
Not allocated	1,693	3,087
Total	2,372	3,742
Non-current liabilities		
Borrowings (not allocated)	103,402	110,052
Provisions		
Aero	39	-
Non-aero	31	-
<i>Total non-current liabilities</i>		
Aero	39	-
Non-aero	31	-
Not allocated	103,402	110,052
Total	103,472	110,052
Total liabilities		
Aero	417	371
Non-aero	332	284
Not allocated	105,095	113,139
Total	105,844	113,794
Net assets	(10,497)	(20,628)
Shareholder's equity		
Share capital		
Accumulated profits / (losses)	(10,496)	(20,627)
<i>Total shareholder's equity</i>	(10,496)	(20,627)

Hobart Airport Profit and Loss Statement:

	1998/99 (\$'000)	1999/00 (\$'000)
Revenue:		
Aero	3,879	3,311
Non-aero	1,965	2,184
Not allocated	-	-
<i>Total</i>	<u>5,844</u>	<u>5,495</u>
Costs:		
Depreciation		
Aero	381	385
Non-aero	99	98
Salaries and wages		
Aero	1,052	1,125
Non-aero	443	529
Services and utilities		
Aero	180	181
Non-aero	72	129
APS costs		
Aero	510	-
Non-aero	-	-
Property maintenance		
Aero (including maintenance add-backs)	193	187
Non-aero	86	57
Other		
Aero	529	497
Non-aero	242	225
Total costs		
Aero	2,845	2,375
Non-aero	942	1,038
Not allocated		
<i>Total</i>	<u>3,787</u>	<u>3,413</u>
Operating profit (loss)		
Aero	1,034	936
Non-aero	1,023	1,146
Not allocated	0	0
<i>Total</i>	<u>2,057</u>	<u>2,082</u>

Hobart Airport Profit and Loss Statement (continued):

	1998/99 (\$'000)	1999/00 (\$'000)
Abnormal items		
<i>Aero</i>	1	1
<i>Non-aero</i>	(2)	1
<i>not allocated</i>	35	-
<i>Total</i>	<u>34</u>	<u>2</u>
EBITA		
Aero	1,035	937
Non-aero	1,021	1,147
Not allocated	35	0
<i>Total</i>	<u>2,091</u>	<u>2,084</u>
Amortisation of intangibles (not allocated)	<u>331</u>	<u>332</u>
EBIT	<u>1,760</u>	<u>1,752</u>
Interest expense	<u>1,649</u>	<u>1,891</u>
Earnings before tax	111	(139)
Tax credit/(charge)	<u>(207)</u>	<u>(77)</u>
(Loss) after tax	(96)	(216)
Dividends paid	<u>-</u>	<u>-</u>
Movement in retained earnings	(96)	(96)

Hobart Airport Balance Sheet:

	1998/99 (\$'000)	1999/00 (\$'000)
Current assets:		
Cash (not allocated)	945	935
Receivables		
Aero	572	291
Non-aero	38	294
Inventories		
Aero	29	24
Non-aero	1	8
Accrued revenue		
Aero	11	119
Non-aero	6	70
Other		
Aero	117	-
Non-aero	50	-
<i>Total current assets</i>		
Aero	729	434
Non-aero	95	372
Not allocated	945	935
Total	<u>1,769</u>	<u>1,741</u>
Non-current assets:		
Investments		
Aero	294	310
Non-aero	126	133
Property, plant and equipment		
Aero	9,818	9,911
Non-aero	889	883
Intangibles		
Aero	-	-
Non-aero	-	-
Not allocated	28,421	27,000
Future Income Tax Benefit (not allocated)	269	204
<i>Total non-current assets</i>		
Aero	10,112	10,904
Non-aero	1,015	1,016
Not allocated	28,690	27,204
Total	<u>39,817</u>	<u>39,124</u>

Hobart Airport Balance Sheet (continued):

	1998/99 (\$'000)	1999/00 (\$'000)
Total assets		
Aero	10,841	11,338
Non-aero	1,110	1,388
Not allocated	29,635	28,139
Total	<u>41,586</u>	<u>40,865</u>
Current liabilities		
Creditors (not allocated)	513	847
Provisions		
Aero	456	392
Non-aero	196	168
Total current liabilities		
Aero	456	392
Non-aero	196	168
Not allocated	513	847
Total	<u>1,165</u>	<u>1,407</u>
Non-current liabilities		
Borrowings (not allocated)	39,598	38,348
Provisions		
Aero	170	172
Non-aero	73	73
Total non-current liabilities		
Aero	170	172
Non-aero	73	73
Not allocated	39,598	38,348
Total	<u>39,841</u>	<u>38,593</u>
Total liabilities		
Aero	626	564
Non-aero	269	241
Not allocated	40,111	39,195
Total	<u>41,006</u>	<u>40,000</u>
Net assets	580	865
Shareholder's equity		
Issued capital	700	1,200
Accumulated (losses)	(119)	(335)
Total shareholder's equity	<u>581</u>	<u>865</u>

Launceston Airport Profit and Loss Statement:

	1998/99 (\$'000)	1999/00 (\$'000)
Revenue:		
Aero	1,440	1,525
Non-aero	2,717	2,914
Not allocated	-	-
<i>Total</i>	<u>4,157</u>	<u>4,439</u>
Costs:		
Depreciation		
Aero	529	535
Non-aero	253	253
Salaries and wages		
Aero	585	536
Non-aero	649	686
Services and utilities		
Aero	75	90
Non-aero	218	204
Property maintenance		
Aero (including maintenance add-backs)	97	162
Non-aero	95	161
APS costs		
Aero	-	-
Non-aero	-	-
Other		
Aero	391	294
Non-aero	272	254
Total costs		
Aero	1,677	1,617
Non-aero	1,487	1,558
Not allocated	-	-
<i>Total</i>	<u>3,164</u>	<u>3,175</u>
Operating profit (loss)		
Aero	(237)	(92)
Non-aero	1,230	1,356
Not allocated	-	-
<i>Total</i>	<u>993</u>	<u>1,264</u>

Launceston Airport Profit and Loss Statement (continued):

	1998/99 (\$'000)	1999/00 (\$'000)
Abnormal items		
Aero		
Non-aero		
<i>Total</i>	-	-
EBITA		
Aero	(237)	(92)
Non-aero	1,230	1,356
Not allocated	-	-
<i>Total</i>	993	1,264
Amortisation		
Aero	-	-
Non-aero	111	111
EBIT	882	1,153
Interest expense	1,047	1,099
Earnings before tax	(165)	(54)
Tax credit/(charge)	131	161
(Loss) after tax	(34)	(107)
Dividends paid	-	-
Movement in retained earnings	(34)	(188)

Launceston Airport Balance Sheet:

	1998/99 (\$'000)	1999/00 (\$'000)
Current assets:		
Cash (not allocated)	155	197
Receivables		
Aero	120	117
Non-aero	118	226
Inventories		
Aero	3	2
Non-aero	3	1
<i>Total current assets</i>		
Aero	123	119
Non-aero	121	227
Not allocated	-	-
Total	<u>399</u>	<u>543</u>
Non-current assets:		
Property, plant and equipment		
Aero	11,883	11,424
Non-aero	5,194	5,028
Intangibles		
Aero	-	-
Non-aero	1,568	1,457
Future income tax benefits		
Aero	104	86
Non-aero	118	110
<i>Total non-current assets</i>		
Aero	11,987	11,510
Non-aero	<u>6,880</u>	<u>6,595</u>
Total	<u>18,867</u>	<u>18,105</u>
Total assets		
Aero	12,110	11,629
Non-aero	7,001	6,822
Not allocated	155	197
Total	<u>19,266</u>	<u>18,648</u>
Current liabilities		
Creditors (not allocated)	246	234
Borrowings (not allocated)	448	362

Launceston Airport Balance Sheet (continued):

	1998/99 (\$'000)	1999/00 (\$'000)
Provisions		
Aero	203	228
Non-aero	223	293
<i>Total current liabilities</i>		
Aero	203	228
Non-aero	223	293
Not allocated	694	596
Total	1,120	1,117
Non-current liabilities		
Borrowings (not allocated)	15,810	15,210
Provisions		
Aero	67	121
Non-aero	32	70
<i>Total non-current liabilities</i>		
Aero	67	121
Non-aero	32	70
Not allocated	15,810	15,210
Total	15,909	15,401
Total liabilities		
Aero	270	349
Non-aero	255	363
Not allocated	16,504	15,806
Total	17,029	16,518
Net assets	2,237	2,130
Shareholder's equity		
Share capital	2,318	2,318
Accumulated (losses)	(81)	(188)
<i>Total shareholder's equity</i>	2,237	2,130

Townsville Airport Profit and Loss Statement:

	1998/99 (\$'000)	1999/00 (\$'000)
Revenue:		
Aero	2,635	2,188
Non-aero	3,578	3,611
<i>Total</i>	<u>6,213</u>	<u>5,799</u>
Costs:		
Depreciation		
Aero	965	856
Non-aero	299	266
Salaries and wages		
Aero	611	569
Non-aero	642	610
Services and utilities		
Aero	579	431
Non-aero	200	134
Property maintenance		
Aero (including maintenance add-backs)	387	440
Non-aero	80	106
APS costs		
Aero	485	-
Non-aero	-	-
Other		
Aero	552	451
Non-aero	410	393
Total costs		
Aero	3,579	2,747
Non-aero	1,631	1,509
<i>Total</i>	<u>5,210</u>	<u>4,256</u>
Operating profit (loss)		
Aero	(944)	(559)
Non-aero	1,947	2,102
<i>Total</i>	<u>1,003</u>	<u>1,543</u>

Townsville Airport Profit and Loss Statement (continued):

	1998/99 (\$'000)	1999/00 (\$'000)
Abnormal items		
Aero	15	122
Non-aero	4	62
<i>Total</i>	<u>19</u>	<u>184</u>
EBITA		
Aero	(929)	(681)
Non-aero	1,951	2,040
<i>Total</i>	<u>1,022</u>	<u>1,359</u>
Amortisation	<u>-</u>	<u>-</u>
EBIT	<u>1,022</u>	<u>1,359</u>
Interest expense	<u>1,166</u>	<u>1,029</u>
Earnings before tax	(144)	330
Tax credit/(charge)	<u>29</u>	<u>(213)</u>
(Loss) after tax	(115)	117
Dividends paid	<u>-</u>	<u>-</u>
Movement in retained earnings	(115)	117

Townsville Airport Balance Sheet:

	1998/99 (\$'000)	1999/00 (\$'000)
Current assets:		
Cash (not allocated)	1,226	1,003
Receivables		
Aero	761	375
Non-aero	38	70
Accrued revenue		
Aero	35	-
Non-aero	37	24
Other		
Aero	73	70
Non-aero	25	19
Total current assets		
Aero	869	445
Non-aero	100	113
Not allocated	1,226	1,003
Total	<u>2,195</u>	<u>1,561</u>
Non-current assets:		
Property, plant and equipment		
Aero	11,542	11,055
Non-aero	3,099	2,920
Other		
Aero	134	0
Non-aero	36	0
Not allocated		
Total non-current assets		
Aero	11,676	11,055
Non-aero	3,135	2,920
Not allocated		
Total	<u>14,811</u>	<u>14,103</u>
Total assets		
Aero	12,545	11,500
Non-aero	3,235	3,033
Not allocated	1,226	1,131
Total	<u>17,006</u>	<u>15,664</u>

Townsville Airport Balance Sheet (continued):

	1998/99 (\$'000)	1999/00 (\$'000)
Current liabilities		
Creditors (not allocated)	806	145
Borrowings (not allocated)	0	0
Provisions		
Aero	232	179
Non-aero	231	192
<i>Total current liabilities</i>		
Aero	232	179
Non-aero	231	192
Not allocated	806	145
Total	1,269	516
Non-current liabilities		
Borrowings (not allocated)	13,478	12,760
Provisions		
Aero	84	65
Non-aero	40	70
<i>Total non-current liabilities</i>		
Aero	84	65
Non-aero	40	70
Not allocated	13,478	12,760
Total	13,602	12,895
Total liabilities		
Aero	316	244
Non-aero	271	262
Not allocated	14,284	12,905
Total	14,871	13,411
Net assets	2,135	2,253
Shareholder's equity		
Share capital	2,250	2,250
Accumulated profits / (losses)	(115)	2
<i>Total shareholder's equity</i>	2,135	2,252

Appendix 3 – Typical financial indicators and credit ratings

Table A3.1: Extract from Standard and Poors' "2001 Corporate Ratings Criteria" report: Key US Industrial long-term debt: Three-year (1997 to 1999) medians

	AAA	AA	A	BBB	BB	B
EBIT interest coverage (x)	17.5	10.8	6.8	3.9	2.3	1.0
EBITDA interest coverage (x)	21.8	14.6	9.6	6.1	3.8	2.0
Funds flow / total debt (%)	105.8	55.8	46.1	30.5	19.2	9.4
Free operating cash flow / total debt (%)	55.4	24.6	15.6	6.6	1.9	(4.5)
Return on capital (%)	28.2	22.9	19.9	14.0	11.7	7.2
Operating income / sales (%)	29.2	21.3	18.3	15.3	15.4	11.2
Long-term debt / capital (incl ST debt) (%)	15.2	26.4	32.5	41.0	55.8	70.7
Total debt / capital (incl ST debt) (%)	26.9	35.6	40.1	47.4	61.3	74.6

Assigning a credit rating to an enterprise is a complex exercise, which we neither intend nor attempt here. However, ratings agencies such as Standard & Poors disclose certain indicators such as those set out above, against which historic indicators can be broadly compared. On this basis we observe that:

- most of the airports report results that would be consistent with lower rated businesses according to gearing and interest cover measures. This is because they are highly geared and generally do not generate sufficient operating profit to cover interest payments, although as we observe in the body of this report, much of an airport's debt is often held by shareholders or related parties and may be subordinated; and
- airports' operating measures such as operating income/sales and returns on tangible non-current assets, appear to be consistent with the median measures of businesses rated more highly than the gearing measures would suggest. This appears consistent with a view that the airports have relatively strong operating results but weaker overall results, because of funding costs.

We also note that credit ratings have been recently published for Brisbane and Sydney airports.

Moody's Investors Service reported on Brisbane airport on 24 January 2001. It has provided the following ratings:

Sr Sec Bank Credit Facility – Dom Curr	Baa1 ⁽¹⁾
Bkd Senior Secured – Dom Curr	Aaa ⁽²⁾
Senior Subordinate – Dom Curr	Baa2 ⁽³⁾

- (1) This rating reflects the airport's monopoly position as the only international airport serving Brisbane, its growth potential and stable yet diverse revenue streams and strong shareholding structure. But, takes into account the airport's highly leveraged position, which reduces its financial flexibility.
- (2) This rating reflects the insurance policy provided by MBIA on these \$350m senior secured bonds.
- (3) This rating reflects the legal subordination of these bonds to the senior secured bonds and bank loans.

Overall, Moody's reported that Brisbane Airport's:

- rating outlook is stable reflecting the low business risk, sustainable revenues and projected passenger growth.
- improvements to cash flows and coverage ratios are expected, which will lead to an overall improvement in its bond and bank debt ratings in the medium term.

Standard & Poors published a rating of "A+/negative/A-" for SACL, in February 2001. Standard & Poors provides a detailed commentary on the financial and operational outlook for SACL, which includes:

"SACL's capital structure is conservative, but may change given the prospects for debt increases upon privatisation. Based on a revalued asset base, total debt to total capital increased to 39% and is forecast to increase to a modest 45% by 2004. This gearing level is low compared with that of the privatised Australian airports, which have an aggressive capital structure of 65%-80%. A steep increase in debt in fiscal 2000 also is reflected in a higher net debt per passenger of A\$54 relative to A\$42 in fiscal 1999. However, this ratio is still the lowest among the rated Australian airports."

Market power and airports

Report for the ACCC

Stephen P. King

January 25, 2001

The Productivity Commission, at the request of the Treasurer, is reviewing the prices oversight arrangements for 22 leased airports in Australia. Twelve of these airports are subject to prices regulation. The Productivity Commission is required to report on the need for continued prices regulation and the appropriate form of this regulation. In its report, the Productivity Commission is required to consider situations where airport operators have potential to abuse market power and alternatives to existing arrangements that provide equal or better protection to airport users.

The relationship between market definition, market power and the abuse of such power has been analysed in detail in Australian and overseas antitrust law and economics. This report summarises the economics of market power and applies this economics to Australian airports. The report does not seek to conclusively determine whether or not these airports have market power. Rather, we will provide a framework for assessing market power both for airports as a whole and for the individual services provided by airports. As such, this report provides guidance for the empirical determination of market power and the potential for any abuse of such power.

The report proceeds as follows. The first section considers the general principles of market definition and market power. This section also provides a framework for considering market power in relation to airports and airport services. Section 2 considers the application of these principles to airports as a whole. The third section considers some of the individual services provided by airports. A final section deals with some specific issues relating to the Australian Competition and Consumer Commission, summarizes the approach presented in the report and concludes.

1. The principles of market definition and determination of market power.

1.1 Background.

Before it is possible to consider a firm's market power, it is necessary to define the relevant market(s) in which the firm operates. This is not simply a 'legal technicality'. Market definition provides a framework for analyzing the economic factors that affect market power and as such is the first step in market power analysis.

A number of clear principles have been developed under Australian competition laws regarding market definition. The Australian High Court in *Queensland Wire Industries v BHP* defined a market. "A market is the area of close competition between firms or, putting it a little differently, the field of rivalry between them ... Within the bounds of a market there is substitution – substitution between one product and another, and between one source of supply and another, in response to changing prices. So a market is the field of actual and potential transactions between buyers and sellers amongst whom there can be strong substitution, at least in the long run, if given a sufficient price incentive".¹

A key feature of market definition is that it involves both demand-side and supply-side substitution.² In other words, consideration must be taken of both alternative products that are available to consumers and also alternative sources of product supply. The relevant time frame for considering such substitution possibilities must take account of the facts of a specific case, but it should not be 'too short' a time to reflect true substitution possibilities. At the same time the degree of either supply-side or demand-side substitution should not be trivial but should be 'strong'.

Commercial reality must temper any attempt at market definition. While substitution possibilities might theoretically exist, if the evidence shows that these substitution possibilities have failed to eventuate, even though there has been a relevant and

¹ (1989) 167 CLR at 177.

² See also Wilcox, J. in *TPC v Australian Meat Holdings*, (1988), ATPR 40-876 at 49,480.

significant price differential, then it is likely that these possibilities do not commercially exist. For example, there might be barriers to entry or limitations to product substitutability that are not immediately obvious to an outside observer. If what appear to be profitable substitution possibilities have not been pursued over the longer term, then it is reasonable to conclude that these possibilities are not real.

Market definition is not a matter for mechanical analysis. The definition of a market in any matter cannot be separated from the purpose of that definition.³ In this sense, the determination of the relevant market and the determination of market power are simply two parts of the same question. As the High Court noted when considering abuse of market power under section 46(1) of the *Trade Practices Act* 1974, “there will ordinarily be little point in attempting to define relevant markets without first identifying precisely what it is that is said to have been done in contravention of the section”.⁴

To consider the relationship between market definition and market power, it has been argued that the outside observer needs to ‘put themselves in the shoes’ of the relevant market participants. They need to ask, for example, who are the relevant customers and what options do they have; and who are the important competitors and how quickly can those competitors react to any changes in pricing or operating policies? In brief, from the firm’s perspective, what competitive forces will limit the firm’s behaviour?

Mason first proposed approaching market definition by focusing on the actual market participants.⁵ Brunt suggests a three step methodology based on the Mason approach that could be applied to Australian Trade Practices cases. “[O]ne begins with a specification of the conduct claimed to be unlawful...The next question will be: what productive activities of the enterprise generate this conduct? And, finally, what decision making unit

³ See for example, French, J. in *Singapore Airlines v Taprobane Tours* (1991) 104 ALR at 633, and *Queensland Wire* op. cit. note 1 at 187.

⁴ *Queensland Wire Industries Pty. Ltd. v BHP Co. Ltd.*, op. cit. note .

