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**Sydney Airport: performance and potential
competition from a second airport**

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by Andrew Haylen

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Sydney Airport: performance and potential competition from a second airport

by

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CONTENTS

SUMMARY	iii
1. INTRODUCTION.....	1
2. AIRPORT PRIVATISATION AND MARKET POWER	2
2.1 Sydney Airport's privatisation and regulation	2
2.1.1 Terms of the Sydney Airport's privatisation.....	3
2.2 Airport market power	4
2.2.1 Determinants of an airports market power	4
2.2.2 The effect of market power on pricing and efficiency	6
2.3 Limitations to market power for Australian airports	8
3. ACCC AIRPORT MONITORING REPORTS.....	10
3.1 Purpose of the ACCC Airport Monitoring Reports	11
3.2 Productivity Commission Review into the Economic Regulation of Airport Services	12
3.3 Recent trends and performance outcomes at Sydney Airport	13
3.3.1 Price monitoring results.....	14
3.3.2 Airport profitability	16
3.3.3 Airport costs and investment.....	18
3.3.4 Airline ratings of quality of service.....	20
3.4 ACCC assessment of Sydney Airport's performance	22
3.5 Productivity Commission findings related to market power at Australian Airports	25
3.6 Sydney Airport Master Plan 2033.....	26
4. ECONOMICS OF AIRPORT COMPETITION	27
4.1 How do airports compete?	28
4.2 Efficiency and pricing with airport competition.....	29
4.3 Competition as a substitute for regulation	31
4.4 Why are secondary airports generally cheaper?	32

4.5	Limitations to second airport entry and competition	34
5.	EMPIRICAL ANALYSIS AND INTERNATIONAL CASE STUDIES	35
5.1	United States.....	36
5.2	Europe.....	37
5.3	Other theoretical and empirical case studies.....	41
5.4	Summary of case study findings	42
6.	CONCLUSION	43

SUMMARY

On the 3rd April 2014, the Australian Competition and Consumer Commission (ACCC) published their latest airport monitoring data which showed that Sydney Airport had again underperformed across a number of key investment and service indicators in 2012-13 when compared to Australia's other major airports. Yet it continues to obtain the highest revenue per passenger for its aeronautical services, while maintaining the negative growth in its operating costs. The result of which has been further growth in operating margins, or 'profits'.

The ACCC and the Productivity Commission have both concluded that Sydney Airport possesses considerable market power for its domestic and international aeronautical services. However, the ACCC has not determined conclusively that Sydney Airport has misused its market power; nor has this been suggested by the Productivity Commission.

After many years of planning and indecision, on Tuesday 15th April 2014 Badgerys Creek was approved by cabinet and confirmed by Prime Minister Tony Abbott as the location of Sydney's second airport.

In 2002 as part of the privatisation agreement with the federal government, the current owners of Sydney Airport acquired the first right of refusal to build and operate any second major airport within 100 kilometres of the Sydney Central Business District. This option is yet to be formally taken up by Sydney Airport Corporation Limited.

While the economic and employment benefits from a second airport are significant and have been well [documented](#), an aspect of the debate that has yet to be considered in detail is that of airport competition.

The development of a second Sydney airport at Badgerys Creek, with both domestic and international facilities, will not only ease aeronautical capacity constraints in the Sydney region, but provide a viable alternative for airlines that have had to rely solely on Kingsford Smith for aeronautical access into Sydney.

A second airport at Badgerys Creek, in the long run and under separate ownership, has the potential to curb the market power of Kingsford Smith Airport and create a more competitive airport market in the Sydney region. The end result of this may be more efficient aeronautical pricing and service quality outcomes at Kingsford Smith Airport.

Airport Privatisation and Market Power

The Productivity Commission (2007) found that Brisbane, Melbourne, Perth and Sydney airports possess substantial market power, mostly because of the lack of substitutability between airport services. Sydney Airport in particular, which is capacity constrained and is a major hub for connecting traffic, has virtually no competition from other airports in the region and there are no comparable land-based transportation options. **[2.2.1]**

The Productivity Commission (2002) also concluded that in the absence of any effective constraints or regulation, major airports (which are monopolists without

any direct competition) will generally have an incentive to exercise their market power to maximise profits.