⁵ E.S. Mason “Price and production policies of large scale enterprises”, *American Economic Review* 1939, p66.

within the firm...and what particular product, or set of products, should be the centre-point of the analysis”.⁶

1.2 Determining the relevant market

Market definition may be conveniently broken into four separate dimensions – product, functional level, geographic and temporal.⁷

Beginning with the relevant ‘product dimension’ of the market, it is necessary to consider the ability of market participants to respond to prices or price differentials. The relationship between the quantity of one commodity and the price of another commodity is referred to in economics as the ‘cross-price elasticity’ of supply or demand between the two products. Products that have a high cross-price elasticity (in either demand or supply) will generally be considered to be part of the same market.

The cross-price elasticity of good *A* with respect to good *B*, is the percentage change in the quantity of *A* due to a one per cent change in the price of *B* holding all other factors constant. For any two products there are four cross-price elasticities. There is the cross-price elasticity of demand for *A* with respect to *B* and the cross-price elasticity of supply. It is obvious that these need not be the same. The former measures the reactions of buyers while the latter refers to sellers. There are also two cross-price elasticities for *B* with respect to *A*. Elasticity measures need not be symmetric. Products are substitutes in demand and/or supply if the relevant cross-price elasticities are positive. If these elasticities are ‘high enough’ then the products can be viewed as being in the same market.

⁶ M. Brunt “‘Market definition’ issues in Australian and New Zealand trade practices litigation” *Australian Business Law Review* 1990, 18, p105. The Australian courts have recognised the applicability of this Mason / Brunt approach. “Professor Brunt’s article...argues that substitutability is a matter of degree, recognising that the statement of the Mason perspective is not to be too literally applied” (*Davids Holdings Pty. Ltd. & ORS v Attorney General of the Commonwealth & ANOR, DATE, ATPR* 41-804 at 42,087).

⁷ See for example *Re Tooth & Co Ltd* (1979) ATPR 40-113 and the ACCC Merger guidelines.

A simple example may help to illustrate the relevant issues. Consider for example that there are two products, rail transport (R) and bus transport (B). Suppose that at present the price of a bus trip is \$4 and a train journey from the same origin to the same destination costs \$3. There are 100 bus and 2000 rail journeys per day. To determine the cross-price elasticity of demand of R for B we need to ask how the volume of rail journeys will alter if the bus fares rise. Consider that the price of a bus journey rises to \$4.40, a 10-percent increase. Suppose that the new sales figures are 50 for bus and 2040 for train. In this example, 40 customers switch from bus to train and 10 either switch to some other unspecified form of transport or do not travel. The 10-percent rise in the price of B has led to a 2-percent rise in the demand for R . The cross-elasticity of demand for R with respect to B given from these figures is simply 2 divided by 10, or 0.2.

Alternatively, let the bus fare remain constant at \$4 per journey and raise the rail fare to \$3.15. Suppose that after the 5-percent increase in the rail fare the number of bus customers increases to 180, an 80-percent increase. The cross-elasticity of demand for B with respect to R is given by 80 divided by 5, or 16.

Clearly, these two elasticity measures are not the same. The relevant measure will depend on the question being asked. The possibility of competition from rail may temper the behaviour of a bus owner given the above figures but not vice-versa. The example also hides a number of important factors. With 'real world' data, we would need to know the time period involved in collection. If quantity responses occurred the day after the relevant price rise then these cross-elasticity's need to be given different consideration than if the quantity responses were measured five years later. Not only would it be unlikely that 'all other factors' would be constant for five years, but the quantity responses may have been very slow. When considering a firm's market power, the length of time involved in customer switching can be crucial.

Quality changes also need to be considered when measuring cross-price elasticities. In the above example, an 80-percent rise in bus passengers without an increase in the number of buses used may lead to a serious deterioration of service. There may be a rationing of the places on a bus at certain peak times, or passengers may be forced to stand for a longer proportion of their trip. If the figures used in our example reflect a

(short-term) quality deterioration then more substitution may have occurred if these deteriorations had not occurred.

Often it will be impossible to calculate a single figure for a particular elasticity. Rather, the degree of substitutability between products needs to be determined from a variety of evidence. At the same time, the use of appropriate 'counter-factual' analysis can help clarify the boundaries of the market. A common tool of analysis developed in the United States is the SSNIP test. This test asks whether a monopolist (or monopsonist) operating in a suggested market could impose a small and non-transitory increase in price above a relevant competitive price level. If this could occur then the market definition is either correct or is too broad. However, if the hypothetical monopolist was unable to sustain the price increase, then this failure reflects significant substitution possibilities that are not encompassed by the suggested market, and the suggested market is likely to be too narrowly defined.

Another aid in determining market boundaries is to analyse the relationship between prices in (potentially) different markets. If prices are closely related (or have a high degree of positive correlation) then this suggests that the proposed markets might, in fact, be part of a single market. At the same time, care must be taken with such analysis to avoid spurious causation (for example, where prices are positively correlated simply due to the effects of economy-wide inflation). Smith presents a useful summary of the limitations of this approach as well as its use in Australian courts.⁸

The pattern of actual trade can be important in determining the boundaries of the market. For example, if there is little or no actual movement of product between two potentially separate markets then this raises the likelihood that the markets are, indeed, separate. Care must again be taken as the potential for substitution might significantly constrain conduct in one market without any actual substitution occurring. In such a situation, potential 'contestability' might be viewed as either extending the boundaries of the relevant market or, for example, as limiting the market power of a firm in the relevant

⁸ R. Smith "The practical problem of market definition revisited" *Australian Business Law Review* 1995, 23, pp. 52-60.

market. This said, patterns of actual transactions provide important insights into how a firm views its market. Such evidence has been placed before and accepted by the Australian courts (eg: Australian Meat Holdings).

Substitution on the supply-side will depend critically on the barriers to entry either for new firms or for existing firms to provide the service. If there are substantial barriers to a firm providing a relevant service in competition with an incumbent then that firm is not a viable alternative source of supply. Barriers to entry are particularly relevant for airports where competitive provision of some airport services would require more than one airport to operate in the relevant market. The construction of a new airport by a firm that seeks to compete against an incumbent will often prove to be an insurmountable barrier to entry.⁹ Building a new airport involves a significant (sunk) investment and would face many regulatory hurdles.

Exit barriers can also reduce supply-side competition. A firm will be more reluctant to enter and compete against an incumbent if that entry is costly to reverse. In contrast, if there are few barriers to entry or exit then 'hit and run' competition can constrain an incumbent's market power.

If we consider the temporal dimension, market definition involves an analysis of substitution possibilities in the 'long run' rather than in the 'short-run'. This said, neither of these terms refers to a specific length of calendar time. Rather, the relevant period of time for the 'long run' will depend on the matter at hand.

⁹ The issue of competing facilities and the constraints placed on incumbents by the ability of firms to build stand-alone facilities is an issue of some controversy. If a market is unlikely to have sufficient demand to support multiple competing facilities and such facilities involve substantial sunk investment costs then it is generally accepted that entry through facility development will provide little if any constraint on an incumbent firm. This will often be relevant for airports in Australia. For example, see Sydney International Airport (2000) Australian Competition Tribunal March 1, at para 84. "The Tribunal heard that most major commercial airports around the world exhibit strong natural monopoly or bottleneck characteristics. Once the basic infrastructure (runways, taxiways, control tower) is in place, the owner faces sharply falling costs of servicing increments in demand (economies of scale). By contrast, a new entrant would have to replicate this basic infrastructure which is inherently capital intensive".

As noted above, the temporal and product dimensions of the market are necessarily entwined. Substitution possibilities can only be considered taking a relevant time frame into account. Failure to consider the relevant time frame can lead to confusion. For example, the ACCC Merger guidelines note arguments about ‘ripple effects’ in markets. If *A* and *B* are substitutable and *B* and *C* are substitutable, should *A* and *C* be considered to be part of the same market? When looking at the potential market power of a firm supplying product *A* the correct response necessarily means considering the time involved for substitution. If a rise in the price of *A* leads to a relatively quick response in the price of product *C*, albeit through the re-pricing of product *B*, and as a result, product *C* constrains the behaviour of the producers of product *A*, then products *A* and *C* are clearly in the same market for the purpose of determining market power.

The geographic dimension of the market will depend on substitutability between otherwise similar products that are produced in different locations. Again, cross price elasticity, price correlations and the SSNIP test provide tools to consider the geographic extent of the market. The ACCC in its merger guidelines notes that the relevant geographic dimension of a market has regard to the availability and convenience of alternative supply, the switching costs associate with alternative supply, transportation costs, actual market behaviour, the nature of the product (eg. ability to store), regulatory or practical constraints on alternative suppliers, and relative prices.

Finally, the functional level of the market refers to the relevant vertical position of the product in the chain of production. For the analysis of market power, consideration must be made to substitution possibilities both within the same level of the production chain and to substitution at another functional level that constrains any market power. For example, consider the transmission of natural gas. Transmission is an upstream input into the production of delivered natural gas. The owner of a transmission pipeline might be constrained in any use of its market power by the existence of an alternative transmission pipeline. Both pipelines would provide services in an upstream ‘transmission’ functional level of gas supply. If this were the only relevant source of competition for the pipeline owner, then the relevant market to consider the pipeline owner’s market power would be a market for natural gas transmission. Alternatively, suppose that alternative sources of energy, such as electricity and oil, provide strong competitive constraints on the retail

price of natural gas. As a result, these competitive alternative energy sources constrain the use of market power throughout the vertical chain of natural gas production. These alternative energy sources will constrain the market power of the transmission pipeline owner and the relevant market for considering the pipeline owner's market power will be the market for energy.

Market definition tends to focus on the 'whole' of the market for the relevant product. At the same time, market power can differ substantially between parts of a market. For example the cross-price elasticities may be reasonably high for two products when all customers are considered, but they may be extremely low for certain customer groups. Two firms may both have significant 'captive' market segments that dominate their pricing strategies, while cross-price elasticities are dominated by those consumers who can swiftly move between the products, even though these consumers have little effect on actual firm behaviour. A similar issue relates to the possibility of price discrimination. A firm may also have considerable market power with respect to some groups of consumers if they are relatively price insensitive, can be distinguished, and resale of the good is limited. The firm may then be able to exercise considerable market power over these groups through price discrimination even if the firm has less power over the broad spectrum of consumers.

There are two ways to deal with the possibility of differential market power. First, it might be the case that the different consumer groups actually represent different markets. In this case, the firm may have significant power in some of its markets but not in other markets even though the physical product traded in these separate markets is very similar or identical. Alternatively, the different customer groups might form submarkets. The Australian courts have recognized that, if a firm holds substantial power in a submarket, then in practical terms it might be viewed as having market power.¹⁰

1.3 Market power.

¹⁰ Singapore Airlines, op. cit. note 3.

“Market power can be defined as the ability of a firm to raise prices above the supply cost without rivals taking away customers in due time, supply cost being the minimum cost an efficient firm would incur in producing the product”.¹¹

One initial indicator of market power is the share of the relevant firm in the market. A firm that has a relatively small share of sales in the relevant market is unlikely to have significant market power. This initial step is recognized in the ACCC merger guidelines where threshold tests of market power, based on market share and market concentration, are used. The Australian Courts, however, have recognized that market share is not definitive of market power. The ease of entry and exit and the existence of barriers to entry and exit are important factors in relating market share to market power.

A key determinant in considering market power is the ability of the relevant firm to raise its own price without inducing substitution to the products of other firms in the market to such a degree as to render the price rise unprofitable. An empirical measure for such analysis is the own-price elasticity of demand for the firm’s product. This is the percentage change in a firm’s sales that results from a one percent rise in its prices. As with cross-price elasticities, the relevant time frame must be considered when measuring own-price elasticity. Too short a time-frame may mean that a firm is erroneously viewed as having substantial market power. Too long a time frame will lead the observer to discount market power even where there is significant scope for the abuse of such power.

¹¹ Queensland Wire, op. cit. note 1 at 189. See also *Dowling v Dalgety Australia Ltd* (1992), 34 FCR 109 at 138. The ACCC, in its “Fuel throughputs levies: report pursuant to the Commission’s monitoring functions under the Prices Surveillance Act 1983”, December 1998, states that, in that report, market power “refers to where a person is in a position substantially to influence a market for goods and services. Thus an ‘abuse of market power’ occurs where the person takes advantage of that market power in setting price” (p.32). The ACCC use this statement to differentiate its approach to market power from that taken, for example, under s.46 of the Trade Practices Act. While the Act refers to a firm “taking advantage” of its market power, which might be viewed as different from an “abuse” of market power, in both circumstances, the concept of market power is unchanged. A firm that lacks market power cannot abuse or take advantage of market power. As such, the distinction made by the Commission in its report would appear to be unnecessary.

The relevant base price for measurement of own-price elasticity is not the actual price set by the firm but the price that corresponds to “the minimum cost that an efficient firm would incur”. It is never profit maximizing for a firm to have a price-sales combination where the elasticity of demand is less than one in absolute value. In such circumstances the firm could always raise profits by increasing price. The rise in price will lead to a lower percentage fall in sales. This raises the firm’s total revenue while the lower output reduces the firm’s total costs. Overall, firm profits rise. Thus, measuring the own-price elasticity of a firm’s demand at its current price is of little benefit. Such a measurement should always show that demand is ‘elastic’ suggesting that there is not significant market power.¹² In particular, for a firm that both has market power and is currently abusing that power by setting a monopoly price, measuring own-price elasticity at the observed market price-output combination may lead the observer to erroneously believe that the firm does not have market power.

The need to measure market power from a (hypothetical) base of a competitive market, and the error associated with using actual market data as if a competitive market generated the data, is shown by the ‘cellophane fallacy’. “The Court investigated whether du Pont had market power in the pricing of cellophane. The Court reasoned that du Pont lacked market power because, at current prices, a user of cellophane had many substitutes, such as paper bags, and du Pont’s share of the market including these substitutes was not large. There was also evidence, however, that price substantially exceeded marginal cost...[I]t was an error to include other wrapping materials in the market definition because they did not prevent the exercise of market power and constrain the price of cellophane to competitive levels”.¹³

¹² Demand is said to be elastic if the own-price elasticity of demand is greater than one in absolute value.

¹³ D. Carlton and J. Perloff (1994) *Modern Industrial Organization*, Harper Collins, New York at pp. 805-6.

The cellophane fallacy shows that, when determining market power, the observer needs to consider the behaviour that would exist in a competitive market and how observed behaviour deviates from this competitive standard.¹⁴

When considering market power it is important to determine whether any party has countervailing power. If countervailing power exists then a firm that has a substantial degree of market power might be unable to exercise that power. For example, suppose an airport only provides services to one airline and this airline can credibly cease to use the services supplied by the airport. Then, even though the airport might be the only seller in the relevant market, it might also have relatively little ability to abuse any market power. Any attempt, for example, to raise the prices that the airport charges, will be opposed by the single buyer and this buyer will have a degree of monopsony power when negotiating with the airport. Overall, the airline and the airport will want to reach an outcome that is mutually efficient, and concerns about an abuse of market power by the airport might be misplaced.

Countervailing power will arise in an otherwise uncompetitive market when buyers have a credible option to cease buying or other ‘outside alternatives’ that are not captured by conventional market analysis. It is enhanced when sellers have little alternative other than to sell their product. In this sense, countervailing power involves considering factors that might be relevant to market place negotiations and that reflect the relative bargaining power of buyers and sellers. The durability of a seller’s output may be relevant. For example, a monopoly farmer, who has a ripening crop, may have little ability to hold back output and raise the price of the product to consumers even in the absence of

¹⁴ An example of the importance of this fallacy is presented in the ACCC’s “Fuel throughputs levies: report pursuant to the Commission’s monitoring functions under the Prices Surveillance Act 1983”, December 1998. At p.35 the report notes that when one airport raises its price for refueling to “one or two cents” per litre above a competitive level, airlines will find it economically viable to refuel at other airports. But this means that if one airport was already charging one or two cents more than other airports, it would appear to be in a competitive situation. Any further price rise would lead to inter-airport substitution. However, if the airport’s price was compared to a competitive price, it would be obvious that the airport did have market power up to one or two cents per litre and, in fact, was already exercising that power.

product market competition. Each consumer knows that the farmer will want to sell the crop before it spoils and consumers might be able to out-wait any attempt by the farmer to abuse market power. In the extreme, the Coase conjecture posits that even a monopoly firm might have little market power if consumers have the discretion to postpone their purchases and the monopoly is unable to commit not to lower its price in the future.

When analyzing airports, key factors determining countervailing power will be the alternatives that face the airlines. If airlines using the airport are involved in strong competition then it is unlikely that any individual airline could exert countervailing power. Conversely, if there are, say, two airlines that only compete for marginal customers, there is a high degree of customer lock-in with each airline, and the relevant airport is not significant in terms of either total airline profitability or airline network configuration, then it is likely that each airline could have significant countervailing power. Each airline has a credible threat to stop using the airport. This power may be increased if the airport itself cannot credibly reduce its output; for example, if the airport is credit constrained and potentially faces cash-flow problems.

The existence of a single significant buyer does not automatically create countervailing power. For example, consider an airport that services an isolated mining town. If only one company operates the mine and is the main customer for flights using the airport, then it might appear that the mining company will have significant countervailing power. This need not be the case. Any threat by the company to stop using the airport might not be credible, particularly if it leads to a significant deterioration in worker morale or profits. It is quite possible that the airport owner has significant market power, particularly if it faces no cash constraints or other restrictions that would prevent it absorbing any short-term losses created by a 'buyer strike'.

To determine if countervailing power is relevant, the analyst needs to consider the bargaining position of buyers and sellers. In particular, it is important to consider which parties will lose the most from any failure to reach an agreement to trade the relevant product. For countervailing power to exist in a market that otherwise is deficient in competition, any losses from a break-down in bargaining need to be predominantly borne by the seller.

1.4 A framework for determining market power for airports and airport services.

The discussion on market definition and market power given above can be used to create a framework to consider these issues for airports. Such a framework involves the following steps.

Define the problem: As a first step, it is necessary to define the exact problem to be analysed. Market definition is purposive and unless there is well-defined question, it is not possible to formulate an appropriate view on market power. For example, the question of whether an airport has market power in general over aviation is very different to the question of whether an airport has abused market power by imposing a refueling levy.

Determine the potential market participants: it is necessary to consider exactly what parties might be in the relevant market. At this initial stage, the group of potential participants needs to be kept as broad as possible. Groups can then be excluded at a later stage of the analysis if, on further examination, they are found not to be in the relevant market. It is also important to consider parties that could provide a constraint on the firm's behaviour even though they might not be active in the market at present. To carry out this 'participant' analysis, the relevant functions of the airport need to be specified. For example, are the relevant functions just related to the transport and storage of fuel, as might be the case when considering a refueling levy, or are they broader aviation services. It is also necessary at this stage to consider whether there are any particular subgroups of participants that need to be kept in mind, whether the relevant service is best viewed as a bundle of services, and whether there are potentially multiple products that are supplied by a common input controlled by the airport. In other words, it is necessary to consider submarkets, cluster markets and multiple markets.

Determine the potential time frame(s) and functional levels for analysis: The approach to geographic and product market will be inextricably linked to the time period for analysis and the functional levels being considered. As a result, it is necessary to form a preliminary view about these market features.

Consider the substitution possibilities on both the demand and the supply sides: For

the relevant time periods and the relevant functional levels, what constraints operate to moderate the airports behaviour. At this stage, it is necessary to bring formal technical analysis to bear if data is available. Market inquiries will also be a key factor, as will consideration of the behaviour of the airport in question and of other airports. On the supply side, who other than the relevant airport can provide the relevant service? Is the service able to be supplied ‘off site’ or at another airport? It is important to consider alternative functional levels. Would a rise in the price of the service lead to substitution from other airports for the whole aeronautical service? Is the ‘bottleneck’ the provision of access to airport facilities rather than the provision of the service, so that the relevant functional level for market power analysis lies upstream of the service? On the demand side, is the service one that is necessary for a purchaser of airport services so that demand for the service will be very (own price) inelastic, or is the service discretionary? Are there alternative products that can readily substitute for the service? Again, the functional level must be considered. For example, will a rise in the price of the service lead to a switching between modes of transport?

At this stage of the analysis it is important to bring the consideration of submarkets, cluster markets and multiple markets to bear. The analysis should confirm or refute whether there is a simple market or whether one of these three alternatives is a more appropriate way to analyse market power.

The analysis should not rely on one form of analysis but needs to be robust to alternative forms of analysis. Even if there appears to be a relatively low degree of substitutability for the service, it is desirable to check this, for example, by using the hypothetical SSNIP test.¹⁵

¹⁵ An informal example of how the SSNIP test can be used is provided by the ACCC’s “Fuel throughputs levies: report pursuant to the Commission’s monitoring functions under the Prices Surveillance Act 1983”, December 1998. At page 5 and page 23 of that report, the Commission noted that the increased refueling lease charges at Brisbane and Perth airports would lead to a rise in revenues of 300% and 200% respectively. Clearly, such increases in revenues involve more than a 10% increase in prices and it would

Re-examine the underlying assumptions: The analysis of the geographic and product market relied on assumptions about the temporal and functional nature of the market. It is necessary to re-examine these assumptions and to see if they remain appropriate. It may take a number of repetitions to converge on an appropriate approach to market definition. It is also necessary to check the underlying assumptions of the technical analysis. When considering substitution possibilities, were prices based on a competitive standard rather than a standard that already included an abuse of market power? Were the relevant cross-price elasticities of demand driven by the behaviour of a few large consumers and, if so, is it useful to focus on the submarket of small consumers? It needs to be kept in mind that market analysis is a tool to help investigation, not the aim of the investigation. It may not be desirable to try and tie behaviour into one specific definition of the market. Rather, keeping alternative definitions in mind may be more useful, so long as these alternatives are reasonably closely related.

Examine the airport's market power: Implicitly, the determination of market definition has already provided significant input into the examination of market power. This stage, however, provides a final check of the analysis. In particular, the means by which the airport is supposed to abuse its market power needs to be considered. Is this form of abuse realistic or credible? Is there countervailing power that makes the abuse unlikely? Are there alternative factors that have not been considered for market definition that would impinge on market power? For example, for some types of goods, second-hand markets provide a constraint on the market power of a new-goods producer. Such alternatives can easily be missed when considering market definition, but can be captured at this step when analyzing abuse of market power.

appear that the rises were sustainable. Thus, the data suggests that there is a 'market for refueling services' as concluded by the Commission, or a related market (e.g. market for airport refueling sites) in the Perth region and in the Brisbane region.

A key part of the framework is the gathering of relevant data. It is unlikely that such data will simply be available to an analyst. Rather, the analyst will need to gather the data from market participants and other sources.

2. Market power and airports.

We begin by applying the framework developed in section 1.4 to the issue of market power at the level of an entire airport. The 22 leased airports cover a range of sizes and services. They include large international and domestic airports, such as Melbourne and Brisbane, as well as smaller secondary airports, such as Essendon and Bankstown. The twelve airports that are subject to prices regulation also differ significantly. Melbourne and Brisbane are subject to prices regulation as are the smaller airports of Launceston and Coolangatta.

In this section of the report, we provide a preliminary analysis of the market power of some of these leased airports. This study is not meant to be definitive but rather represents a 'first pass' in order to highlight the key issues.

The first step for analysis is the identification of the underlying question. Here, it is whether or not specific airports have market power over general aviation. In other words, given the aviation services provided by specific airports, do some or all of these airports have the ability raise prices to a supra-competitive level over a relevant time frame?

In order to carry out this analysis we need to identify relevant potential participants in the market. On the supply side, airports provide services that are used in the transportation of both people and freight. If we consider a specific airport (for example, Melbourne) then the potential supply side participants include other airports (Essendon and Moorabin), and other firms that supply infrastructure used in transportation of people and freight. This includes rail and road. On the demand side, the direct customers of the airports are the domestic and international airlines. These firms are not, however, the end users of the airport services. Rather, the airlines use the airport services as an input into the provision of a variety of transport services. As any abuse of market power by the airports will be reflected in the retail prices charged by airlines, it will be important to identify the airlines customers. This will aid us when considering competition at different functional

levels. Airline customers tend to fall into a number of well-defined separate groups. First, there are customers for passenger transport including domestic passengers and international passengers. There are different classes of passenger – for example tourist travelers or holidaymakers, and those traveling for business. Second, there are customers for freight services. Some of these customers will have access to alternative products that are reasonably close substitutes for air services. For example, for many domestic freight customers, ground transportation might offer a reasonable alternative to air transport. Other customers, such as international business travelers, might have few if any alternatives to air transport and might be very price inelastic.

The airports clearly provide a variety of specific services. However, if we are considering the market power of an airport as a whole it is most useful to consider the bundle of services supplied by an airport.¹⁶ We consider the individual services in more detail below.

Not all airlines use all of the services supplied by airports. For example, passenger-handling services are irrelevant for freight. Duty free shopping is only relevant for international passengers. Further, there does not appear to be any reason why an unregulated airport could not charge different prices for different types of aeronautical services. In other words, price discrimination by the airport seems to be feasible. As a result, it might be useful to think of an airport as supplying a number of bundles of aeronautical services that are used as inputs for different types of air services.

The categorization of market participants suggests that, as a reasonable first pass, the relevant classes of products provided by airports can be broken into domestic passenger services, international passenger services, domestic freight services and international freight services.

¹⁶ See Sydney International Airport (2000), Australian Competition Tribunal, 1 March at para 81. “[A]irports typically provide a bundle (sometimes called a cluster) of services, utilizing a different variety and mix of assets Subsets of the bundled services may be considered as falling into separate functional markets, perhaps requiring only a subset of the airport facilities”.

The next step in the analysis is to consider the relevant time-frame for analyzing an abuse of market power. An airport that raises its prices today will be able to make at least transitory rents. In other words, airports (along with almost every other firm in the economy) have some market power. The real issue is whether or not an airport can exploit any market power over a reasonable period of time. In other words, is the market power substantial or, at least, non-trivial. When dealing with a major infrastructure facility, a period of time shorter than one year is almost certainly too short for analysis. Infrastructure industries like airports often involve large capital investments, substantial sunk costs and long lived assets. New entry into such infrastructure industries often takes considerable time and planning. Even if the source of competition were an expansion in supply from an alternative infrastructure facility, such competition might involve an expansion in capacity at the competitive facility. This also is unlikely to occur within one year. If a time frame of less than one year were considered then almost all owners of major infrastructure would be viewed as having significant market power.

This said, the time frame for analysis cannot be too long. A firm that is able to maintain significant monopoly rents for, say, more than five to ten years, before competition eliminates those rents, is able to inflict substantial damage on the economy. The misallocation of resources associated with monopoly pricing means that an extended period of high prices is socially costly.

An appropriate time frame for analysis of airport market power most likely is within one to five years.¹⁷ Such time periods should provide guidance and should not be interpreted strictly. For example, if an airport could sustain monopoly pricing for slightly more than a year, but no longer, then it is probably reasonable to conclude that it only has a degree of market power that does not warrant intervention. Given the costs of such intervention, through for example price regulation, it is likely that intervention will be more economically costly than the excessive pricing that it is meant to stop.

¹⁷ The relevant time frame might also depend on whether long term infrastructure duplication is likely or socially desirable.

To complete the third step in the framework, it is important to define the relevant functional level of the airport's operations. As already noted, the airport provides upstream inputs that are used by airlines to provide a variety of aeronautical services. The relevant functional stage is an upstream level, perhaps tentatively defined as ground-based services for airlines.

The fourth step in the market power analysis involves the determination of the relevant geographic and product markets. This requires the consideration of substitution possibilities on both the demand and the supply sides. This step usually requires significant quantitative input based on market analysis. As I do not have access to such information, my analysis here will necessarily be speculative and preliminary.

From the second step of our analysis, it is sensible to begin by separating out four different classes of aeronautical service that uses airport provided ground-based services as an input. These are international and domestic passenger transport and international and domestic freight transport. Before proceeding, we need to check that these are, in fact, separate products that are in separate retail markets. In other words, is there either significant supply or demand side substitution at the retail level that means that some of these products are really in the same market? This is important as it effects the ability of the airport to use any market power it might possess to discriminate between providers of these different retail services.

I do not have sufficient information to confirm that these four retail categories are best considered as involving different retail markets. There is likely to be limited demand side substitution between the different products, although this is likely to depend on the specific types of passengers. For example, an international tourist passenger domiciled in Australia might be able to readily switch to a domestic holiday destination. However, an international business traveler may not have similar options. Similarly, supply side substitution might be possible. For example, it might be possible in a reasonable period of time to refit a standard plane to carry more freight and fewer passengers or vice-versa. While larger planes tend to be used on international routes compared to domestic routes, some smaller planes are also used on international routes.

This said, it is important to keep in mind the purpose of the analysis, which is to determine market power in an upstream production stage. To the degree that the same airport provides similar services for airlines providing all of these services, substitution between different aeronautical services might have little bearing on market power. In this sense, taking the division of the four services too strictly might lead to an erroneous conclusion that the airport lacks market power. For example, it could be claimed that if the airport raised international landing charges then this would lead to airlines and passengers switching to domestic flights. This suggests that the airport lacks market power in the provision of ground-based services to international passenger services. Of course, this conclusion is false if the domestic passenger services rely on similar ground based services provided by the same airport, as the airport could raise the price of these services at the same time as it raises the price for international services.

There might be different degrees of retail competition that impinge on the airport's upstream market power. For example, if raising both international and domestic landing charges led to little response by international passengers but significant intermodal substitution (eg. to road or rail) by domestic passengers, the airport might lack market power in the domestic market but have such power in the international market. As a result, it is convenient to maintain the separation of services into four categories.

To further the analysis, it is probably useful to focus on two specific airports. These will be Melbourne and Coolangatta. Melbourne airport is the only airport in the Melbourne region that is able to take large jet aircraft. It is the only airport that has international passenger handling facilities. There are alternative airports in the Melbourne area that can accommodate smaller aircraft. Melbourne is a significant distance from any alternative major airport.

In contrast, Coolangatta is a regional airport in the Gold Coast area of Queensland, approximately two hours drive south of Brisbane. The Coolangatta airport only supplies domestic transport services. There is a major international and domestic airport in Brisbane. This airport is easily accessible by car from Coolangatta and the Gold Coast region. In fact, the Brisbane airport lies just off the main motorway between the Gold Coast and Brisbane.

We consider each of our four categories of service in turn. First consider international passenger services, and begin by considering the product dimension of the market. International passenger services are of little relevance for Coolangatta. For Melbourne airport, there is likely to be little intermodal competition at the retail level that would constrain the market power of Melbourne airport. There is also likely to be relatively little substitution in supply or demand for the relevant ground-based airline services. International airlines often use large planes and they require ground services (such as landing facilities, refueling, food services, cleaning, passenger and baggage handling, minor maintenance) at an airport. It is unlikely that any producer who is not an airport operator would be able to supply the relevant bundle of services. On the demand side, there is clearly no alternative for an international airline operating into Australia than to purchase the relevant ground-based services from an airport. In this sense, the relevant product description would appear to be “ground based services for aircraft operating international passenger services”.

For the geographic dimension of the market, there might be inter-airport competition for international airline services. In particular, Melbourne airport might be in competition with other airports, such as Sydney, Brisbane and Adelaide, to provide services for international airlines. If this competition is reasonably intense, then the relevant geographic market for ground-based services to international airlines might include Brisbane, Sydney and Adelaide as well as Melbourne.

I do not have information on the intensity of inter-airport competition. Factors such as capacity constraints in airports, costs of passengers moving domestically between airports, and proximity to desired locations would be relevant. For example, if most international passengers who wish to come to Melbourne would find it extremely inconvenient to transit through Sydney, then competition from Sydney airport might be only a weak constraint on Melbourne airport. Conversely, if most international passengers wish to go to Sydney and Brisbane, then Melbourne airport might be at a significant disadvantage in attracting international airlines and it might face extremely elastic demand for the international passenger services that it provides.

To determine the relevant extent of the geographic market for ground based services for aircraft operating international passenger services, it is necessary to undertake further analysis. Clearly any decision about market power for Melbourne airport would depend on the outcome of such analysis.

Domestic passenger services are relevant for both Coolangatta and Melbourne. There is a greater possibility for retail-level intermodal substitution for domestic passengers. The degree of such substitution is an empirical matter, but is likely to depend on the mix of passengers (eg. business passengers might have fewer intermodal options than holidaymakers). As a first pass, it is unlikely that ground-based transport would be a reasonable competitive alternative for many passengers, remembering that such competitive alternatives need to be evaluated at a competitive airport price to avoid the ‘cellophane fallacy’.

For the same reasons as above, there is likely to be little demand or supply side substitution from non-airports at the relevant functional level. As a result, the relevant product is probably best defined as “ground based services for aircraft operating domestic passenger services”. If, however, there was a reasonable degree of intermodal substitution, it might be better to consider a market for domestic passenger transportation.

The geographic extent of the market is likely to be narrower than for international passenger services. While some holidaymakers might find different Australian cities to be reasonable substitute destinations, many domestic passengers would not find this to be the case. For example, if a firm has offices in Melbourne then it is difficult for a meeting to be arranged that does not involve some meeting participants flying in or out of Melbourne. It seems likely that the geographic extent of the market is limited to a region around the airport.¹⁸ As such, it is unlikely that Sydney airport is in the same geographic market as either Coolangatta or Melbourne for domestic passenger services. However, it could be argued that Brisbane airport is within the same geographic market as Coolangatta. Tentatively we could define the relevant markets as the Melbourne regional market for ground based services for aircraft operating domestic passenger services, and

¹⁸ The exact size of the area will depend on ground-based transportation facilities.

the South East Queensland market for ground based services for aircraft operating domestic passenger services.

Retail-level intermodal competition is more relevant for international and domestic freight services. Air-transport offers greater speed over long distances, so that there is less likely to be intermodal substitution in the international freight market. Testing the degree of intermodal substitution is beyond the scope of this report.

If we consider demand and supply side substitution at the upstream functional level, there again seems little alternative to ground based airport services. This said, the geographic extent of the market is likely to be at least as wide as the market for relevant passenger services. In particular, it is likely to be easier and more cost efficient to mix air and ground transportation for freight than it is for passenger services. Again, this is an empirical matter beyond the scope of this report.

The final stage of the process is the determination of market power. There are a number of empirical issues that would need to be resolved for freight transport and, as a result, I will concentrate on passenger services. This said, it is likely that if an airport does not have significant market power in the markets for the provision of ground based services for aircraft operating either international or domestic passenger services, then it seems unlikely that it will have substantial market power in the equivalent freight markets.

For international passenger services, market power for Melbourne airport rests on the geographic scope of the market. If the market includes significant other international airports such as Brisbane, Sydney and Adelaide, then any market power of Melbourne airport will be moderated. However, the extent of its market power will depend on the degree of competition between these airports.

For domestic passenger services, Melbourne airport is likely to have substantial market power unless there are alternative airports in the Melbourne region that can enter the market for the relevant ground based services in, say, a three to five year period. There are alternative airports in Melbourne, but these airports do not currently accommodate aircraft used on standard inter-capital domestic services. If there are substantial barriers to these airports expanding and offering these services (eg. noise constraints at Essendon), then Melbourne Airport will have significant market power.

As noted in section 1.4, countervailing power from the airlines might be able to at least partially offset Melbourne airport's market power. There are two main domestic carriers currently operating out of Melbourne airport as well as two smaller carriers. One of the major carriers, for example Qantas, might be thought to have significant countervailing power. However, because of its location in the second largest Australian city, it is not clear that even a major airline, such as Qantas, can credibly exercise countervailing power to Melbourne airport. It is likely that Qantas could not threaten to cease services to Melbourne or even to substantially curtail these services. If Qantas were to carry out such a threat, then this would undermine its own profitability and probably lead to significant gains to Qantas' rival carriers. While this issue requires further investigation, at first pass it is not obvious that there exists countervailing power that would offset any market power for Melbourne airport.

In contrast, Coolangatta airport is far less likely to have significant market power. Brisbane airport provides a relatively easy substitute for Coolangatta for domestic passengers. It is likely that Coolangatta airport would not have significant market power in a South East Queensland market for ground based services for aircraft operating domestic passenger services.

Even if investigations showed that Brisbane airport did not provide a reasonable alternative to Coolangatta for domestic passengers, the major carriers are likely to be in a position to exert considerable countervailing power over Coolangatta airport. This airport is not a key Australian airport and it seems likely that the major carriers could cease operating into and out of Coolangatta at only a minimal cost in terms of foregone profits. As a result, any attempt by Coolangatta to abuse its market power might prove fruitless.

The conclusions provided in this section are tentative and preliminary. More work would need to be carried out to confirm or refute these conclusions. However, the aim of this section has been to illustrate how the framework developed in section 1.4 can be applied to airport services as a whole. In the next section, we apply the framework to some individual airport services.

3. Market power and specific airport services

An airport might have significant market power in, say, a Melbourne regional market for ground based services for aircraft operating domestic passenger services, but not have substantial market power for one specific service. While these services are often bundled and supplied to airlines, the source of an airport's market power for the bundle might be one or more specific services. For example, the supply of flight catering facilities might be competitive while there might be very little competition in the provision of airside facilities such as runways. In such circumstances, the source of the market power in the market for ground based services for aircraft operating domestic passenger services, is the lack of competition for airside facilities.

An airport can abuse its market power, for example, in a market for ground based services for aircraft operating domestic passenger services if it has such power, regardless of the specific service or services that are the source of that power. This said, it can be useful to delineate exactly where the market power is sourced and which of the bundle of services are (potentially) competitive. The regulator, for example, might wish to avoid regulating potentially competitive services by using a 'dual till' approach to airport regulation. In this section, I use the framework developed in section 1.4 to examine this issue.

There are a large number of services that are supplied by Australian airports. These include airside facilities (eg. runways), passenger handling areas, ground handling facilities, refueling facilities and office and retail facilities. A number of these facilities have been considered informally by the ACCC in its October 1998 *Draft Guide: Section 192 of the Airports Act – Declaration of airport services*.

We will consider three of these services provided by Melbourne airport. For the purpose of this report we will consider these services only in relation to passenger-based aeronautical services and, consistent with section 3, we will assume that Melbourne airport has significant market power in the Melbourne regional market for ground based services for aircraft operating domestic passenger services. We will also assume that

Melbourne airport might have market power in the relevant geographic market for ground based services for aircraft operating international passenger services.¹⁹

The assumption that Melbourne airport has market power in the broader markets means that it must have market power in some of the services it supplies. In other words, if Melbourne airport has market power over a bundle of services, it must have market power over at least some of the component services in the bundle. If not, then an airline could usurp Melbourne airport by buying the elements of the bundle from competitive suppliers and assembling the bundle for itself. The obvious services where Melbourne airport has market power given the assumption of market power in the broader market, are airside facilities.

The opposite, however, need not hold. In other words, an airport like Coolangatta might have no significant market power in a broad aeronautical services market, but still have market power in relation to a particular service. This is most likely to be the case where the service makes up a relatively small part of the bundle of services sold by the airport and is only a relatively small part of airline's costs. In such a situation, a significant rise in the price of the specific service (eg. to twice its competitive price) might have a relatively small effect on total airline costs and not lead to significant substitution by an airline.

In this section, we will consider three examples of these services – passenger handling areas, commercial and retail facilities, and landside passenger vehicle access. Again, when approaching market definition, the purpose of the analysis needs to be kept in mind.

¹⁹ There is no conceptual problem in considering both broader and narrower product markets. As noted in section 1, market definition is purposive and the relevant market depends on the question being asked. For example, in Sydney International Airport (March 1, 2000) the Australian Competition Tribunal at paragraph 99 determined that, for the purpose of the issue being analysed, “the relevant market landscape has the following main features: a cluster market for international airport services in the Sydney region: [and] a series of separate, functionally differentiated, markets for services required by international passenger and dedicated freight aircraft carrying freight flying into, and out of, SIA; ...”.

In particular, here we are attempting to determine whether or not an airport has significant market power in the provision of one type of service.²⁰

First consider passenger handling areas. We need to determine the potential market participants. The direct purchasers of these services are the airlines. Some of these services are directly consumed by the airlines. For example, the international airlines provide personnel at check in areas and use the equipment supplied by the airport to process passengers. In some situations, the airlines might buy space from the airport and provide their own facilities. Passengers directly consume other services. For example, passengers might wait in (common) gate lounges in an area provided by the airport.

Many, but not all, of the passenger handling areas need to be provided at the airport. Some services, such as check-in, could be carried out at a remote location or even directly outside the airport buildings. Some substitution can also occur through innovative ticketing. The use of electronic tickets has meant that some passengers no longer need to use the traditional check-in facilities. However, it is difficult to imagine significant participation by parties other than the airlines in the provision of these services.