To achieve persistently higher profits, an unregulated monopoly airport, over the long run, might be expected to set prices for aeronautical services above the full cost of their provision (including normal profits); it might also allow quality to fall over time through cost-saving measures and by delaying investment. It should be noted that Australian airports are subject to limited regulation in the form of price and service quality monitoring by the ACCC; a process periodically subject to review by the Productivity Commission. **[2.2.2]**

ACCC Airport Monitoring Reports

According to the ACCC (2010), Sydney Airport possesses a high degree of market power in domestic markets; and as the main international gateway airport, it is likely to have even greater market power than other Australian airports for international traffic.

In comparing the expected price and service quality outcomes against the monitoring results for each of the other airports, the ACCC (2010) considered that Sydney Airport might be earning monopoly rents from its aeronautical services. The ACCC (2011) also concluded that Sydney Airport's insufficient investment in aeronautical infrastructure, while undertaking significant investment in non-aeronautical services, is consistent with the airport exercising its market power.

In subsequent reports the ACCC has not demonstrated a misuse of market power by Sydney Airport, citing data and information limitations as reasons preventing a comprehensive assessment of market power. **[3.4]**

The Productivity Commission (2011) did make some broad assessments of the misuse of market power at Australian airports with respect to a range of pricing, investment and service quality indicators. Across each of these individual indicators alone, the Productivity Commission did not find that the Australian airports had misused their market power.

Despite a lack of conclusiveness around the misuse of market power at Sydney Airport, its price, investment and service quality monitoring results remain relatively weak when compared to the other monitored Australian airports and have, for the most part, not improved since the Productivity Commission report was published in 2011. **[3.4, 3.5]**

Economics of airport competition

Normally the expectation is that an increase in competition would be economically beneficial through improved price and service quality outcomes. This is not always the case in the airport market and is dependent on various structural and locational characteristics of the respective airports.

However, if a secondary airport is established and takes traffic away from a primary airport which is facing excess demand, its entry will lead to a more efficient allocation of flights to airports in the region. For Sydney airport, which

was forecast (by the [Joint Study on Aviation Capacity for the Sydney region](#)) to have excess demand in the coming years, this is likely to be the case.

When a second airport enters into the market, it may be able to offer lower charges than the primary airport because it is either more efficient or flexible to the requirements of the low cost airlines. The monopoly status of primary airports may have meant that they were not previously minimising their costs and there is scope to reduce the overall level of aeronautical service charges to airlines.

The threat of an airline switching airports also provides a direct and powerful competitive constraint for airports. If an airport loses an airline customer to a competitor, it can incur both a loss of aeronautical and non-aeronautical revenue, as fewer passengers visit the shops and other retail facilities or use car parks at the airport. Consequently, aeronautical revenue losses will translate disproportionately into reduced profitability. **[4.1]**

Forsyth (2013) suggests that the introduction of a second Sydney airport with separate owners will create competition for Kingsford Smith Airport but it is inconclusive whether the gains from having a duopoly will be that substantial. It should be reiterated that Sydney Airport have the first right of refusal to build and operate an airport at Badgerys Creek; the proposition and extent of airport competition in the Sydney region is dependent on whether Sydney Airport Corporation Limited formally take up that option. **[4.2]**

Forsyth (2006) also believes that strong competition between airports can be a good substitute for economic regulation; this proposition is also supported by other theoretical and empirical studies. **[4.3]**

Empirical Analysis and International Case Studies

While the breadth of research into the specific issue of airport competition remains limited, a number of key areas of consensus can be highlighted from recent empirical and theoretical studies.

The most important of which is the finding that airport competition has the ability to improve various forms of pricing (including landing fees and airfares) at primary and secondary airports. This was shown by Van Dender (2007) and Brueckner et al. (2014) to be the case in the United States; and by Bel and Fageda (2009) to be the case in Europe. Haskel et al. (2013) also showed this by developing a theoretical model of airport competition.