The second step of the analysis involves the preliminary determination of the temporal and functional aspects of the market. Passenger handling areas may involve a significant investment, such as the construction of a new terminal building. However, these services can also be supplied in temporary facilities, albeit with reduced amenity. For example, mobile stairs can replace ‘airgates’ at least in the short-term. Further, airlines can often share facilities, most notably the international airlines. This suggests that the relevant temporal dimension of the market should be shorter than for a general aviation market. For example a period of one or two years may be relevant.

²⁰ It is arguable as to whether a regulator or competition authority should care about such market power. If the service is only a small fraction of costs and airlines care about the entire bundle of costs, then it can be argued that the observed market power for a service is essentially irrelevant and reflects a focus on a too narrow product dimension of the market. Again, the issue comes back to the question that the authorities wish to address.

Passenger handling services are an input into the provision of aeronautical services. As such, they involve a functional stage upstream from the retail level. More importantly, the areas where these services can be provided rather than the services themselves would appear to be the most likely location of any airport market power. Remembering that the purpose of the analysis is to locate such market power, if it exists, the relevant functional level should be the supply of areas and space that can be used by airlines or the airport to provide passenger handling services.

Some of the potential substitutes for passenger handling are suggested above. I do not have sufficient information to determine how reasonable such alternatives are likely to be in practice. However, some passenger services, such as those associated with loading and unloading a plane, cannot reasonably be carried out except at the airport. Further, to the degree that the airport has market power in the relevant general aeronautical market, airlines do not have reasonable inter-airport substitutes to these services.

This suggests, for example, that with regards to Melbourne airport, there is a Melbourne regional market for passenger handling areas for aircraft operating domestic or international passenger services.

The final step is to consider market power. Countervailing power is an issue that needs to be considered here. However, given our assumptions that Melbourne airport has significant market power in the relevant aeronautical services markets, it is likely that the airport also has significant market power in the regional market for passenger handling areas for aircraft operating domestic or international passenger services.

The second service to consider is commercial and retail facilities. The core issue is whether Melbourne airport has significant market power in the provision of these services. Again, the analysis will only be preliminary and a full analysis would require significantly more data.²¹

²¹ For example, representatives from Melbourne airport have claimed that empirical evidence on prices show that retail prices of most merchandise at the airport do not exceed the price at non-airport locations. If this was empirically verified, then it would suggest that there is not an abuse of market

The relevant participants are the passengers and associated individuals, who directly purchase products at the retail level, the retailers who operate the outlets, and potentially any off-airport retailers who might provide competition for the airport retail outlets. On the supply-side, other providers of 'shopping center services' could also be relevant for market analysis. For example, there is a new hotel facility being built at Melbourne airport. I am not aware of the ownership of this facility or of any restrictions on its use, but if part of that facility could be used to provide retail or commercial premises, then it might act as a competitive constraint. Similarly, facilities could be built outside the airport perimeter and existing off-airport shopping centers might provide a competitive constraint.

Provisionally, the functional level is the wholesale supply of space and associated amenities for retail and commercial outlets. In this sense, the airport owners are like the owners of a shopping center.

The temporal dimension can be important. Some customers might have little choice but to purchase products at retail outlets at the airport. For example, a person whose flight is delayed and who, for medical reasons, must have regular meals, might be constrained to purchase a meal at a retail outlet in the airport. However, such situations would seem to be rare. If a flight is significantly delayed, then a customer could potentially go 'off site' to purchase a meal. For example, I believe that there is a shopping center less than five minutes drive from the airport, and there is a retail outlet that provides some food as well as petrol on the edge of the airport. If a significant delay is known in advance, then customers can bring food or beverages into the airport. Further, many outlets at the airport involve discretionary shopping. While it might be more convenient, for example, to purchase a novel at the airport, such a purchase would still seem discretionary with potential customers having a variety of other options.

This suggests that the relevant temporal dimension should not be too short. Any market power by the airport would need to be reflected in a long-term mark-up of prices above a

power at an upstream functional level by Melbourne airport, as such an abuse would be reflected in retail prices.

competitive level. For example, a period of, say six months to one year might be reasonable.

Some of the potential constraints on the exercise of wholesale market power by the airport are discussed above. It is reasonable to assume that the supply of occupants for commercial and retail premises is reasonably competitive. While some retailers, such as McDonalds, might have market power in their own right, it is not obvious that such power is relevant for most retailers that operate at Melbourne airport. As a result, if the airport had market power at the wholesale level, we would expect this to be reflected in the prices paid by customers, rather than, for example, being absorbed by the lessees of the retail and commercial premises.

The empirical tests discussed in section 1.4 can be of use here. For example, are retail prices at the airport generally in line with retail prices in other locations? If not, do the prices still tend to move together, suggesting that off-airport locations constrain retail prices at the airport? Are prices already inflated reflecting the potential to misjudge a competitive benchmark? This latter question requires information about the opportunity cost of space at the airport. If prices are not already inflated, could they be inflated and be maintained at an inflated level for a reasonable period of time, such as six months to one year?

Clearly I do not have the information required to fully answer these questions. From introspection, I suspect that the relevant market is likely to be the Melbourne regional market for the supply of commercial and retail premises. For such a market, Melbourne airport clearly lacks market power.

As noted in section 1.4, it is necessary to check the assumptions that drive the analysis. For example, are there significant sub-markets where the airport might have significant market power? One possibility is duty-free outlets, although off-airport outlets are also common. The airport has an advantage in that it offers the last chance to buy such items before an international passenger re-enters the country. Again, to analyse this submarket, we need to consider the potential participants. On the demand side, these are international passengers. On the supply-side, the potential participants are any other suppliers of duty-free outlets. These include the airlines themselves, who offer inflight duty-free products

and the duty-free outlets at overseas airports.²² Further, off-airport duty free stores are also an alternative, particularly for items such as cameras that a tourist is likely to use while overseas. Finally, non-duty free retailers are also a competitive constraint. A duty of, say, 10% provides a 'buffer' to duty-free outlets but only a limited buffer. Clearly, as soon as they raise prices more than 10% above costs, then they face competition from standard retail outlets. While I will not carry out a full analysis of the duty-free submarket here, it is not obvious that Melbourne airport would have significant market power over this submarket.

The third service considered here is landside passenger vehicle access. Again, the relevant issue is whether Melbourne airport has significant market power in relation to such access.

On the demand side, relevant participants are the passengers and associated individuals as well as any persons who commercially transport passengers into the airport or out of the airport grounds. For example, taxis, buses (including shuttle buses), private cars and commercial cars (such as hire cars, rental cars, business fleet cars) are all used to either deliver passengers to Melbourne airport or collect passengers from Melbourne airport. Non-motorised transport could also theoretically be used to transport passengers into or from the airport grounds and, in the future, rail transport might also be relevant.

On the supply side, the only relevant potential supplier would appear to be Melbourne Airport. It is difficult to imagine how any off-airport provider could provide landside vehicle access. Such access, by definition, involves transport to or from relevant airport buildings. We have assumed that Melbourne airport has market power in the relevant broad passenger-based aeronautical markets, which means that we have assumed that vehicle access to other airports is not a viable alternative for delivery to Melbourne airport buildings. In other words, given our assumption of broad market power, delivery of a passenger to, say, Essendon airport will not be a reasonable substitute for delivery of that same passenger to Melbourne airport, because Essendon airport does not provide a

²² For example, when traveling, say from Mumbai to Melbourne via Singapore, the duty-free outlets at Mumbai and Singapore compete with the outlets at Melbourne.

reasonable viable alternative for most passengers to airline services to and from Melbourne airport. By definition, it is physically impossible to have an off-site provider of landside passenger access. While facilities such as car parks can be built off-site, passengers using those facilities still require landside access to or from Melbourne airport.

Landside passenger access is an input into the provision of aeronautical services. Such access is necessary for almost any passenger flying into or out of Melbourne airport. While it is theoretically possible for a passenger, say, from Hobart, to not need to leave Melbourne airport, I will assume that such passengers are uncommon. Further, even if the passenger did not need to leave the airport, due to say a business meeting being organized within the airport grounds, any other individuals who need to directly interact with the passenger would need landside access. Provisionally, the functional level is the upstream supply of landside access to passengers flying into or flying out of Melbourne airport.

While landside passenger access involves a wholesale transaction, any charges for such access might be directly paid by the passenger, or indirectly paid through a bus or taxi fare, a car-parking fee or even incorporated into the price of an airline ticket.²³ Associated people who are involved in transporting a passenger to or from the airport, such as friends or relatives who are ‘seeing off’ a passenger, might also pay the fee.

At a minimum, landside passenger vehicle access involves the construction of roads and areas to pick-up or set-down passengers. If public transport is available, access might also involve the construction of an airport station and associated public transport infrastructure. It is difficult to envisage any airport, even one dedicated to freight, being able to operate without some vehicle access. In this sense, the additional investments required for minimal landside passenger vehicle access in addition to the facilities necessary for the functioning of the airport, are relatively small. Further, as noted above,

²³ The departure tax imposed on international passengers in many countries provides an example of these alternatives. This tax is sometimes paid directly by the passenger at the departing airport while other times it is collected by a travel agent and subsumed in the ticket price. Similarly, if an airport imposed a per-passenger land-side access fee then this could be paid by the passenger at the airport or subsumed into the airline ticket price.

off-site provision of such access is not feasible so that construction of such potentially competitive facilities is not relevant to the temporal analysis of the market. This suggests that the temporal dimension of the market should be relatively short – under one year and potentially less than six months.

There do not appear to be many, if any, relevant demand-side or supply-side substitutes for landside passenger vehicle access. While passengers to arrive at or to leave from Melbourne airport might use many different forms of transport, landside access is needed for all of these transport modes. For example, demand-side substitution from a private car to a taxi does not alter the need for passenger access. The only relevant demand-side substitute for landside passenger vehicle access would appear to be walking. This is unlikely to be a relevant alternative for almost all passengers. Similarly, as noted above, there appear to be no supply-side substitutes to access to Melbourne airport, given our assumptions about market power in broader passenger aeronautical services.

This discussion suggests that there is a (wholesale) market for passenger vehicle access at Melbourne airport.

The final step of the analysis is consideration of market power. On the basis of our provisional analysis, Melbourne airport clearly has market power in the relevant market. This market power is closely related to market power in the relevant broad passenger based markets discussed in section 3.1.

4. Summary and conclusion

In this report, we have presented an approach to assessing market power for airports. The approach builds on standard legal and economic practice in Australia. It involves six key steps:

- Defining the explicit problem that is to be addressed.
- Determining the potential market participants.
- Determining the potential time frame(s) and functional levels for analysis.
- Analysing the substitution possibilities on both the demand side and the supply side of the potential markets.

- Re-examining underlying assumptions and iterating to a reasonable market definition in order to address the problem at hand.
- Examining the airport's market power.

This approach concentrates on market definition rather than concentrating directly on market power. There are three reasons for this. First, the determination of market power and the determination of the relevant markets are entwined. By analyzing the relevant market, much of the information and analysis for market power will be carried out automatically. Second, focusing on the market rather than the market power provides a series of well-formulated techniques that can be brought to bear on the problem. Many of these techniques such as the SSNIP test or measurements of cross-price elasticities require the collection of market information. Others, such as the cellophane fallacy, provide guidance to the analytical task. In this sense, market definition is a necessary precursor to the analysis of market power and provides a framework for thinking about market power. Third, focusing initially on the market rather than on market power avoids the temptation to pre-judge a firm's behaviour. The determination of market definition helps the analyst to step aside from any pre-conceptions and allows for objective analysis.

The approach presented in this report differs from the approach adopted by the ACCC in its "Draft Guide: Section 192 of the Airports Act – Declaration of airport services", October 1998. The Commission's approach in the Draft Guide involved (a) determining whether the service is necessary or discretionary; (b) considering provision by another airport and (c) considering provision off-airport. Clearly these three steps are part of the process of market definition. In particular, they all really ask if there are any relevant substitutes. Part (a) deals with demand-side substitution (i.e. could the airlines avoid using the service) while (b) and (c) deal with supply-side substitution. The Commission's approach however may 'miss' some substitution possibilities and does not provide for the sort of formal analysis usually needed for market definition. As such, the approach presented in this paper is an extension of the Commission's approach and brings the approach more into line with standard economic practice.

The approach presented in section 1.4 was tentatively used to consider both market power of specific airports and market power of specific airport services. The analysis in sections

2 and 3 was preliminary. In some cases it was impossible to draw a conclusion without further analysis. In other cases, a conclusion could be drawn, subject to further verification. No attempt was made to consider all potential airport services. Such an exercise would involve considerable discussion with the airlines, the airports and other market participants.

Treatment Of New Investment At Regulated Airports

31 May 2001



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TREATMENT OF NEW INVESTMENT AT REGULATED AIRPORTS

NECG Pty Ltd

1 Executive Summary

This paper considers the available options for reform of treatment of new investment under the airports regulatory regime.

The paper begins by setting out the issues that an airports regulator has to grapple with in order to achieve socially optimal outcomes. These are set out as follows:

- Addressing potential for the service provider to take advantage of market power in setting prices
- Providing the right signals for new investment
- Relying on negotiation between users and service providers to the greatest extent compatible with social welfare
- Simplifying regulatory involvement in investment approval

It then explains why some new investments might have to be treated differently from other airport expenditure under the current price caps of the airport regulatory regime. In essence, different treatment is required because in some cases the revenue incentives of price caps do not elicit the required investment in a timely fashion or at socially optimal levels. This different treatment has to take the form of either adjustments to the price cap parameters or passthrough charging and means that the financial consequences of the investment decision are shared between the airport and airlines. Thus, appropriate treatment of some new investments creates the need to vest some approval authority either in the airlines or in the regulator acting on their behalf.

The paper then goes on to discuss this 'approval' problem in depth. It is shown that bargaining prior to approval of new investment as between the airports and airlines and among the airlines themselves can lead to the following strategic behaviours:

- Proposals to bundle necessary and unnecessary investments;
- Hold-up threats;
- Cheap riding;
- Forced riding and raising rivals costs;
- Barriers to airline entry;
- Suboptimal provision of club goods.

Four options for providing additional investment incentives are then described and evaluated subject to the regulatory objectives outlined and their ability to deal with the strategic bargaining problems described. These options are as follows:

- Status quo: regulator approval of investment with cost passthrough funding;
- Price cap parameters set on basis of expected investment requirements;
- Project Control Group approval process with cost passthrough funding;
- Project Control Group approval process with adjustable price cap parameter funding.

It is concluded that the fourth option, namely Project Control Group approval process with adjustable price cap parameter funding may provide the best approach for treatment of new investments under the airport regulatory regime. However, how well this option works in practice depends upon the design features of the approval process, in particular striking the right balance between an agreement rule that tends towards unanimity and one that tends towards simple majority approval. This is because each type of rule increases the likelihood of particular strategic behaviours occurring but decreases the likelihood of other strategic behaviours.

2 Introduction

2.1 *Background to this paper*

In 1997 and 1998 the Commonwealth Government privatised nearly all of the airports owned by the former Federal Airports Corporation (FAC) through long-term leases. These included the principal airports in all capital cities (except Sydney), several regional centres and a number of smaller general aviation airports.

As part of the privatisation process, the government either carried over or introduced new airport-specific economic regulation.

The Australian Competition and Consumer Commission (ACCC) was charged with the administration of the regulatory framework which in essence consisted of the following:

- A prices surveillance and monitoring regime covering aeronautical and aeronautical-related services, including a price cap for some services;
- The monitoring of airport service quality;
- An access regime covering services provided by essential facilities at the major airports; and
- The publication of annual reports of airports' financial and other performances.

The relevant legislation underlying this framework are the *Airports Act 1996*, the *Prices Surveillance Act 1983 (PSA)* and the *Trade Practices Act 1974 (TPA)*.

The price caps regime which is set out by the PSA and its associated cost pass-through arrangements comes under review by the end of 2001 and is the subject of this report. The price caps presently apply to 'declared aeronautical services' in 'core regulated airports' as designated by the *Airports Act 1996*. Section 21 of the PSA defines the declared services as follows:

- 'Aircraft movement facilities and activities';
- 'Passenger processing facilities and activities'.

Price caps are set for each core regulated airport specifying that rises in aeronautical charges are not to exceed the Consumer Price Index (CPI) minus an X-factor. The X value reflects expected general productivity improvements which can be made in service delivery at each airport. Compliance with the price cap is assessed by monitoring average changes in aeronautical charges at each core regulated airport and comparing them with the relevant CPI-X statistic. The changes are averaged by taking the percentage change in the charge for each service from one period to the next, weighting this change by that service's revenue share in the previous period and then summing over all components.

The most pertinent exception to this price cap regime for the purposes of this report and which shall be subject of some scrutiny in later sections is the provision for new investment costs pass through. Direction 13 of the PSA 1983 allows an airport operator to increase charges at a rate in excess of CPI-X where it seeks to recover the cost of 'necessary new investment.'

It is worth noting that the 'Guidelines for assessing proposals to increase charges to recover the costs of necessary new investment' under Direction 13 include the following among its criteria

(6)(c) support from airport users with a significant interest in the investment for the operator's proposals, including in relation to charging changes

2.2 Layout of this paper

In order to meet its obligations under the relevant pieces of legislation, which include the *Prices Surveillance Act 1983*, the *Airports Act 1996*, and the *Trade Practices Act 1974*, the regulator must often balance a need to curb an airport owner's use of market power with a need to maintain a suitable investment climate. The remainder of **Section 2** sets out the regulator's objectives with respect to airport investments. **Section 3** identifies the nature of the challenges the regulator faces in meeting these objectives, given the types of information asymmetries which regulators generally face, and the opportunities for strategic behaviour which are more specific to the 'club good' nature of airport services. **Section 4** identifies a range of alternative approaches to these challenges, and **Section 5** evaluates each in terms of its potential efficacy in assisting the regulator to meet the objectives set out earlier.

2.3 Objectives of regulation

In an ideal world where an omniscient social planner made all investment decisions, the costs associated with uncertainty and with strategic behaviour could be avoided. In the real world, however, uncertainty regarding future demand levels and technology choices which will become available in future has a critical effect on investment decisions. These uncertainty costs can be reduced by placing those

parties with the best ability to manage demand and technology risks (i.e., the airlines and the airports) in charge of the investment decisions at issue.

While a hypothetical integrated firm which operated both airports and aircraft and which does not have or abuse any market power could be expected to make optimal use of the available demand and technology information, in the real economy those functions are vertically separated. Given this vertical separation, airports and airlines will each attempt to maximise their own profits in a way which, in the absence of regulatory intervention, may ignore, or pay insufficient attention to spillover effects. Certainly, if there were only one airline and one airport owner, they might arrive at mutually satisfactory agreements over the exploitation of positive externalities¹ and the sharing of the benefits. (As a practical matter, though, such an agreement bargain could face important problems of indeterminacy in bilateral bargaining). With many airlines, the feasibility of exploiting such opportunities diminishes, as the transaction costs mount and the opportunities for cheap riding become more abundant.

This situation creates a potentially useful role for the regulator, who can attempt to influence investment outcomes toward what the omniscient social planner would have chosen. Through some process of consultation with airports and airport users, the regulator can gain some insights into the interplay between demand and technology factors. The remaining stumbling block is one faced almost universally by providers of public goods –designing a mechanism which will elicit a truthful revelation of preferences. As this paper shall discuss, though airports are not public goods, the preference revelation problem arises here nonetheless because of the ‘club good’ characteristics of airport facilities

A regulator has several well defined responsibilities in influencing outcomes toward the omniscient social planner’s ideal. Firstly, the regulator must prevent a monopoly service provider taking advantage of market power; to some degree, this can be done through price cap regulation. Secondly, the regulator must ensure that the price controls are not so tight that necessary new investment is choked off. This balance could be better achieved when an environment is created in which voluntary negotiations between facility owners and users are encouraged and facilitated, as these directly involved parties have superior knowledge of demand, cost, and technology factors. Finally the regulator must recognise that regulation itself imposes costs (both administrative costs and the costs associated with the possibility of erroneous judgements), and that these costs increase with the complexity of regulatory involvement in decision-making processes. Therefore, simplicity should be a goal as well.

These regulatory objectives as applied to airports price caps regime and associated cost pass through arrangements can be summarised as follows:

- Addressing potential for the service provider to take advantage of market power in setting prices;
- Providing the right signals for new investment;

¹ In particular, from optimal provision of club goods – this is discussed in greater detail at **Section 3.2.6.**

-
- Relying on negotiation between users and service providers to the greatest extent compatible with social welfare;
 - Simplifying regulatory involvement in investment approval.

It is worth briefly setting out why these objectives are important in the specific airport context.

2.3.1 Addressing market power

Airports are an essential infrastructure for the Australian economy. However, airports can be monopoly facilities in their geographic markets. If unregulated, airport owners or operators could exercise their market power and charge prices above those expected in a competitive market. This would adversely affect the Australian economy through increased business and tourism costs and reduced economic growth. In theory, these costs would not be so great if airport owners could act as efficient price discriminators; in practice, there are many reasons why such price discrimination is not feasible. Thus, the most important role of the current price caps regime under review is to inhibit the exercise of market power by the airports.

2.3.2 Investment incentives

Airports are infrastructure which require substantial amounts of investment. If investment incentives are distorted, airports may not bring forward valuable additional capacity at the best timing and scale, even where social benefits would outweigh social costs. Thus, an appropriate incentive framework must coexist with the limitation of the airport's market power.

2.3.3 Negotiation between users and service providers

It is desirable that, to the greatest extent possible, airlines and airports be encouraged to negotiate mutually satisfactory commercial arrangements. Regulation creates least distortion when it acts as a safety net for parties which are unable to negotiate satisfactory arrangements due to the market power of the counterparty or to the existence of a significant gap between private and social costs and benefits. On a range of other matters, the negotiation process can and should work without extensive regulatory involvement.

2.3.4 Regulatory simplification

All other things being equal, the lower the costs of regulatory compliance, the lower the costs of engaging in the activity which is the subject of the regulation. This is because the steps which the airport owner has to go through to obtain approval for supplementary funding to support a new investment also constitute a cost to the owner, in the form of opportunity costs of time and money. This cost further lowers the rate of return on the planned investment. The uncertainty of approval constitutes a further cost. Thus, streamlining the regulatory process can help reduce these costs and ensure that the firm makes investment decisions on their merits and to the public benefit.

3 The investment incentive challenge for airports

The purpose of this section is to elucidate the challenges the regulator faces in balancing its monopoly power-curbing objectives with its investment-incentivising objectives. It is not uncommon to perceive this trade-off as a purely financial one: by tightening price controls the regulator limits the airport's ability to earn monopoly profits, and by relaxing price controls the regulator makes investment more financially attractive to the airport.

However this one-dimensional view is incomplete. While excessively tight price controls may arrest desirable investments, excessively loose price controls are not guaranteed to bring investment forth. Two approaches are typically used to ensure that necessary investment takes place:

- the "stick" of minimum service standards compels investment in cases where failure to invest would result in a failure to meet the standard; or
- the "carrot" of additional revenue is offered, contingent on the investment being made.

Provided that service standards are measurable, the "stick" approach may be preferable because, at least potentially, it:

- involves less intrusion by the regulator into the airport's business,
- does not require the regulator to make investment decisions itself,
- permits the regulator to focus on outcomes and the airport to focus on means of achieving them, and
- maintains a strong degree of cost protection for the airport's customers.

Section 3.1 below identifies the circumstances in which the price cap with service standards approach is most likely to succeed.

In some cases, however, the price cap with service standards approach will not elicit the required investment in a timely fashion. If price controls would prevent the airport recouping the new capital expenditure, then standards and compulsion may be of little benefit. Here some form of "carrot" is needed, but the issues raised by the more intimate involvement of the regulator in investment choices must be addressed.

When the airport must obtain additional revenue to fund a requested new investment, an approval problem is created. As long as investments can be funded from within existing price cap arrangements, it is desirable that the airport itself is the approving authority (subject to Ministerial approvals required under the *Airports Act 1996*) since it alone bears the financial risk of the investment decision.² However when these financial consequences are shared between airport and airlines it is intuitively sensible to vest some approval authority either in the airlines or in the regulator acting on their behalf.

² Airport charges will be determined by the price cap, and hence are not affected by the investment decision.

This type of situation is common in utility regulation. Where rate of return regulation is applied there is often a requirement for a regulator to approve the addition of a new investment to the rate base. This reflects the fact that the regulatory framework to a greater or lesser extent insures the regulated firm from the adverse consequences of its investment decisions. A “moral hazard” problem then arises, with the extent of the problem depending on the degree of insurance the regulatory scheme offers. “Prudency” reviews, in which the regulator tests investment proposals, are one option for dealing with the risk of poorly-chosen investments being made.

In price cap regulation, the firm is (at least in principle) not insured against the consequences of poor investment decisions. As a result, there is no need, again in principle, for the regulator to become involved in investment decision-making. However, precisely because the cap does not provide insurance (or at least does not do so to the same extent as a formal rate of return scheme), there is a greater risk of socially desirable investments not being made. Where price cap regulation is applied it is therefore not uncommon to adjust the price cap parameters to reflect the additional revenue required to fund specified investments—this adjustment usually being contingent on tests of the investments’ justifiability.

In airports the issue is complicated by the fact that its primary aeronautical customers—the airlines—are relatively few in number and form a diverse club in which some definitely possess some degree of market power while others do not. As the airlines are few in number it is feasible to involve them directly in the approval of new investments. As the airlines are more knowledgeable than the regulator about the impacts of new airport investments on their businesses they are, in many ways, ideally placed to veto or approve investment proposals from the airport for which they are asked to contribute financially. This situation contrasts strongly with that of the customers of an electricity distributor, for instance, who are extremely numerous and arguably less well placed than the regulator to evaluate investment proposals. However, a problem may be that – given that airlines are quite diverse in their cost structures and business models – airlines with market or bargaining power may favour airport charges and investment which effectively raise rivals’ cost and distort the competitive process in the airline industry.

The airlines’ information advantage over the regulator provides opportunities for various types of strategic behaviour when they are given, collectively, veto power over investments which require additional funding. These strategic behaviour opportunities are catalogued and explained in **Section 3.2**. These opportunities arise because the facilities provided by airports are to some extent ‘club’ goods: a class of goods for which consumption is potentially non-rivalrous (like public goods) but for which non-payers can be excluded (like private goods).³

³ An example of a club good would be membership in a golf club which does not suffer from congestion. As long as there is no congestion, the enjoyment of the golf course and club facilities by one member does not prevent or detract from the enjoyment by other members. As with a public good, the club members do not ‘consume’ the benefit. Unlike a pure public good, however, the benefits of golf course membership can be denied to non-members by fencing off the golf course and employing an officious front desk person.

3.1 *When do price caps provide sufficient incentives?*

Price cap regulation has a number of desirable features, some of which have been noted above. In addition to the noted benefits, price caps can provide “high powered” incentives for efficient delivery of service.⁴ In this respect they can differ from rate of return regulation which creates “low powered” efficiency incentives. Thus, at least in theory, price caps place the cost risk with the firm, and therefore make the firm’s profitability dependent on its cost management. In contrast, and again in theory, rate of return regulation aims to deliver a programmed level of profitability—in most cases almost independently of the firm’s cost management.

Under a “high powered” incentive structure, firms will be highly motivated to pursue investments which reduce costs overall, which permit more effective cost control, or which increase demand for the firm’s services at the capped prices. A firm subjected to rate of return regulation (at least in its pure forms⁵) will be significantly less motivated to pursue such investments, as its profitability will be adjusted ex post to prevent it keeping the benefits such investments would create.

Price capped firms will be far less motivated to pursue investments which do not directly improve their profitability. This is generally, but not invariably, socially desirable. For example, investments in quality of service will have incremental costs, but are unlikely to yield incremental revenue benefits under a static price cap, even where there are tangible benefits for customers. Rate of return regulated firms would be less reluctant to invest in quality of service. If the regulator’s estimate of such a firm’s Weighted Average Cost of Capital (WACC) is accurate, then the firm will be equally indifferent about quality investments as it was about cost-reducing or demand-increasing investments. On the other hand, if the regulator’s estimate of such a firm’s WACC is higher than its actual WACC, then the firm will be motivated to invest.⁶

In order to prepare the ground for the detailed discussion, we undertake the preliminary step of developing an algebraic method of adjusting a price cap for new investment when the regulated WACC is equal to the firm’s actual WACC. This exposition of the relationship between the financial results of investment and the price cap parameters p_0 and X will be useful in understanding what types of investment necessarily require adjustments to the permitted revenue and which do not.

Then we present a rough categorisation of the various investment objectives applicable to airports and demonstrate that the nature of the objective (if it can be clearly established) provides a good indication of whether price caps will provide adequate incentive. We conclude **Section 3.1** by noting that a precise categorisation of investments by purpose is not entirely feasible, nor is it always desirable.

⁴ Whether they do so as a practical matter obviously depends on the features of the cap, including the extent to which it is set according to information that depends on the regulated firm’s behaviour. Moreover, it needs to be noted that the “purer” a price cap (in the sense of the weaker the link between the cap and the firm’s costs), the greater the risk the cap imposes on the firm. The ultimate consequence of this risk may be to prevent the firm from exploiting socially desirable opportunities – for example, through investment.

⁵ In the sense of regulation that effectively insures the firm’s income.

⁶ Averch-Johnson effects will then be associated with “gold-plating”.

3.1.1 How price cap parameters would change after new investment

To explore the relationship between price caps and investment incentives it is useful first to understand the financial relationship between price-cap parameters (p_0 and X , primarily) and returns required on incremental investments. From this algebraic analysis it will be possible to explore the most appropriate regulatory treatment of investments which serve various objectives.

When a capital investment of K dollars is made in a new asset⁷ with a life of L years, the resulting capital charge in any year of the asset's life will be the sum of the required return on assets and a depreciation charge. For simplicity let us assume that depreciation is linear. If the asset's age is a function of time: $A = t_0 + t$ (t_0 is the year in which the asset was bought), then the combined capital charge is:

$$\text{Annual capital charge (ACC)} = \text{WACC} * K * (L - A)/L + K/L,$$

where WACC is the regulated Weighted Average Cost of Capital, and this is assumed to accurately reflect the firm's actual WACC. This new asset may have any of a number of possible effects on the airport owner's business. For example:

- it may result in a net savings in operations and maintenance costs of S per annum for the life of the asset, leading to a net increase in annual costs of $\text{ACC} - S$;
- it might expand the airport's capacity, making it possible to serve an additional ID units of incremental demand, leading to an increase in actual demand from Q_0 to Q_1 , where $Q_1 - Q_0 \leq ID$; or
- it might contribute to the quality of the service provided to the airport's customers, but do so in a way for which the airport is unable to earn additional revenue without increasing prices.

Prices are assumed to be subject to a $\text{CPI} - X$ cap. Thus:

$$p(t) = p_0 * (1 + t * (\text{CPI} - X))$$

Here the consumer price index in year 0 is 1.0, and if inflation in year 1 was 2%, then the CPI variable for that year would be 1.02, and if X were set at 1.5%, then $\text{CPI} - X$ would be 1.005 in that year.

Further, let us assume that the $\text{CPI} - X$ price cap before the new investment was set in such a way as to yield zero economic profit for the airport owner at any point in time:

$$\text{Economic profit} = \text{revenue} - \text{cost} = Q_0 * p_0 * (1 + t * (\text{CPI} - X)) - C_0(t) = 0$$

Here t represents time, expressed in years. $C_0(t)$ is the firm's total cost function over time before the investment is made. CPI and X are here both expressed as fractions

⁷ By "new" we mean no more than "new to the business". The discussion generalises immediately to assets that have already been used, but are now being purchased by the business at issue.

of one, rather than as percentages. This equation can be rewritten as an expression for total costs as a function of time:

$$C0(t) = Q0 * p0 * (1 + t * (CPI - X))$$

The CPI - X price regulation parameters p0 and X can be derived from the cost function as follows:

$$p0 = C0(t=0)/Q0$$

$$CPI - X = d/dt(C0(t)) / (Q0 * p0)$$

The effect on p0 and X of capital investment K can be demonstrated by applying the same transforms to a cost function modified to take account of the investment. The new cost function is:

$$C1(t) = C0(t) + ACC - S$$

To calculate p0', we know that p0'·Q1=C1(t=0). Let A0 be the asset's age at time t=0. Therefore,

$$\begin{aligned} p0' &= C1(t=0)/Q1 = (1/Q1) * (C0(0) + WACC * K * (L - A0)/L + K/L - S) \\ &= p0 * (Q0/Q1) + (1/Q1) (K/L) * (WACC * (L - A0) + 1) - S/Q1 \end{aligned}$$

$$\begin{aligned} CPI - X' &= d/dt (C1(t)) / (Q1 * p0') \\ &= (C0(0) / C1(0)) * (CPI - X) - K * WACC / (L * C1(0)) \end{aligned}$$

From these formulae, the following conclusions can be drawn:

- The new starting price level, p0', differs from the pre-existing starting price, p0, in three respects:
 - A capacity effect is evident in the first term, in which the larger demand which is served because of the investment leads to a reduction in the average cost equal to: p0 * (1 - (Q0/Q1));
 - A cost-saving effect is evident in the third term: - S/Q1; and
 - A capital cost effect is evident in the middle term:

$$(1/Q1) (K/L) * (WACC * (L - A0) + 1).$$
- The new CPI - X' price trajectory differs from the pre-existing trajectory, CPI - X, in two respects:
 - The change in initial (t=0) cost levels as a result of the investment leads to an adjustment factor of C0(0)/C1(0) applied to CPI - X; and
 - X' includes a capital cost term equal to K * WACC / (L * C1(0)).

This analysis demonstrates that the financial impact of new investments can be understood within the CPI – X price-capping framework. The specific characteristics of an investment, notably the balance between the effects on capacity, cost-saving, and capital cost, will determine whether, by how much, and in what direction the p0 and X parameters would need to be adjusted to compensate for a new investment (to ensure that zero economic profit continued to be earned). These comments apply equally well for divestments, in which case K and S would have opposite signs than for investments, and Q1 would not be greater than Q0.

3.1.2 Classification of investments by objective

Circumstances in which price caps provide sufficient incentives for new investment depend to a large extent on the purpose of the investment, and the degree to which the investment was foreseen in setting the current price cap parameters.

The current framework for evaluating necessary new investment already distinguishes between investments serving different objectives. For example, the ACCC, in its guidelines⁸, notes at page 6:

“Although this definition can be applied to any investment proposal, one type of new investment that should be excluded, however, is that aimed solely at cost saving innovations. Where innovation has no effect on quality or capacity, the price cap already provides sufficient incentive for firms to undertake investment of this sort. That is to say, the airport owner retains increased earnings resulting from lower costs under the price cap arrangements.”

The following discussion will consider a range of generic types of investment, classified by the nature of the expected financial outcomes.

3.1.3 Maintenance of existing service potential (in both quality and capacity terms)

The first category of investment, also called “major periodic maintenance” in some industries, is investment aimed at simply preserving the current service potential of an asset. In its most usual form this involves like-for-like replacement of a life-expired asset. In many cases the service potential is maintained with an investment in a slightly different type of new asset. To the extent that this investment represents the most efficient means of maintaining without enhancement existing service potential, it is most appropriate to treat such investments as though they were a form of maintenance expenditure.

Given the neutral impact on both costs and revenues over time from planned like-for-like cyclic renewal of assets, investments with a maintenance purpose should be included within the price cap. These would provide no basis for modifying the price cap parameters.

3.1.4 Cost savings

If a strict zero economic profit rule were observed, cost-saving investments would lead to a tightening of the price cap. However given the practical issues (administrative costs of modifying the price cap) and the adverse incentive effects (perfect and instantaneous expropriation of cost savings by the regulator will

⁸ “New Investment Cost Pass-through”, ACCC Position Paper, April 2000.

disincentivise the airport owner from making such investments and makes the cap no different from pure rate of return regulation) the argument for retaining the price cap parameters unchanged after such a cost-reducing investment is very compelling. We note that this is the ACCC's current practice.

3.1.5 Capacity enhancement

The simple model set out above provides a framework in which capacity-enhancing effects of investment can be evaluated. There is clearly at least a possibility that a capacity-enhancing investment might be able to be self-funding without making any changes to existing price cap arrangements. Assuming, for simplicity, that the cost-saving effect is sufficiently small to be ignored, it is certainly possible that the additional revenue obtained by removing a capacity constraint would be sufficient to fund the additional capital charges. Whether the two effects will actually balance in practice depends on the specifics of the investment.

Note that the equations above refer not to the additional capacity but the additional volume of traffic Q_1 to which the prices apply. It is important to be precise about the nature of the capacity effect. If additional airport capacity does not translate into additional revenue at current prices, then it may be more appropriate to think of the investment as being primarily directed at quality improvements.

For example, a capacity-related investment which increased the maximum throughput of passenger luggage from check-in to the aircraft's baggage hold would not necessarily result in more revenue for the airport. It would simply mean that aircraft could be loaded more quickly and passengers would find the check-in and boarding process less time-consuming and more convenient. In other words it would have the characteristics of a quality investment rather than a capacity investment. The distinction between a quality investment and a capacity investment, is, like many things, admittedly a blurry line. For instance, if aircraft were loaded more quickly, more aircraft could be handled in a given time period so that more terminal slots could be sold, if there was not some other constraint (as there is in Sydney, for example) on the number of slots available. However the impact of this capacity effect may be too slight to translate into measurable incentives for the airport to change its investment behaviour.

In addition to this, even a more direct capacity investment such as a new runway may not necessarily increase the number of aircraft takeoffs and landings in a day. It may just reduce congestion at peak times, improve safety margins, or permit airlines to schedule more frequent flights at high demand times of day. In these situations, even a runway investment might be more aptly characterised as an investment in quality rather than quantity of service, and the airport's ability to earn additional revenue at constant prices might be small.

The foregoing discussion provides some justification for handling capacity-related investments either outside the price cap framework, or by modifying the price cap parameters, unless the connection between the investment and new revenues at current prices is direct and strong.

More generally, the connection between investment and revenues under a given cap is most likely to be strong when the investment lifts or eases a capacity constraint on output. In these circumstances, the investment has a shadow price to the airport that

reflects the capacity constraint, and it is the change in that shadow price over time that determines the timing of the airport's investment decision. However, when the cap is binding, in the sense that the airport owner could profitably charge more for existing quantities than the cap allows, and given vertical separation between airport owners and airlines, investment that increases capacity in some dimension but merely increases willingness to pay for current output (say, by improving service quality) will yield no net gain to the airport owner. Even if that investment also permits an increase in output,⁹ its attractiveness to the airport owner will depend solely on the balance between the marginal revenue from the output expansion and the overall cost of the investment project. The infra-marginal increases in willingness to pay will not – under vertical separation and a binding price cap – be weighted in the airport owner's investment evaluation. In the absence of any corrective mechanism, this will distort the timing and level even of investments in capacity expansion.

3.1.6 Quality enhancement

Many necessary investments at an airport may result in no savings in operating and maintenance costs, and no change to revenues at current prices if the principal effect of these investments is an improvement to the quality of service. Many of these investments may provide the airport's customers with an ability to provide a greater quantity of service or a more highly valued type of service to their customers. The lack of incentive for an airport owner to make such quality investments arises essentially through the vertical separation of airport and airline services, because a hypothetical vertically integrated airport and airline company would maximise profits by voluntarily making such investments.

The relationship between a vertically separated industry structure and incentives to invest for quality has been explored in a recent paper on railway investments.¹⁰ The framework used by the authors is sufficiently general to be applicable to the airport case at issue here. Their findings are that under reasonable assumptions regarding the responsiveness of (demand for air travel) to quality, and how that quality effect varies with retail price (which would presumably map to airline ticket prices in this case), (quality) investment incentives are smaller (but still positive) under vertical separation than under vertical integration. Suitable non-linear access prices (equivalent to aeronautical charges in this case) are then required for investment incentives under separation to become identical to those under integration. In turn, it is well-known that such non-linear charges may create distortions of their own (mainly by affecting entry decisions into the dependent market) and are in any event more difficult to monitor for anti-competitive conduct. Even if such charges were efficient and commercially feasible, they might still be constrained by rules against airport price discrimination (which apply especially to international airports) and hence might not be practically open to airports. As a result, it is not likely that the problems could be addressed simply by altering the airport pricing structure.