A considerable number of empirical studies also showed that competition had the ability to improve airport productivity and efficiency across multiple jurisdictions. Yan and Winston (2014) showed this for airports in the San Francisco Bay area of the United States; while D'Alfonso et al. (2013), Merkert & Mangia (2014), Adler & Liebert (2014) illustrated this for European airports. Chi-Lok & Zhang (2014) were also able to show, from a sample of Chinese airports, that airports with more competition are more efficient than their counterparts

While studies (Haskel et al. (2013) and Yan & Winston (2014)) did show that

competition had the ability to improve pricing and efficiency at airports, the benefits obtained from such improvements were largely absorbed by the airlines and not by the passengers. Brueckner et al. (2014) did however show positive spill over effects from competition in terms of airfares.

A number of other studies (Hancioglu (2008); Bel & Fageda (2009); and Adler & Liebert (2014)) were able to show that airport competition, under certain circumstances, was an effective substitute for economic regulation.

Many of the studies, however, concluded that the nature and extent of these price, efficiency and regulatory benefits varied according to various locational and structural factors in an individual airport catchment. **[5.1, 5.2, 5.3]**

Note that the focus of this paper is on the issue of competition and the literature relating to it. It is acknowledged that the second airport question might also be considered from the perspective of the potential benefits of common ownership.

[4]

1. INTRODUCTION

After many years of planning and indecision, on Tuesday 15th April 2014 Badgerys Creek was approved by cabinet and confirmed by Prime Minister Tony Abbott as the location of Sydney's second airport.

It has been well [documented](#) that the economic and employment benefits from this second airport will be significant.¹ An aspect of the debate that has not been considered in detail is that of secondary airport competition and the effect ownership arrangements may have on the performance of both Kingsford Smith Airport and the prospective Badgerys Creek facility.

The airport's specific ownership and operational details are yet to be confirmed by the Government. However, under the terms of Sydney Airport's privatisation in 2002, its current owners (Sydney Airport Corporation Limited) have the first right of refusal to build and operate the airport at Badgerys Creek.² Chairman Max Moore-Wilton has not formally confirmed that it will take up this option, but has indicated that the airport will work with the Government to develop a business plan for the new facility.

Just weeks before Prime Minister Abbott's announcement, the Australian Competition and Consumer Commission (ACCC) published their latest airport monitoring report which found that, when compared to Australia's other major airports, Sydney Airport had again underperformed across a number of key pricing, investment and service indicators in 2012-13.

Given the market power Sydney Airport possesses,³ such results raise questions about its ongoing performance and whether common ownership of both Sydney airports is economically the most suitable arrangement.

This paper does not endorse or confirm whether common or separate ownership arrangements are most suitable in the context of Badgerys Creek airport. Rather, its aim is to discuss, at a theoretical level, the effect airport competition may have on pricing and efficiency outcomes at airports in overlapping catchments. As a preliminary to that discussion, this report presents findings from both the ACCC and Productivity Commission concerning the recent operational performance of Sydney Airport and whether it has misused its market power.

The final section of the paper then draws together theoretical and empirical literature to present a number of international examples of airport competition in

¹ For more information about recent policies and reports see: Haylen, A., [A second Sydney airport: Policy developments, reports and key findings](#), 2014, Issues Background 04/2014

² Australian National Audit Office, [The Sale of Sydney \(Kingsford Smith\) Airport](#), 2002, Audit Report No.43 2002-03, Performance Audit

³ This has been acknowledged by both the Productivity Commission (2011) and the ACCC (2010) in their respective reports referenced later in the briefing paper.

Europe and the United States. The result of which is to provide some insight into the effect of competition on primary and secondary airports; and ultimately how these outcomes may relate to Sydney following the development of a second airport at Badgerys Creek.

2. AIRPORT PRIVATISATION AND MARKET POWER

The natural monopoly characteristics of major airports in Australia provide them with a market power that may be exercised if not otherwise constrained or regulated.⁴

The Australian Government acknowledged this⁵ and to increase market transparency, it established regulatory arrangements in 2002 that involved the monitoring of aeronautical prices, costs, profits and quality of service for the major airports, including Kingsford-Smith. Under Part VIIA of the [Trade Practices Act 1974](#), the ACCC performs this function. These regulatory arrangements are periodically reviewed by the Productivity Commission.

By drawing upon analysis from the ACCC annual airport monitoring reports and other literature, this section of the paper briefly summarises the concepts of market power and discusses the effects it may have on aeronautical pricing and efficiency at airports. As a preliminary to that analysis, this section of the paper will briefly outline details of the privatisation of Sydney Airport in 2002, including its first right to develop Badgerys Creek Airport that was negotiated as part of the terms of its privatisation.