⁹ This can occur either by removing a capacity constraint or by the effect of improved quality on downstream output and through that on intermediate input demand. (In this case, the downstream output is sales of air transport services, and the intermediate input is usage of airport services).

¹⁰ Buehler, Schmutzler, and Benz, "Quality Provision in Deregulated Industries: The Railtrack Problem." Working Paper No. 0002 of the Socioeconomic Institute, University of Zurich, 2 October 2000.

To the extent that the investment-dampening incentives of vertical separation must then be compensated, it would be important that the airport owner receive some financial inducement to make such investments. Practically speaking, such inducements are most likely to be realised through price increases to regulated aeronautical services.

Given the airlines' involvement in the value capture process, it is appropriate in these circumstances to make approval of such 'quality-based' investments contingent on the airlines' agreement to fund the capital cost. The process of obtaining approval from an airline 'club' whose members have somewhat divergent interests gives rise to a number of strategic behaviour issues which are considered in **Section 3.2** below. Generally speaking, the challenge for the regulator in this situation is to devise a mechanism through which the preferences of the airlines for various investment options can be truthfully revealed.

It is important to note that there are circumstances in which the airlines, taken as a group, are unable to fully capture the benefits of a quality-related investment in the airport. Airport users, such as passengers, meeters and greeters, may derive benefit from some quality-related investments, but there may be no mechanism through which the investor can obtain a revenue stream. The most efficient means of inducing these investments may be to impose a 'tax' on the airlines which would ultimately be paid by their passengers. In these circumstances the regulator may find itself the most appropriate approval authority for these investments, acting as the agent for these beneficiaries.

After the approval question has been resolved there remains the question of whether quality investments should be funded through an adjustment to the price cap parameters, or through a separate passthrough arrangement.

3.1.7 Meeting Government-imposed standards

A special case of quality-related investment is investment required to meet government-imposed standards for such issues as safety, public convenience, environmental protection, disabled access, noise mitigation, erosion control, etc. For standards-related investment the critical question is whether and to what degree the new standard existed or was anticipated at the time that the current price cap parameters were established.

Investments to meet Government standards already in place or reasonably anticipated at the time of establishment of the current price cap should be met from within the price capped revenue, with no changes to the price cap parameters. The necessity of this rule should be readily apparent.

Investments to meet new Government standards which could not have been reasonably anticipated at the time the current price cap was put in place, should be met from outside the price capped revenue. This case is identical to the earlier treatment of quality-related investments. As in that case it remains an open question at this point in the discussion as to whether it is preferable to permit the airport to fund approved standards-related investments through modified price cap parameters, or through a separate passthrough arrangement.

Whether a modified price cap is used or a pass-through arrangement used may well depend on the extent to which there is a public interest in incenting the airport to meet these requirements at least cost. Where (1) the risks associated with cost-shading by the airport owner are substantial (as might be the case with investments needed to meet safety standards) and (2) it is not easy to detect such shading before its harmful consequences appear, then it seems generally preferable to use a passthrough arrangement, as this minimises the likelihood of any “cutting of corners”. Conversely, where any net risks of excess cost reduction are slight (say because monitoring for compliance is relatively easy), and the scope for reducing costs is of more than marginal significance and socially valued, then a modified price cap may provide a suitable framework for carrying out the investments required.

3.1.8 Treatment of investments serving multiple objectives

So far this discussion of investment objectives has somewhat abstractly presumed that investments are purely categorisable into one or another type of objective. Even a cursory examination of investment proposals which the ACCC has been asked to consider under the necessary new investment framework¹¹ illustrates that real investments are seldom so easily categorised.

One approach would be to create a formal requirement that Necessary New Investment proposals contain a statement of purpose, which would be used in the evaluation. The difficulty with such a requirement is that it would make it harder to gain approval for investments which serve more than one purpose (i.e., cost reduction and quality improvement). In some cases the most efficient means of satisfying the various objectives of the airport may be through investments which serve multiple financial objectives, so a rule which discriminated against them would be counterproductive.

In light of this observation, the algebraic approach developed above is likely to prove useful. As long as the separate effects of an investment: O&M cost reduction, volume increase, and capital charges can be quantified with a reasonable degree of confidence, the precise categorisation of the investment purpose is not necessary. The following simple decision rules should be maintained, however:

- Where an investment can be funded without alteration to the price cap parameters or approved supplementary passthrough charging, then customer approval should not be required.¹²
- Where an investment requires either alterations to the price cap parameters or passthrough charging, then customer approval should be obtained.
- Where there is a strong prospect that airline approval may be unreasonably withheld, the approval authority should be the regulator.
- Where an investment is required in order to comply with government-imposed standards or obligations arising from them, it should be funded from within the existing price cap with unchanged parameters, unless it can

¹¹ See, for example, the ACCC’s April 2000 Decision on Proposal to increase aeronautical charges to recover the costs of necessary new investment at Brisbane Airport, and the ACCC’s October 2000 New Investment Decision on a Range of Projects for Australia Pacific Airports (Melbourne) Pty Ltd.

¹² Note that under the Airports Act, Ministerial approval may still be required for significant investments.

be shown that the requirement to meet the standard is new and could not reasonably have been anticipated by the airport owner before the current price cap parameters were established.

3.2 The approval problem

The table below summarises a range of likely circumstances surrounding any particular investment proposal and identifies in each case the party or parties who are best placed to take the approval decision.

	Approval of new investment rests with:		
	Airport	Airlines	Regulator (as agent of third parties)
No extra revenue required to fund investment	Airport should be sole approval authority (subject to Ministerial agreement)		
Extra revenue required to fund investment:			
<ul style="list-style-type: none"> single airline benefits 		Private negotiation between airline and airport should be encouraged, but threat of regulatory involvement needed.	Regulator may need to protect airline against airport taking advantage of market power.
<ul style="list-style-type: none"> Benefits distributed among airlines 	Strategic behaviour by airport may take the form of: <ul style="list-style-type: none"> bundling proposals, holdup, barriers to airline entry, suboptimal provision of club goods. 	Strategic behaviour within heterogeneous airline club may cause: <ul style="list-style-type: none"> holdup, free-riding, forced-riding and raising rivals costs , barriers to entry, or suboptimal provision of club goods. 	This situation places the heaviest burden on the regulator.
<ul style="list-style-type: none"> Benefits not able to be captured by airlines 			Argument for regulator approving investment, then funding through equitable tax on all airlines.

As the table illustrates, the situation giving rise to the greatest potential range of strategic behaviour is that in which additional revenue is required to fund an investment which provides benefits to a number of airlines. This situation creates the greatest challenges for the regulator. Unfortunately this situation may be relatively common in practice. We briefly note the main strategic issues and how they might arise below.

The discussion below will consider the case in which new investment is to be funded by either a cost pass-through or price cap adjustment. This means that the airport owner obtains greater returns from its investment if facilities are funded through this channel and more use is made of these facilities.

In the majority of the cases where strategic behaviour of the airport against airlines is being considered, the ultimate objective is to divert inappropriate levels of investment through the incentive scheme.

The other most frequently occurring type of strategic behaviour is among the airlines themselves. Essentially it is motivated by the ability of some airlines to expropriate other airlines.

In both these types of strategic behaviour, the outcome may depend on the bargaining power of the respective parties. Before discussing their specific manifestations below, it is worth outlining the factors which are determinative of their bargaining powers.

The balance of bargaining power between the airport and airlines depends on:

- the terms and conditions for access to existing facilities offered to all users through the normal price cap;
- the level of existing airport congestion (it is unlikely that at a congested airport any single user will have effective bargaining power in a negotiation process, though at uncongested airports the situation is less clear);
- the airline's share of total traffic at that airport; and
- the airline's passenger mix.

3.2.1 Bundling proposals

The airport has incentives to engage in bundling of inefficient investments together with efficient investments where approval of the investment is to be sought from the airlines. This bundling of inefficient with efficient investments might be motivated by the airport owner's wish to maximise its returns from investment by diverting more investments through the incentive scheme. Alternatively, the bundling may be a result of rent-extracting behaviour by the airport, particularly on the part of the airport's managerial employees. While price caps may foreclose some opportunities for rent extraction, managerial employees may obtain economic rents in the form of the enjoyment of perquisites associated with management of large expenditure projects.¹³

The bundling strategem is only likely to succeed if the transaction cost of unbundling exceeds the benefit of refusing some but not all of the investments. Then it becomes too costly for the airlines to unbundle the investments which they do not want if the "unwanted" investment is relatively inexpensive compared to the costs of

¹³ Clearly, for the bundling to be profitable for the airport owner, the cap (or other price limiting mechanism) must allow the airport to earn a rate of return on the additional investment that is in excess of the WACC. Failing this, the airport owner has no interest in inflating the airport's asset base. Even in these circumstances though, agency problems between the airport owner and the airport's managers may result in the promotion of projects that do not enhance the net value of the owner's assets.

unbundling. Thus, at the investment approval stage, it may be too costly for the airlines not to accept the whole investment plan. On the other hand, when the unwanted investment is discrete and costly, airlines should have no difficulty in separating it out and vetoing it. For example, this might be the case with any proposal for an entire new runway.

While bundling may in some instances impose welfare costs, it will not always do so. In a second-best world where transaction costs are above zero and not all the bargaining parties' preferences can be met through intricate bargains and side-payments, the bundling may have some efficient properties. These efficient properties arise from the fact that none of the proposals taken separately may be acceptable to a majority of the airlines. If each proposal then had to be voted on one by one, they would be rejected each time. The bargaining would have to go back to square one and new investment proposals may have to be designed. This may lead to a very long and frustrating approval process, as coalitions are formed and side-deals arranged. The longer the approval process, the more opportunities in terms of resources and time are foregone. It is true that the resulting investment is more likely to be efficient if it can garner the approval of all parties, at least to the extent that a decision-making process that has the input of both airports and their users is more efficient than a decision-making process made only by the airports; however, this benefit is, of course, not infinite, and must be traded off against the costs just described.

The implication of all this for a bundling strategem is that – much as in political log-rolling – there is an additional efficiency gain: namely the parties can take into account the tradeoffs between different proposals and engage in a form of indirect bargaining whereby airlines which gain from proposal A but not B can compromise with airlines which gain from proposal B but not A. This can reduce the transaction costs of reaching agreement among the parties. Consequently, the mere fact of project bundling ought not to be taken as problematic.

3.2.2 Hold-up

Where approval of the new investment ultimately rests with the airport, the airport may refuse to make (i.e. “hold-up”) necessary investments unless they are funded by a cost pass-through or upward adjustment to the price cap.

The airport may be able to engage in this regulatory arbitrage subtly and thus minimise the risk of regulatory intervention, making its hold-up threat more credible. Even faced with a quality of service guarantee of some sort, there may be sufficient scope for the airport to under-provide quality related to those facilities which are under the price cap. This scope for underprovision despite minimum quality standards can arise from the intrinsic difficulties of measuring and specifying quality levels in great detail. The costs to airlines of enforcing standards may be high, making them more or less vulnerable to conduct of this type.

The possibility of airlines holding up investments can also arise where approvals for new investment are subject to private negotiation between the airport and a group of airlines. If approval of investment is subject to agreement among the airlines, then an individual airline may refuse to approve an investment unless the airport (or the group of other airlines) makes some pricing or other concession to it. An airline's ability to extract such concessions will depend on its bargaining power relative to

that of the airport, and other airlines. Unanimity requirements for airline approval are conducive to this type of holdup, even by small airlines.

While incumbent airlines may try to block entry-facilitating investments, the smaller entrant airlines may, notwithstanding their relative lack of market power, paradoxically have stronger bargaining power to the extent that the larger airlines actually have more to lose from the hold-up of investment. The larger airlines have more to lose if the group does not come to an agreement on what investments to pursue because they have a larger business to run and therefore face higher losses to their business and/or costs the longer the delay to necessary investments and the more inadequate these investments are to the needs of their business. This means that the smaller airlines can band together to 'hold up' investments unless they get concessions from the larger airlines. The ability of the smaller airlines to expropriate the larger airlines is greater the 'tighter' the agreement rule i.e. the closer it is to unanimity. This is the familiar problem of the "exploitation of the large by the small" classically analysed in the context of alliances that supply quasi-public goods.¹⁴

However, a worst case scenario is where the airport 'calls the bluff' of the airlines by deciding not to go ahead with the investment at all, even though the investment might in the long run prove beneficial to the airline club as a whole.

These particular manifestations of opportunistic behaviour leading to a hold-up are simply part of a more general likelihood of a hold-up problem occurring where the bargaining process is not structured properly. This possibility was already alluded to in the previous discussion of bundling, in particular, of the benefits of bundling stratagems in facilitating some forms of indirect trades which minimise the transaction costs involved in getting parties to agree. This suggests also that a bargaining process that allows multiple issues to be treated simultaneously is likely to reduce hold up problems.

Even in the case where all parties bargain in good faith, frequent hold-ups may occur if the rule for coming to agreement is set too 'tightly' e.g. where the rule is that a particular proposal may only be approved where approval is unanimous. If the agreement has to be unanimous, then each party is given a veto right over the investment. That right has a value, and the expectation is that each party will want to obtain that value. It may be that each party's attempt to secure that value reduces (arguably to zero) the worth of the veto that has been provided; but it is by no means clear that the equilibrium that will emerge from this situation is such that all efficient projects will proceed.

The issue is a familiar one in public finance, where it has been most closely examined in the context of decentralised mechanisms for the supply of public goods.¹⁵ In essence, a tight approval requirement (such as a unanimity rule) internalises to each agent the consequences of agreeing or disagreeing to supply, and hence can ensure that each agent faces the correct price signal in taking the approval decision.¹⁶ Under this circumstance, only Pareto-enhancing proposals will be accepted. However, while

¹⁴ See Mancur Olsen The Logic of Collective Action (1965).

¹⁵ The classic treatment is by Nobel Laureate James Buchanan in The Demand and Supply of Public Goods (1968); see also John Head Public Goods and Public Welfare (1974).

¹⁶ This is the basic rationale underlying the Wicksell-Lindahl argument for near-unanimity requirements as a basis for decision-making about public good supply.

Pareto efficiency will be a **necessary** requirement under this decision rule, it will not be **sufficient** to ensure that approval occurs. This will be the case whenever there is some heterogeneity among decision-makers and more generally where there is scope for any one decision-maker to secure benefits for itself at the expense of others (say by being allocated a lower share of the costs of the public good). While rules such as that requiring all parties to bear equal cost shares¹⁷ can address this problem, they then typically create other inefficiencies.

3.2.3 Cheap-riding

While involvement by the airlines in the investment decision-making process may result in better quality decision-making because of the additional knowledge and perspectives provided by the airlines, strategic behaviour through cheap riding may undermine this. Cheap riding, a phenomenon related to 'free-riding' occurs in any collective decision-making process where one or some of the parties understate the value (to them) of the project being considered in order to reduce the amount they may subsequently have to contribute to its funding or to avoid contributing at all. The ability to cheap ride presupposes a method of recovering contributions toward specific investments differentially between the beneficiaries. In many cases uniform pricing rules may preclude this. Cheap riding incentives may lead to either under-investment in particular facilities or to some airlines bearing disproportionate costs compared to others.

Cheap riding opportunities are not solely available to airlines. It is important to recognise that the airport owners, while vertically separated from the retail layer in aeronautical services, are vertically integrated with respect to retail space at the terminals. This aspect of vertical integration has given rise to an allegation by BARA that Sydney Airport Corporation Limited has 'free ridden' at the airlines' expense in the SA2000 Project. BARA's 30 November 2000 submission to the ACCC regarding SACL's draft pricing proposal notes, at page 18, that the SA2000 project, intended to increase the number of terminal gates and increase the amount of retail space at the International Terminal, has resulted in a 66% increase in retail space and only a 17% increase in terminal gates. The airlines have been asked to contribute 62% of the funding for that investment. BARA identified alternative investments which would have created a greater increase in terminal gates and lounges at lower cost to the airlines.

3.2.4 Forced-riding and Raising Rivals' Cost

The classic example of forced riding is where a pacifist might object to the spending by his/her government on defence, but is forced to go along for the ride and suffer the perceived disbenefit of an enlarged national military capability.

A concrete example of forced riding in the case of airports may be less clear because a free-rider's 'victims', the expropriated, are similar to forced riders. However an analogous situation might arise if it is decided that airport investment plans are to be formulated and approved subject to agreement between the airport and airlines. In this setting, one instance of forced riding would be where an airline operating solely domestic flights and which therefore had nothing to gain from customs facilities was

¹⁷ Analytically, equal cost shares with majority voting has properties similar to a unanimity rule in respect of homogenous populations of decision-makers.

obliged to take part in negotiations and eventually contribute to the funding of investments to upgrade customs facilities.

More generally, in the absence of a unanimity rule, heterogeneity of interests can create scope for some degree of forced-riding. Thus, airlines with a limited interest in particular investment projects may find themselves burdened with some share of the cost of those projects, effectively redistributing producer surplus among competing airlines.

Forced-riding can be especially problematic if it is strategically used for anti-competitive purposes. For example, if bigger airlines can bear higher charges than smaller airlines because they are better resourced and enjoy economies of scale and scope, they may favour investment projects which are disproportionately burdensome for small airlines and which disproportionately raise small airlines' costs - even though the investment increase the costs of all airlines.¹⁸ Moreover, all else being equal, demand for the services of airlines with small market shares will be more price-elastic than demand for the services of airlines with larger market shares, allowing the larger airlines to more readily pass on any increase in costs.¹⁹ The bigger airlines are also likely to have more bargaining power under almost any agreement rule between the airlines which could be defined. Thus, they might perceive an opportunity to impose an additional cost burden on the smaller airlines, in turn affecting price-setting behaviour in downstream markets, by voting in favour of very large capital investments which lead to increased aeronautical charges.

3.2.5 Barriers to airline entry

Similarly, the large airlines may also expropriate the smaller airlines by voting against entry-facilitating investments which would have created a more level playing field between the larger and smaller airlines.

Where the airport is the sole authority for formulating and approving investment plans (subject to the agreement of the Minister), it may fail to take fully into account the need for investments which facilitate entry of new airlines. The airport may have difficulty in recouping sufficient incremental revenue to justify a socially efficient level of entry-facilitating investments. Such investments might include common user gates, departure lounges and common user executive lounges, for example.

Failure by airports to take the full advantages of entry into account will most obviously occur when the largest part of the benefits of entry will accrue to final consumers in the form of reduced prices or improved service quality.

Even if the airport did have incentives to undertake entry-facilitating investments, these investments might be vetoed if they require agreement between incumbent airlines and the airport. The existing airlines, small and large, would have very little incentive to agree to the provision of facilities which would facilitate entry to the market by airlines who are not yet members of the club.

¹⁸ Similarly, Oliver Williamson (1968) has shown that efficient firms may favour high wages because, even though it increases their own wage bill, it puts less efficient firms at an even larger cost disadvantage so that industry wide wage increases can be used as a strategy to raise rivals' cost. See Oliver Williamson, "Wage Rates as a Barrier to Entry: The Pennington Case in Perspective," *Quarterly Journal of Economics* 82 (1968), pp.85-116.

¹⁹ Thus, in a Cournot model with firms with varying market shares, the firm-price-elasticity is a decreasing function of the firm's market share.

The incumbent airlines would perceive a loss of profits from agreeing to fund new open access facilities. Thus, even if the airports have an incentive to provide these facilities, the airlines would resist. Depending on how the agreement rule is formulated, the airlines would be able to veto the investment proposal, possibly leading to socially suboptimal competitive entry by airlines.²⁰

3.2.6 Suboptimal provision of club goods

Where formulation and approval of investment plans is made solely by the airport, it may face insufficient incentives to invest in club goods which provide benefits primarily to airlines. When investments are subject to agreement between the airport and airlines, one might expect the airport to place greater emphasis on benefits to the airlines. However, suboptimal provision of club goods may also arise regardless for two reasons.

Firstly, investments in quality may be vetoed by the airlines if they pertain to facilities for which there is no passenger perception of airline responsibility. For instance, there may be 'un-branded' processing facilities common to all airlines. Individual airlines might not suffer any reputational effects from the poor quality of these facilities, even though customers might suffer disamenity. Moreover, each airline might not be able to fully capture any benefits its customers obtain from service quality improvement. Although all airlines might suffer in the long run from inadequate investment in those facilities, none may then have an incentive to accept the added costs.

Secondly and similarly, there may be services or upgrades of particular facilities that are not valued strongly by airlines, but which would be valued by passengers. The demand impacts of not providing these services or appropriate upgrades may be very low for individual airlines, compared to the costs which these airlines would incur. Thus, provision of these services or upgrades to sufficient quality levels may not arise out of user input or consultation. Furthermore, even if the airports want these services or upgrades to be provided and have the incentive to do so because they have a longer investment time horizon, the airlines may be able to either reject these investment proposals altogether or hold out for a lower charge which the airport owner may then not have sufficient incentive to agree to. The end result is the under-provision of these necessary services or facilities.

²⁰ Of course, if there are fixed costs to the business of supplying airline services, entry into market may be excessive from the social point of view. In other words, a competitive equilibrium could involve excess entry. This possibility does not however justify the type of conduct discussed in the text, which is very unlikely to result in a socially efficient entry tax.

4 The main options for providing additional incentives, where needed

Section 3 has set out the scope and nature of the problem to be considered – namely the need to overcome the approval problem when funding outside the price cap is required for additional investment. There is also a question as to whether “high powered” or “low powered” price regulation should be applied to the additional revenue. This section sets out a range of possible incentive mechanisms for addressing the challenges outlined in **Section 3**.

In brief, the alternatives considered here are:

- 1) Status quo: regulator approval, cost pass-through
- 2) Price cap parameters set on basis of expected investment requirements
- 3) Project Control Group approval process, cost pass-through
- 4) Project Control Group approval process, adjustable X

Before explaining these alternatives, several points should be emphasised. Firstly, there will be a range of investment situations where existing price cap arrangements should remain in force, and no additional funding should be provided to the airport. These include:

- “maintenance” investment
- cost-reducing investment
- capacity enhancements which are likely to be self-funding without changes to current prices
- investment to meet Government-imposed standards which were anticipated at the time the current price cap was set.

Secondly, necessary new investments with purposes other than those listed above should be funded by permitting the airport to earn additional aeronautical revenues, subject to an appropriate approval process. For simplicity, we shall call these investments the ‘incentive-dependent’ investments, because they would be unlikely to proceed in a timely fashion without financial incentives for the airport. Such investment purposes would likely include:

- quality enhancements
- capacity enhancements which are unlikely to be self-funding without changes to current prices
- investment to meet new and unanticipated Government standards.

Thirdly, the four alternative incentive schemes listed above represent points on a two-dimensional grid, as they represent combinations of two different approval processes, and two different methods of price-regulating the additional revenue, as the table below illustrates:

	Regulator approval	PCG approval
ROR cost passthrough	Status quo	PCG approval, cost passthrough
CPI-X parameter adjustment	Expected investment requirements	PCG approval, adjustable X

4.1 Status Quo

The first alternative incentive mechanism to be considered is the status quo, which involves funding of incentive-dependent investments through rate of return cost pass through, subject to regulator approval. The regulator must consider the degree of user support for investments, amongst other criteria, before permitting cost passthrough.

The incentive mechanism is known as the ‘new investment cost pass through’ regime and is provided for under Direction 13 of the PSA 1983. Direction 13 allows an airport operator to increase charges at a rate in excess of CPI-X where it seeks to recover the cost of ‘necessary new investment.’

The cost passthrough approach employs a form of rate of return regulation rather than price cap regulation. If the additional investment were funded by an upward adjustment of the price cap, the average level of aeronautical charges would be adjusted upwards to contribute to funding the investment. A price cap adjustment would place the cost risk of the investment with the airport. Under a rate of return cost passthrough, however, any cost overruns from the investment (either in the construction or later operation stages) would be borne by the airlines. Thus cost passthrough, like all rate of return regulation, imposes less financial discipline on the regulated firm though it protects the firm from exogenous cost shocks.

Assessment of new investment proposals is a two stage process. The first stage goes to the question of whether the proposal qualifies as a ‘necessary new investment’. The second stage then assesses the specific proposals which satisfy the ‘new investment’ test against the relevant criteria (listed below). Assessments are performed by the ACCC.

With respect to the first stage of the test, the ACCC’s ‘Position Paper on New Investment Cost Pass-through’ provides some guidance on how the ACCC would decide whether a proposal qualifies as a necessary new investment.

To interpret the term ‘necessary new investment’, the ACCC accepts the standard definition of ‘investment’ as ‘an increase in fixed durable inputs or capital.’ User support is considered an important, but not always conclusive, indicator of an investment’s necessity. Interestingly, the ACCC states in its position paper that the presence of user support for an investment, including the associated charges, is a useful indicator of a project being ‘new’. Weight is also placed on user agreement in the second stage evaluation when the investment which qualifies as ‘necessary new

investment' is then assessed against a set of criteria. In the context of the first stage, the ACCC sees user support as leading to a presumption that the investment is a 'necessary new investment.' This interpretation is supported by the ACCC's statement that²¹

Where there is no user support the Commission will refer to an economic approach to distinguishing between 'new' and other types of investment.

In other words, the ACCC really only starts to apply an evaluation at the first stage in the absence of user support. Otherwise, the airport is virtually guaranteed of passing the first stage of the test. However, the ACCC does not precisely define what is a sufficient degree of user support at either stage of the evaluation.

As for the rest of the test which it applies in the absence of user support, the ACCC defines new investment as a change in fixed durable inputs that does not simply seek to replace natural degradation of capital. On this basis, it concludes that an expenditure is 'new' investment if it is not merely aiming to replace capital that has degraded naturally, whether through exposure to the elements, or through wear and tear from continual usage. In contrast, replacement investment is expenditure that merely aims to maintain the pre-existing levels of capacity and quality of the facility.

Once the investment proposal qualifies as a necessary new investment, it then goes to the second stage test where its specific characteristics against a set of criteria reproduced below from the 'Guidelines for assessing proposals to increase charges to recover the costs of necessary new investment' under Direction 13:

(b) The ACCC is to use the following criteria to guide its assessment of proposals to increase charges for declared aeronautical services at a rate in excess of the CPI-X cap as a result of necessary new investment:

(a) the operator's plans for new investment or service innovation and the associated costs;

(b) the relationship between the proposed increases in aeronautical charges and the costs (including the level of rate of return) of the new investment or service;

(c) support from airport users with a significant interest in the investment for the operator's proposals, including in relation to charging changes;

(d) contribution of the new investment/service to productivity improvements at the airport;

(e) overall efficiency of the airport's operation;

(f) the particular demand management characteristics of individual airports, including any demand management schemes in place, capacity constraints and any under-utilisation of airport infrastructure;

(g) airport performance against quality of service measures, including services under the control of the airport operator;

²¹ ACCC, *New investment costs pass through*, Position Paper, April 2000, p. 4.

(h) airport performance vis a vis other Australian airports and any comparable international airports; and

(i) the extent to which the proposed investment will facilitate the operations of new entrants to domestic or international aviation.

Note that some of these criteria seem to be tailored to address the strategic behaviour problems discussed earlier, e.g. criterion (i) which requires the regulator to consider the entry-facilitating aspects of the investment. What is more significant is that criterion (c) relates to user support for the investment.

It can be suggested that given the inclusion of the user support criterion in the guidelines, there is some overlap between the status quo incentive mechanism and an investment mechanism which involves agreement between the airlines and airport as is the case with the PCG mechanism - indeed the PCG mechanism grew out of the existing necessary new investment regime and one of the considerations of this report is to what extent it can or should become a formal requirement under the investment approval process.

4.2 Expected investment requirements

Under this incentive mechanism, price caps are adjusted at the start of each price cap review period, based on information provided by all affected parties, including the airports themselves, regarding anticipated investment needs. The difference between this approach and the status quo is in essence a sequential one.

Under the status quo approach there is a periodic review of price caps every 5 years and the essential parameters in the price cap, namely the X factor and p_0 , are adjusted based on the ACCC's analyses of the airports' projected demand, costs and expected productivity improvements and economic performance. However, additional 'necessary new investments' i.e. capital expenditure plans which the airport may formulate in between review periods are separately provided for through the process discussed in the previous sub-section.

By contrast, under the expected investment requirement approach, the investment needs of the airport are anticipated and provided for under the price cap set at the beginning of each review period. This price cap would not be altered until the next review period.

Whatever bargaining takes place between the regulator, airport and airlines does so at discrete points in time, towards the beginning of each price cap determination, when each of the interested parties has an opportunity to present submissions, just as they currently do. As in the status quo, a price cap review under the expected investment requirements approach would not explicitly provide for any private contractual dealings between the airport and airlines though the negotiation over investments may take the form of negotiations over price cap adjustments, in which the airport and airlines attempt to influence the regulator's decisions through submissions, information and the commitments they make. Enforcement of such commitments is informal and tacit (i.e. the regulator may retaliate against broken commitments in the next review).

The expected investments approach raises the stakes during each price cap review, since many of the investment funding issues must be resolved at that time.

The expected investment requirement approach is the general approach adopted by the UK towards most of its regulated utilities and transport infrastructure, including airports. It is worth outlining briefly how this approach works in the UK to better illustrate it.

Under the *Airports Act 1986* the UK's airports regulator, the Civil Aviation Authority (CAA) has to reset price caps on airport charges generally every five years at airports designated by the Secretary of State. The airports currently designated are Heathrow, Gatwick, Stansted and Manchester. Before it can set a price cap the CAA must, consistently with the *Airports Act*, make a reference to the Competition Commission unless the Secretary of State directs otherwise. The reference asks the Commission to report on what the maximum limit on airport charges for the following period of five years should be, and whether, since the date of the previous reference, the airport has pursued a course of conduct contrary to the public interest. The maximum amount calculated incorporates a projection of the airport's capital expenditure needs over the five years. The projection is ultimately determined based on the regulatory agencies' weighing up of the evidence, submissions and information provided by the affected parties.

The extent to which the projected capital expenditure is actually fulfilled will be monitored so that the process can be improved, and in order to ensure that the airports are not extracting rents due to a mis-calculation of the projections and/or misrepresentations by the airports.

For instance, in the CAA's March 2000 report, *BAA London Airports: A regulatory report*, the CAA justifies the price cap set for 1997 to 2002 as follows:

The current price cap set for the BAA London airports for 1997/98 to 2001/02 was set by the CAA in 1996 following recommendations set out in the 1996 MMC review. An important factor influencing the price cap was BAA's projected capital expenditure programme. Not only was the price cap set to allow a rate of return on assets reflecting BAA's cost of capital, the price cap adopted explicitly allowed for an element of pre-funding of the large capital costs of Terminal 5. Reflecting the importance of the capital expenditure projections in setting the price cap, the CAA decided to monitor BAA's actual capital expenditure over the quinquennium, and to monitor changes to the capital expenditure programme as it developed over time.

The regulator's comparison of the initial investment plan with the actual investments made by the airport over the period between regulatory reviews is thus of great importance to the efficient working of the expected investment requirement approach. However, there are also difficult ambiguities involved in the use of such information as the CAA's following comment in the report points out:

There may be many reasons other than poor incentives why a regulated company's actual investment might differ from investment planned at the time the price cap was set. There may be unforeseen developments or constraints, better means of delivering an output may be established, or the company may simply coax more efficiency gains from the programme. It is one of the benefits of price cap regulation that the company is rewarded for generating efficiency improvements. Consequently the regulator should

have no general presumption that deviations from planned capital expenditure are undesirable. However, given the importance of the capital expenditure plan to users and for setting BAA's price cap, it is important that changes in actual investment, and changes to the investment plan are clearly documented and transparent to users and the regulator.

Reliance on the price cap alone creates obvious risks when the price cap is set with error, and when there are long periods between price cap reviews. In those circumstances, allowing some contracting for new investment supplemental to the cap may reduce the costs the regulator would otherwise cause when setting the cap too tightly. However, it is equally clear that having several alternative means of assessing and determining price and revenue ceilings can induce inefficient and ultimately costly forms of regulatory arbitrage.

4.3 PCG approval process

The 'Project Control Groups' (PCG) approval process has been trialled by the Brisbane Airports Corporation Limited (BACL), as noted in its recent cost pass-through application²². Essentially the PCG process involves consultation and implicit bargaining between the airport and users in order to cement agreement on the details of the investment proposal. The investment proposals were then assessed by the ACCC according to the 'necessary new investment' guidelines discussed previously.

The ACCC envisages the PCG approach as used in the BACL application, being used to the fullest extent in²³

- the design stage of projects, considering input from airport users and the operator prior to the development of costing;
- assessing the costs of projects and reaching agreement between user and the operator on the level of costs associated with the project; and
- reviewing the 'actual' cost of projects upon completion in order to determine the basis for any increased charges.

To highlight the specific features of the PCG approach it is worthwhile to compare it, as BARA has done in its 30 November 2000 submission to the ACCC regarding SACL's draft pricing proposal, to the consultative process employed by the FAC/SACL in developing the SA2000 project.

"The ACC Working Group meetings with the FAC/SACL were very different from the project control group ('PCG') process which has now been implemented at some of the privatised airports. The format of the ACC Working Group meetings usually involved a presentation by the FAC/SACL and the Project's builder, Civil & Civic, of works which had already commenced, or which were to be commenced very shortly, so that airlines had limited opportunities to provide comment and input. Airlines consistently criticised the quality of information provided by the FAC/SACL/Civil & Civic, however these concerns were rarely satisfactorily addressed.

²² ACCC, *Brisbane Airport: Proposal to increase aeronautical charges to recover the costs of necessary new investment*, Decision, April 2000.

²³ *Ibid*, p.20.

“Airlines were not properly consulted about:

- *the method of delivery of the Project which was adopted – a project manager/builder was appointed under a design and construct contract and, until mid 1998, the Project did not have a separate independent project manager; and/or*
- *the detailed design of the Project, including airlines’ preferences in respect of design options.*

“Additionally, airlines were not provided with details of actual cost or variance to budget, as detailed further below.”²⁴

The PCG approval process as implemented in BACL has set a useful precedent. The third alternative incentive mechanism being developed here builds upon a generic version of the PCG approval process which abstracts from the description in the BACL case.

The generic PCG approval process is based upon a standing group comprised of representatives of the airport and its users. It is important that there be continuity of membership at both the organisational and the individual officer level. This standing group can be contrasted to an ad hoc committee convened each time an investment decision is being considered. All airlines would be free to attend all PCG meetings.

The ACCC would have a continuing role in approving and scrutinising investment proposals, but it would be a requirement that proposals be subjected to the PCG process before the ACCC is asked to judge them. One issue which remains unsettled is how the agreement rule within the PCG would be defined (i.e. at what point do we say that the members of the PCG have agreed on the investment proposal?). Since the airport itself clearly forms one distinct party and the airlines another (because they have some substantial common interests notwithstanding any heterogeneity there may be between the members of the airlines group) this issue reduces to defining what the level of agreement between the airlines should be. However, this issue in turn leaves unresolved the issue of how the voting interests of the airlines should be weighted, if at all i.e. simply by having one vote per airline or weighting the votes according to cargo, freight, passengers, etc.

4.3.1 With cost pass-through

The PCG process as practiced in the BACL application was subject to the cost pass-through funding method of the status quo incentive scheme. This scheme, which involves allowing the airport operator to raise charges to fund the investment, has already been described above.

4.3.2 With adjustable X

Rate of return cost passthrough is not the only funding option. The airport could alternatively recover some of its new investment costs through an upward adjustment of the price cap parameters.

²⁴ BARA Submission to the ACCC regarding SACL’s Draft Pricing Proposal, 30 November 2000, p. 16.

Unlike the expected investment requirements approach, the 'adjustable X' approach would involve making adjustments to the price cap parameters at various times within a single five year regulatory period. An adjustment might be made each time a significant new investment was approved which required additional funding.

The prospect of reviewing X more often overcomes one of the most problematic aspects of the expected investment requirement approach, which is unresponsive to changing circumstances except at five yearly review events. An 'adjustable X' could be employed to reduce prices if an airport reneged on promised investments, and this adjustment would not have to wait for the next quinquennial review.

Note that p_0 and X would only be adjusted to reflect significant new investments, not whenever cost or demand conditions change. It is necessary to maintain the rigour of a CPI-X price path in order to maintain the high powered incentives spoken of earlier. A first difficulty with this approach is therefore that of credibility: that is, whether the conditions under which the cap could be changed could be defined sufficiently tightly to prevent opportunistic behaviour by the regulator and gaming of the system by the regulated airport.

An additional objection might be raised that the administration of a moveable X could prove burdensome. To address that concern it should be noted that the relationship between the X adjustment and the investment cost would be based on algebraic expressions of the type developed above in section 3.1.1. If the X calculation is transparent, and it is sufficiently clear which investments form part of in the p_0 and X calculated at each period, then this approach should be capable of being administered efficiently.

5 Evaluation of investment incentive plans

Each of the incentive schemes discussed in **Section 4** can be evaluated on the basis of how successfully it achieves the objectives set out in **Section 2** namely

- i) Addressing the market power of the airports;
- ii) Providing the right signals for investment;
- iii) Relying on negotiation between users and service providers to the greatest extent possible;
- iv) Simplifying regulatory involvement in investment approval.

This section carries out such an evaluation for each of the options set out above, considering each of the criteria in turn.

5.1 Status Quo

Addressing the market power of the airports

All other things being equal, the airport has less opportunity to abuse its market power in deciding on appropriate investments, the greater the scrutiny put on its proposed investment plans and how it funds these investments.

Under the current incentive scheme, the ACCC approves the cost pass through by which 'necessary new investment' is funded using a two-stage test. ACCC scrutiny helps to ensure that the allowed cost pass-through does not simply provide an opportunity for the airport to exercise its market power by raising charges.

Supervision by the regulator can, at a cost, help guard against the following strategic behaviours:

- Bundling of necessary and unnecessary investments;
- Threats to 'hold up' necessary investments unless they are funded through the cost pass through.

Providing the right signals for investment

The status quo incentive scheme attempts to address the following problems through ACCC scrutiny –

- Inadequate investments in infrastructure which facilitates the entry of new airlines;
- Suboptimal provision of 'club goods' whose benefits are shared between the airport and airlines.

Though the ACCC, in its vetting of investment proposals submitted by the airports seems to have a 'negative' rather than a 'positive' role in investment decision making - it rejects inappropriate investments rather than micromanaging the plans made by the airports - there is some scope within the scrutiny process for these matters to be

taken into consideration. For instance, the Direction 13 guidelines recommend that in assessing proposals, the ACCC should take into account

(i) the extent to which the proposed investment will facilitate the operations of new entrants to domestic or international aviation.

However, the main problem with the status quo is that the regulator faces an information asymmetry problem. The regulator inevitably has less information about how best to invest and about the needs of airports users than the other parties. In addition, the greater the level of regulatory scrutiny, the higher the administrative costs of the system overall and the compliance costs of the airport.

In considering the extent to which the status quo incentive scheme provides the 'right' investment signals, one must also take account of the funding method used. As discussed earlier, funding an investment through cost pass-through (i.e. rate of return regulation) has different incentive effects than funding it by adjusting the parameters of the price cap.

Cost pass-through encourages a 'cost plus' mentality on the part of the investing firm - it will be significantly less motivated to pursue appropriate cost control and cost-reducing investments if its revenue is set to ensure a particular profitability target is achieved. On the other hand, given the low-powered incentives created by rate of return-style pass-through, investments in quality of service will not be discouraged under rate of return regulation, as they might have been under a price-cap system with adjustments.

Relying on negotiation between users and service providers to the greatest extent possible

The status quo incentive scheme does not have any specific provisions requiring that airports consult with users before formulating their investment plans. In that respect, the scheme falls short of encouraging negotiation to the greatest extent possible. A strictly private negotiation between the airport and airlines is not possible under the current legislative framework, which requires ACCC involvement.

An obvious contrast with this approach is the 'default price cap' approach being contemplated by the UK Civil Aviation Authority²⁵. Under the default price cap approach, the regulatory framework should provide for a default price cap related to a defined set of outputs only. Users who valued higher (or possibly lower) levels of service quality could reach agreement on a bilateral or multi-lateral basis with the airport for the provision of these different service levels outside of the default price cap. Facilities could also be contracted for outside of the price cap. The aim of a default price cap is to give airports and users a basis for entering into direct contracts for service provision, while providing parties with a satisfactory fallback position (the default cap) in the event that negotiations fail. As shall be seen, there are some similarities between this scheme and one requiring a formal consultative process between airlines and airports, though it is less 'hands off' because a role remains for the regulator to scrutinize the final agreement and take account of distortions introduced by the strategic behaviour problems discussed previously.