2.1 Sydney Airport's privatisation and regulation

The issue of airport market power in Australia, and specifically its possible exertion by operators at Sydney Airport, has only come to the fore in the last decade or so. Prior to 2002, Sydney Airport was owned and operated by the federal government and airport charges were regulated as a result.⁶

The sale of airports in Australia occurred through a process of competitive tendering for long term leases for the management and operation of all federally controlled airports. Sydney Airport was sold through a tender process in 2002 following the earlier sales of Brisbane, Perth and Melbourne airports in 1997.⁷ The sale of Sydney Airport was completed for a purchase price of \$4.233 billion.

⁴ Australian Competition and Consumer Commission, [Airport Monitoring Report 2008-09](#), 2010, p.17

⁵ Productivity Commission, [Economic Regulation of Airport Services](#), 2011, Inquiry Report No. 57, 14 December 2011, p. xxi

⁶ Zakrzewski, D., [Assessing privatized airport performance from stakeholder viewpoints: A study of Sydney Airport](#), 2009, Performance Measurement and Management Control: Measuring and Rewarding Performance Studies in Managerial and Financial Accounting, Volume 18, p.255

⁷ O'Donnell, M, Glennie, M, O'Keefe, P, and Kwon, S., [Privatisation and 'Light-Handed' Regulation: Sydney Airport](#), 2011, The Economic and Labour Relations Review Vol. 22 No.1, p.67

The proceeds of the sale of the airport were used to reduce government debt. The successful consortium also repaid previous debt worth \$1.35 billion, taking the government's total revenue from the sale of Sydney Airport to approximately \$5.6 billion.⁸

However, following its privatisation in 2002 there were widespread concerns that, without sufficient economic regulation, Sydney Airport's position as a natural monopoly could be exploited.

In recognition of the considerable market power held by Sydney Airport and the other major airports in Australia, as it began to privatise airports from 1997 the federal government introduced price controls, in the form of price caps, on airport charges. Following the publication of the Productivity Commission's 2002 report [Price Regulation of Airport Services Inquiry Report](#), such price regulations were greatly reduced and an alternative 'light-handed' approach to regulating airport prices was introduced.⁹

The previously imposed price caps were subsequently abolished at all capital city airports. The 'light-handed' approach involved a regime of monitoring aeronautical and related services at Australia's major airports. Where such charges were found to be excessive and to represent an abuse of market power, the federal government retained the right to reimpose strict price controls.¹⁰

The Productivity Commission (2002) believed that the development of commercial relationships between airports and commercial airlines represented a better basis than price regulation for managing charges for aeronautical services.¹¹ A 'light-handed' monitoring regime was, according to Schuster (2009), considered capable of providing a check on the use of market power without the intrusions and errors that typify formal price regulation, such as cost-based or price cap.¹²

2.1.1 Terms of the Sydney Airport's privatisation

In 2002 as part of the privatisation agreement with the Government, the current owners of Sydney Airport acquired the first right of refusal to build and operate any second major airport within 100 kilometres of the Sydney Central Business District.¹³ This is a contractual right that gives Sydney Airport Corporation

⁸ Ibid

⁹ O'Donnell, M, Glennie, M, O'Keefe, P, and Kwon, S., [Privatisation and 'Light-Handed' Regulation: Sydney Airport](#), 2011, The Economic and Labour Relations Review Vol. 22 No.1, p.70

¹⁰ Productivity Commission, [Review of price regulation of airports services](#), 2007, Inquiry Report

¹¹ Productivity Commission, [Price Regulation of Airport Services Inquiry Report](#), 2002

¹² Schuster, D., [Australia's approach to airport charges: The Sydney Airport experience](#), 2009, Journal of Air Transport Management 15, p.122

¹³ Australian National Audit Office, [The Sale of Sydney \(Kingsford Smith\) Airport](#), 2002, Audit Report No.43 2002-03, Performance Audit

Limited the first option to build and operate the airport at Badgerys Creek before the Government is entitled to enter into that transaction with an alternate third party.

While the owners of Sydney Airport have this first right of refusal, this option is yet to be formally taken up and consequently a decision has not been made regarding specific ownership and operational arrangements at the prospective Badgerys Creek airport.

Despite Sydney Airport Chairman Max Moore-Wilton's long-term campaign against building an airport at Badgerys Creek, in a speech at the corporation's annual general meeting, he acknowledged the first right to accept the offer was "very valuable". While Sydney Airport has not formally confirmed its intention to take up this option, Max Moore-Wilton told shareholders that it had a responsibility to work with the federal government on a constructive and commercial basis; confirming that Sydney Airport will develop a business plan for the new facility.¹⁴

Chief Executive Kerrie Mather confirmed that Sydney Airport had held preliminary talks with the federal government the airport at Badgerys Creek but a period of formal negotiations was yet to begin. Ms Mather also stated that the nature and scope of the proposed airport had yet to be determined.¹⁵

2.2 Airport market power

2.2.1 Determinants of an airports market power

In the past, most major airports (including Australia's) were owned and operated by government or public sector agencies; this was partly because airports were regarded as a natural monopoly, unable to sustain competition and characterised by substantial economies of scale (that is, as airport capacity is increased, long-run average costs fall).¹⁶

While the notion of airports being natural monopolies has been disputed and may not hold for all airports,¹⁷ their market power is likely to come from the fact that it takes several decades to plan, environmentally review and construct a new airport, especially near a major metropolitan area. Starkie (2002) highlights the opportunity cost of land and the associated political opposition as key

¹⁴ ABC News, [Sydney Airport flags interest in building Badgerys Creek airport](#), 16 May 2014

¹⁵ Australian Financial Review, [Sydney Airport in talks over Badgerys Creek \\$2.5b airport](#), 15 May 2014

¹⁶ Starkie, D., [Airport regulation and competition](#), 2002, Journal of Air Transport Management, Issue 8, p.65

¹⁷ For more discussion see: Oum, T, and Fu, X., [Impacts of Airports on Airline Competition: Focus on airport performance and airport-airline vertical relations](#), 2009, OECD Transport Forum, Round Table 145; Adler, N, and Liebert, V., Joint impact of competition, ownership form and economic regulation on airport performance and pricing, 2014, Transportation Research Part A 64, p.94; and

constraints to competitive airport entry:¹⁸

As existing airports grow and become big, they attract complementary activities (airfreight distribution centres, leisure industries etc) and these, in turn, attract a resident workforce with its supporting urban infrastructure. This pushes up the opportunity cost of land in the vicinity of the existing airport and, consequently, the costs of land assembly for new runways and terminals. It also means that there are increasing costs of noise, air pollution and congestion, which, on the whole, are not borne by the incumbent airport business.

In terms of its operations, an airport typically has market power if it has the ability to raise prices above long-run costs (including normal profits) for a significant period of time; and if there is a weak price elasticity of demand for an airport's services.¹⁹ This is essentially a measure of the responsiveness of demand (from airlines and passengers) to changes in aeronautical and non-aeronautical prices.²⁰ For example, where demand is inelastic, airports can increase their aeronautical charges substantially without losing much traffic from airlines.

In their [report](#) for the OECD Transport Forum, Oum and Fu (2009) examine other factors affecting actual market power which include:

- Airport capacity available in the region as compared to demand;
- Airline market structure and competition at the airport and in the region;
- Share of connecting passengers;
- Intermodal competition, especially between airlines and high-speed rail;
- The extent and nature of competition with other airports, whose traffic catchment areas overlap significantly with the airport under consideration.

Starkie (2002) emphasises the role of airline market structure as a determinant of an airport's market structure:²¹

In general terms, an airport is likely to have most market power in relation to networked airline services wherein economies of scale and scope are pronounced. It is likely to have least market power in the low-cost carrier, point-to-point and inclusive tour charter market.

In identifying the availability of nearby substitute airports as another key

¹⁸ Starkie, D., [Airport regulation and competition](#), 2002, Journal of Air Transport Management, Issue 8, p.65

¹⁹ Australian Competition and Consumer Commission, [Airport Monitoring Report 2008-09](#), 2010, p.17

²⁰ Copenhagen Economics, [Airport Competition in Europe](#), 2012, p.123; The demand for a good is price elastic when a one per cent change in the price of the good results in more than one per cent change in the quantity of the good demanded. Otherwise, the demand is called inelastic. High demand elasticity is a sign of competition in the market and low elasticity may signal that a firm has a significant market power.