²⁵ Civil Aviation Authority, *Direct contracting between airports and users: A default price cap*, Consultation paper, February 2001.

None of this is to suggest that the status quo scheme discourages bargaining. Indeed, the PCG approval process, which is discussed below, grew out of the current scheme. The current scheme has a two stage test for assessing investment proposals. At both stages, account is taken of whether there is user support for the proposal. The ACCC is inclined to look more favourably on the proposal if the airport can garner agreement for it by the users. Thus, the current scheme does encourage some negotiation between users and service providers, though not to the extent of the private contracting envisaged in the UK default price cap idea.

Simplifying regulatory involvement in investment approval

The current regulatory regime imposes significant uncertainty and compliance costs, though not all of these relate to the incentive scheme itself. These costs are a result of the complexity and lack of transparency of the current approach. Firstly, there is a lack of transparency in the original calculation of the X factor in the normal price cap. This is likely to impose some uncertainty on the firm and to that extent hinder its planning abilities. All that is known is that the X factor is based on projections of productivity of the airport under regulation. It is not always clear which investments were taken into account in setting the initial X, and which were not.

Secondly, the current two-stage test may be unnecessarily complex and involve some unnecessarily high uncertainty and compliance cost for the firms. The guidelines which are involved in the second stage of the test are as open to interpretation as is the definition of NNI, which has been the subject of a great deal of analysis by the ACCC. The weighting to be put on each criterion in the guidelines is also open to debate.

One may wonder whether the complexity of current arrangements could be resolved by permitting the airport to recover costs of necessary new investment through adjustments to the price cap, rather than a direct cost passthrough. Overall little may be saved by this method, since the approval problem would be unaffected. In fact, as long as the calculation of the X factor is uncertain and not transparent, the relative advantage of cost passthrough funding is that it would be relatively more transparent. As things currently stand, if the incentive scheme involved an adjustment to X, then there would be difficulties since the basis for X has not been publicly disclosed in any detail.

On the other hand, the X factor is coming under review by the end of 2001 anyway. Thus, if the review leads to a more transparent calculation for X, this objection to substituting a price cap adjustment for the current cost pass through funding would disappear.

Overall, it is clear that the status quo suffers from administrative complexity, and that is a substantial weakness.

5.2 Expected investment requirements

Addressing the market power of the airports

The ex-ante nature of the price cap adjustment contemplated under this option creates opportunities for possible abuse of market power. This is because once the

price caps are adjusted for the long run to take account of the investment needs of the airport, there is often no guarantee, aside from reputation effects and hence credibility of undertakings made in the next review process, that the airport will make the appropriate investments. Instead it may simply pocket the price cap adjusted revenue and avoid the concomitant expenditures.

Whatever regulatory supervision exists under this investment scheme is conducted at long intervals (at each price cap review) rather than every time the airport proposes an investment. The reputation effects are important. The firm is aware that if it is granted a price cap adjustment at the beginning of each review period based on investments which it subsequently fails to make, it will decrease the chances of a favourable price cap adjustment next time.

Nonetheless, such indirect enforcement may provide insufficient discipline on the firm, especially since the regulator cannot always determine whether a failure to invest as promised was vexatious or justified by changed circumstances.

The regulator is aware that if it has under-estimated the actual funding requirements of the firm, then pricing behaviour which seems like rent extraction on the part of the firm (i.e. when the firm fails to make promised investments) may be driven by legitimate costs. As a result of this uncertainty the regulator may fail to 'punish' the firm (i.e. by reducing its price cap by a larger amount to compensate for the rent it has pocketed) for renegeing on its investment commitments.

The regulated firm will also be aware of this uncertainty and its 'softening' consequences for enforcement and may even be motivated to 'feed' the uncertainty by making out a reasonable case that it was underfunded. The game playing between the regulator and the regulated firm may result in sub-optimal investment and the inability to extract proper commitments from the regulated firm.

The regulator's difficulties are compounded by the fact that the incentive properties of the cap may be weaker, the greater the regulator's reliance on detailed scrutiny of the firm's actual conduct in setting the cap at each review period. As a result, the regulator faces a difficult choice, as responding to the gap between anticipated and actual investment outlays makes the cap endogenous to the firm's decision-making process. Taken to extremes, such a responsive cap could become a form of rate of return regulation, providing only weak incentives for productivity improvement.

By the same token, however, a wholly unresponsive cap imposes substantial risk on the regulated firm. A priori, there is no reason to state that the economic costs of this risk are outweighed by the stronger incentives such a cap provides for productivity advance. Whether this is or is not the case will depend both on key features of the firm's environment (for example, the variability of its operating environment) and on the risk of regulatory error in setting the cap.²⁶

²⁶ Moreover, even if regulatory error is symmetrically distributed, the costs of error may not be – that is, the error function may be symmetrical without the loss function being so. In these circumstances, it is the shape of the loss function that is relevant to the determination of the optimal degree of responsiveness in the setting of the cap.

Providing the right signals for investment

The more ‘hands-off’ approach of this scheme means the regulator is less able to wield sufficient influence on the firm’s investment decisions. In particular, there is less of a guarantee under this scheme that the firm will invest sufficiently in infrastructure that facilitates entry of new airlines and in ‘club goods’. There is a positive incentive for the airport to skimp on investments once the new price cap is locked in.

Relying on negotiation between users and service providers to the greatest extent possible

The most obvious deficiency of an ex-ante price cap adjustment approach is that it does not facilitate negotiation between users and service providers, except perhaps at regulatory price cap resets. In this respect, the expected investments approach compares unfavourably even to the status quo scheme, which, though lacking a formal rule for user consultation, involves regulatory scrutiny of the investment plan. Under the ex ante approach, the regulator only has indirect influence on the airport via its possible response in the next price cap review. The ‘default price cap’ approach described above might provide the basis for an alternative form of ex ante incentive scheme which would facilitate negotiated outcomes.

Simplifying regulatory involvement in investment approval

The most obvious advantage of this approach is the simplicity and low compliance costs involved for the regulated airport. Assuming that the ex-ante mark-up calculated does not underestimate the funding needs of the airport, then the airport owner would not face any regulatory hurdles to making investments. Aside from the regular price cap reviews, it would not have to expend time and money on preparing an application to the regulator or in eliciting agreement for the investment proposal.

However, simplicity by itself is not a virtue. Given the other problems discussed above, it is doubtful that the benefits of simplicity outweigh the costs.

5.3 PCG approval process

The PCG approval process has been used by the Brisbane Airport Corporation Ltd to formulate a set of investment proposals which were the subject of a recent application to the ACCC²⁷. The PCG approach evolved as a refinement to the status quo incentive scheme. What will be considered here are the costs and benefits of amending the current incentive scheme to formalise a process resembling the BACL PCG concept as a requirement for assessing necessary new investment proposals which are to be funded outside the normal price cap regime.

The PCG process being evaluated here is the generic one described in **Section 4**. Both variations will be considered here – funding through cost pass through and the possibility, untried in practice, of funding through adjustments to the price cap parameters. Since both variations have in common the PCG approval process, this section shall be structured as follows:

²⁷ ACCC, *Brisbane Airport: Proposal to increase aeronautical charges to recover the costs of necessary new investment*, Decision, April 2000.

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- **Section 5.3.1** will evaluate the differences between the two funding sub-options in terms of achieving the relevant regulatory objectives;
 - **Section 5.3.2** will discuss the economics of the PCG approval process before evaluating its expected efficacy in meeting the objectives of regulation.

5.3.1 PCG approval process with cost passthrough versus PCG approval process with price cap adjustment

The schemes discussed so far have been evaluated as to how well they attain the regulatory objectives set out in **Section 2**. The two PCG variations have different effects only with respect to one of these objectives - **providing right signals for investment** – owing to their different funding methods.

The differences between PCG approval process with cost pass-through and the PCG approval process with price cap adjustment reflect the different incentive effects of cost pass-through versus rate of return regulation. As discussed, the former is potentially a low-powered incentive scheme whereas the latter is potentially a high-powered incentive scheme.

In particular, the cost pass-through encourages a ‘cost plus’ mentality on the part of the investing firm. Cost risks in the course of the investment can be passed through to the user. Here, the airport will be less motivated to pursue appropriate cost control.

In addition to weakening incentives for cost control, a cost passthrough method, discourages cost reducing investments relative to other investments for the reasons outlined in **Section 3**. On the other hand, investments in quality of service will not be as strongly discouraged under rate of return regulation as they would be if funding was provided via adjustments to price cap parameters.

The presence of an incentive scheme in the first place means that there is a relaxation of restrictions on the pricing behaviour of the airport. All other things being equal (and assuming demand is relatively inelastic), the general level of investments, whatever they might be comprised of, will be higher than otherwise. It should be noted that, under price cap adjustments, cost reducing investments which yield immediate revenue to the firm will be encouraged relative to investments in quality whenever the cap is binding. Enforcement of quality of service monitoring can help ensure that optimal investments in quality are attained even within the constraints of a price cap adjustment incentive scheme. Thus, once other policy instruments are accounted for, funding additional investments through price cap adjustments can have the double benefit of providing for the adequate levels of investments without encouraging a cost plus mentality.

One final consideration in favour of price cap adjustments is that since the underlying method of regulating market power is through price cap regulation, there may be greater benefits in terms of administrative simplicity and transparency in having an incentive scheme which is based on an adjustment to those price caps. However, it is worth re-emphasizing the concerns set out above with respect to “responsive” caps. These have the potential to degenerate into forms of income assurance for the firm, and may in any event induce gaming by the regulated entity.

5.3.2 The economics of the PCG approval process

Essential economic elements of the BACL approach

Abstracting from the Project Control Group approach used by Brisbane Airport Corporation Limited (BACL), two features have particular economic significance.

First, the Project Control Group is open to all airlines and involves itself very early in the development of investment proposals. Airlines are consulted in the design stage, and continue to participate through to the post completion review stage. This full involvement is economically significant because it works strongly to reduce the information asymmetry between the investor and the users of the investment. The ACCC's preliminary view in the draft BACL decision²⁸ was:

“BACL’s proposal for user involvement combined with the requirement for user support appears to give airport users considerable influence in determining the scale and scope of new investments by BACL. The Commission’s preliminary view is that there is limited opportunity for BACL to over-invest as part of its proposal.”

It should be noted that all of the incentive schemes considered so far involve user input into the decision-making process. However, the difference between the PCG approval process and its logical opposite, namely the expected investment requirements scheme, relates to how the user input is incorporated into the decision-making process.

In the expected investment requirements scheme, the regulator takes in submissions from the airports and airlines and then digests and interprets the submissions, thus coming to a conclusion. By contrast in the PCG scheme, what the regulator has to digest and interpret is a submission which would not have been produced unless it received whatever assent from the users is required by the particular PCG rules.

To put it simply, the preferences of the users are incorporated first hand rather than second hand. The PCG process dictates that the users are more directly involved in the decision-making process than they would be in the expected investment scheme. This is because the way that the PCG process is structured compels the airports to take greater account of the preferences of the airlines than they would in the expected investment scheme. In the expected investment requirements scheme, the airports also take into account the preferences of the airlines when designing their submission but primarily for the purpose of influencing the regulator's assessment of the relative merits of the proposals of airports and airlines to the advantage of the airports. It could be argued that there is within the context of the bargaining between the parties in the expected investment requirement scheme, more opportunities for game playing and for exploiting the information asymmetry of the airports and reduced opportunities for the airports and airlines to share their information in such a way that their use of their respective information advantages would more closely resemble the information advantages and incentives faced by a vertically integrated airport/airlines entity.

²⁸ Brisbane Airport Proposal to increase aeronautical charges to recover the costs of necessary new investment, Draft Decision, February 2000, p. 20.

Second, as the Project Control Group is a standing committee, rather than an ad hoc committee convened to consider one-off investment proposals, it has continuity of membership at both the organisational and individual officer level. This continuity is significant in light of game theoretic results that players of repeated games are more mindful of punitive responses in future rounds when deciding on tactics in a single round. In other words, the repeated character of investment games in a PCG context will tend to make the players more moderate and reasonable than they might have been in a one-off game.

It seems likely that these two features: reduced information asymmetry and repeated games, have contributed to the constructive outcomes which the ACCC has so far observed from BACL's use of the PCG approach.

Issues and tradeoffs which need to be addressed

The efficacy of the multiparty bargaining process required by the PCG scheme depends on the extent to which bargaining costs impeding the formation of mutually beneficial agreements and/or opportunistic behaviour can be reduced by design of the appropriate rules for the process. Among the most important rules which determine the efficacy of the process is the 'agreement' rule -- at what point do we say that the members of the PCG have agreed on the investment proposal formulated after consultation between the members which comprise the relevant airport and the users (airlines)?

Since the airport itself clearly forms one distinct party and would be the party actually involved in drawing up the investment plan (though subject to feedback from the airline representatives in the PCG) and the airlines another, this issue reduces to defining what the level of agreement between the airlines should be - how to specify what proportion of the airlines have to agree to the final investment proposal formulated after the PCG consultation process for it to be said that the investment has been 'approved' by the PCG? Resolving this issue also involves resolving the issue of how the voting interests of the airlines should be weighted, if at all i.e. simply by having one vote per airline or weighting the votes according to cargo, freight, passengers, etc.

We shall assume away the 'weighting' problem for the moment since regardless of whether the appropriate measure of the airlines' voice is cargo or passengers or freight, etc the problem of what the appropriate majority of airlines' support (whether weighted by cargo, passengers, etc) should qualify as approval by the airlines as a group remains.

An appropriate starting point is that only parties actually funding an investment have the right to vote on it, unless a proposal will directly disadvantage some of the non-funding parties. Another advantage of this design feature is that it alleviates the problem of 'forced riding'.

The 'agreement' issue then reduces to one of agreement as between the funding parties. We can define a 'tightening' of the agreement rule as one that involves moving it closer to a requirement of unanimity. By implication a 'loosening' of the agreement rule is one that moves it closer to a bare majority.

As the table sets out below, the relationship between the ‘loosening’ or ‘tightening’ of the agreement rule and the encouraging or discouraging of strategic behaviours is not a straightforward one. Though tightening the agreement rule can reduce some strategic behaviours, it encourages others.

Type of strategic behaviour	Can be reduced by
Bundling of efficient and inefficient investments	Tightening the agreement rule
Holdup threat by airport	Must be addressed by other means
Holdup threat by airlines	Loosening the agreement rule
Cheap riding by airlines	Loosening the agreement rule
Expropriation of small by large airlines by voting for large, unnecessary investments	Tightening the agreement rule
Expropriation of large by small airlines by small airlines holding up investments important to large airlines	Loosening the agreement rule
Expropriation of small by large airlines by voting against pro-competitive facilities	Loosening the agreement rule
Prevention of competitive entry by incumbent airlines by voting against entry facilitating investments	Loosening the agreement rule
Underprovision of club goods	Loosening the agreement rule

In a ‘small number’ bargaining situation which is most certainly the case in the context of bargaining between an airport and a handful of airlines, the incentive to engage in game playing is likely to be higher than when the bargaining involves a lot of parties. In particular, the probability of agreements constantly being held up is higher under these circumstances the ‘tighter’ the agreement rule is, leading to higher bargaining costs which have to be traded off against the benefits of reaching ‘perfect’ agreements which suit all parties. The greater tendency to hold-up (and thus also the expropriation of the ‘strong’ by the ‘weak’ i.e. in this case large by small airlines) arises because when there are only a small number of parties, each party expects through his own action to be able to modify the behaviour of other parties, possibly to his own advantage. On the other hand, in a ‘large number’ situation, each party will find the payoff from ‘gaming’ to be less viable. In this situation, each party will simply attempt to adjust her own behaviour to the behaviour of ‘others’ who are taken as a given because each party rationally expects that his own behaviour will not be able to have much influence on all the other parties’ behaviour.

When this inherently greater tendency towards ‘gaming’ in small number situations is combined with a unanimity rule the tendency towards gaming is exacerbated because each party has a more powerful ‘weapon’ – each party knows that his dissent alone is empowered to bring everyone back to drawing table whereas if the rule were loosened, then the threat of his dissent would be diluted depending on the extent of the loosening.

Addressing the market power of the airports

This PCG-based approach would be no worse than the status quo in protecting airport users from the airport owner’s market power. All price increases must pass through an approval process which involves both customers and the regulator. The

various strategic behaviours catalogued earlier can be addressed through this approach more effectively than in any of the other approaches considered. In particular, this approach offers several protections to smaller airlines and entrants, whose legitimate interests might otherwise be obscured by those of the larger airlines in the default price cap or expected investment requirement approaches.

Providing the right signals for investment

On the investment signalling score, the PCG-based approach would be no worse than the status quo as either will ensure adequate funding for necessary investments. In fact, the PCG approach may be superior in two respects. The intimate involvement by airport users in the initiation and development of investment proposals provides an opportunity for intense signalling between airport and users. Opportunities for strategic behaviour, which can obscure and distort some investment signals, would be greatly reduced using the PCG method.

Relying on negotiation between users and service providers to the greatest extent possible

The PCG-based scheme contemplated here provides for negotiation between users and service providers to a greater extent than any of the other schemes considered. It explicitly requires that a PCG comprised of airlines and the airport be formed and that it present a forum in which the following issues can be negotiated:

- the design stage of projects, considering input from airport users and the operator prior to the development of costing;
- assessing the costs of projects and reaching agreement between user and the operator on the level of costs associated with the project; and
- reviewing the ‘actual’ cost of projects upon completion in order to determine the basis for any increased charges.

Simplifying regulatory involvement in investment approval

The PCG approach should improve the investment approval process because it invites the airlines to express their preferences and explore tradeoffs with other players at an early stage of the decision making process. It also offers one important benefit for the regulator: the airlines and airports will have addressed a substantial number of the issues involved in formulating the investment plan before it is submitted to the regulator, making the regulator’s task a simpler one.

The airport may incur some upfront costs in setting up the PCG but once the standing group has been formed, given its continuity of membership, the benefits of a streamlined, non-adversarial process should easily outweigh any administrative costs imposed by consultative activity.

6 Conclusion

The challenge faced in designing an appropriate regulatory regime for airports is the common one of balancing monopoly power-curbing objectives with the objective of providing incentives for efficient decisions by the facility owner, including in terms of ensuring efficient levels of investment and not distorting competition between airlines.

The current airports regulatory regime uses price caps as a means of curbing the monopoly power of airports and deals with the investment problem by setting minimum investment standards. However it is also recognised that the incentive of additional revenue is needed to elicit some new investments in a timely fashion or at socially optimal levels, particularly those investments related to quality and capacity enhancement.

Whatever form this additional incentive takes it will ultimately have to be funded by increased user charges, whether through cost pass-through funding or adjustments to price cap parameters. This creates an 'approval' problem because the new investments funded through the additional incentive scheme should ideally involve the vesting of some approval authority with the airlines and/or the regulator so as to avoid abuse of process by the airports. The approval problem arises because bargaining prior to approval of new investment as between the airports and airlines and among the airlines themselves is likely to lead to the manifestation of the following strategic behaviours:

- Proposals to bundle necessary and unnecessary investments;
- Hold-up;
- Cheap riding;
- Forced riding and raising rivals' cost strategies;
- Barriers to airline entry;
- Suboptimal provision of club goods.

The following options for treating new investments under the airport regulatory regime have been canvassed:

- Status quo: regulator approval of investment with cost passthrough funding;
- Price cap parameters set on basis of expected investment requirements;
- Project Control Group approval process with cost passthrough funding;
- Project Control Group approval process with adjustable price cap parameter funding.

The options have been evaluated in terms of their ability to efficaciously meet regulatory objectives and deal with the strategic behaviours described. Each option represents a particular combination of one of two different approval processes, and

one of two different methods of price-regulating the additional revenue. The approval process adopted by each individual option (regulator approval or Project Control Group approval) is most relevant to the option's ability to address the strategic behaviour problems, whereas the price-regulation adopted by each option (cost passthrough or price cap adjustment) is most relevant to the magnitude of likely incentive effects induced by each option.

The Project Control Group approval process with adjustable price cap parameter funding arguably provides the best approach for treatment of new investments under the airport regulatory regime. However, the efficaciousness of this option will depend on the specific design features of the approval process, in particular striking the right balance between an agreement rule that tends towards unanimity and one that tends towards simple majority approval.