²¹ Starkie, D., [Airport regulation and competition](#), 2002, Journal of Air Transport Management, Issue 8, p.67

determinant of an airports market power, Starkie (2002) confirms that:

...the degree of market power that an airport has will be determined largely by the availability of proximate airports that are able to act as close substitutes. Consequently, the answer to the question: 'how much market power does an airport have' is circumstantial; it has to be answered on a case by case basis.

The Productivity Commission (2007) found that Brisbane, Melbourne, Perth and Sydney airports possess substantial market power, mostly because of the lack of substitutability between airport services.²² This was reaffirmed in the more recent 2011 Inquiry report:²³

...the Commission has received no evidence to suggest that, since 2006, there has been a material change in the facilities or services over which airports will potentially have market power.

The Productivity Commission (2011) concluded in Finding 5.1 that the market power held by Australian Airports was still a policy concern:²⁴

The continued growth of low-cost carriers, overseas national airlines and competition from some secondary airports have reduced the potential for airports to exploit market power. Nevertheless, Brisbane, Melbourne, Perth and Sydney Airports retain sufficient market power to be of policy concern.

Sydney Airport in particular, which is capacity constrained and is a major hub for connecting traffic in Australia, has virtually no competition from other airports in the region and there are no other viable land-based transportation options (such as high-speed rail).

2.2.2 The effect of market power on pricing and efficiency

In the absence of any direct competition, a single firm with market power has an incentive to restrict output, raise prices and achieve a level of profit in excess of that required to provide a satisfactory return on capital.²⁵

With respect to the behaviour of monopolistic airports, the ACCC (2010) concluded that:²⁶

In the absence of any effective constraints, the major airports will have an

²² Productivity Commission, [Review of price regulation of airports services](#), 2007, Inquiry Report

²³ Productivity Commission, [Economic Regulation of Airport Services](#), 2011, Inquiry Report No. 57, 14 December 2011, p. 84

²⁴ Productivity Commission, [Economic Regulation of Airport Services](#), 2011, Inquiry Report No. 57, 14 December 2011, p.82

²⁵ Starkie, D., [Airport regulation and competition](#), 2002, Journal of Air Transport Management, Issue 8, p.64; Adler, N, and Liebert, V., [Joint impact of competition, ownership form and economic regulation on airport performance and pricing](#), 2014, Transportation Research Part A 64, p.93

²⁶ Australian Competition and Consumer Commission, [Airport Monitoring Report 2008-09](#), 2010, p.18

incentive to exercise their market power to maximise profits. This could potentially lead to inefficient outcomes relating to prices and quality of service that would not occur in a competitive environment.

Competitive market outcomes thus provide a point of comparison against which a monopolist's behaviour can be assessed. Generally speaking, competition places downward pressure on prices and acts as a catalyst for cost reductions and quality improvements.²⁷ This is because a firm that faces competition would be less likely to reduce its quality without a compensating reduction in price. Customers affected by substandard quality might otherwise switch to a competitor which provides a market discipline on the service quality provided by the firm.²⁸

In a competitive market, a rise in prices above long-run costs (which include 'normal' profits)²⁹ will signal the opportunity for profitable investment. For this and the aforementioned reasons, the ACCC (2010) concluded that competition promotes efficiency and improved service quality at airports.³⁰

In contrast, the ACCC (2010) describes the pricing and quality outcomes under a monopolistic firm as follows:³¹

A monopoly does not have an incentive to set prices at an efficient level because there is no competitive discipline on the firm's decisions. A monopolist does not worry about how and whether other firms will respond to its prices. The firm's profits depend only on the behaviour of consumers, its cost function, and its prices or the amount supplied.

To achieve persistently higher profits for a significant period of time, it is expected that a monopoly airport would set prices for aeronautical services above the full cost of their provision. This outcome could create so-called monopoly deadweight losses if the use of aeronautical services is below that which could be expected in a competitive market. In this situation, there are 'units of output' not being supplied for which the opportunity cost of supply is less than a user's willingness to pay. This is not efficient as additional supply would confer greater benefits on users than the cost of its provision.

An airport with market power might also have an incentive to permit quality to

²⁷ Starkie, D., [Airport regulation and competition](#), 2002, Journal of Air Transport Management, Issue 8, p.63

²⁸ Australian Competition and Consumer Commission, [Airport Monitoring Report 2008-09](#), 2010, p.20

²⁹ Normal profits are a component of (implicit) costs and not a component of business profit. It represents the opportunity cost, as the time that the owner spends running the firm could be spent on running another firm. The enterprise component of normal profit is thus the profit that a business owner considers necessary to make running the business worth his/her while i.e. it is comparable to the next best amount the entrepreneur could earn doing another job.

³⁰ Australian Competition and Consumer Commission, [Airport Monitoring Report 2008-09](#), 2010, p.18

³¹ Australian Competition and Consumer Commission, [Airport Monitoring Report 2008-09](#), 2010, p.19

fall over time through cost-saving measures (such as reducing staff and maintenance levels) and by delaying investment. This is equivalent to an airport charging higher prices for a constant level of quality.³² The Productivity Commission (2002) concluded that airports with market power have an incentive to delay investment or to allow quality to deteriorate.³³

It should be noted that for a capacity constrained airport, as long as the restricted capacity is fully utilised, any excessive returns will reflect scarcity rents, not monopoly profits. The main distinction between the two is that scarcity rents do not create deadweight losses as the quantity supplied at a capacity constrained monopoly airport is the same as that which might be supplied at a competitive airport. Nevertheless, airlines would be prepared to pay a premium (based on the scarcity at the airport) to benefit from gaining unhindered access to airport facilities. The benefits to airport operators from increasing prices significantly above costs during periods of excess demand to ration capacity can be therefore be characterised as scarcity rents.³⁴

The ACCC (2010) acknowledged the capacity constraints at Sydney Airport and the potential for its operators to extract scarcity rents.³⁵

It seems that capacity constraints and, consequently, the potential for scarcity rents would be most apparent at Sydney Airport given the combination of significant land constraints, high demand in peak periods, regulations that only allow up to 80 planned movements per hour (excluding emergency and state aircraft), and the curfew and noise restrictions in place.

2.3 Limitations to market power for Australian airports

While there is evidence to suggest that market power may have led to inefficient price and quality outcomes at Sydney airport, the ACCC (2010) highlights a few regulatory and economic constraints which may limit an Australian airport's ability to exert this market power.

Aside from the periodic regulatory oversight provided by the ACCC and Productivity Commission, airlines are protected, in part, by the [Trade Practices Act 1974](#) (TPA) and specifically the general provisions of the national access regime. Part IIIA of the TPA provides legislative mechanisms for third parties to seek access to the services provided by means of nationally significant infrastructure.³⁶ Part IIIA is designed to protect access seekers that have been

³² Australian Competition and Consumer Commission, [Airport Monitoring Report 2008-09](#), 2010, p.20

³³ Productivity Commission, [Price regulation of airport services](#), 2002, Inquiry Report, p. xlx

³⁴ For more information see: Australian Competition and Consumer Commission, [Airport Monitoring Report 2008-09](#), 2010, p. 19; ³⁴ Productivity Commission, [Economic Regulation of Airport Services](#), 2011, Inquiry Report No. 57, 14 December 2011, p.83

³⁵ Australian Competition and Consumer Commission, [Airport Monitoring Report 2008-09](#), 2010, p. 19

³⁶ Productivity Commission, [Review of price regulation of airports services](#), 2007, Inquiry Report, p. 2

unreasonably denied access to those services or have been offered those services on inappropriate terms. In other words, this mechanism was intended to provide additional encouragement for airports to enter into commercially reasonable agreements on pricing and terms of use.³⁷

The ACCC (2010) states that the threat of declaration under Part IIIA as a 'mechanism of last resort' for airlines might affect airports' commercial decisions. For example, an attempt by an airport to set prices significantly above that which the ACCC would set in a Part IIIA arbitration would provide an airline with an incentive to seek declaration. However, as observed by the ACCC (2010):³⁸

...the effectiveness of the threat of declaration under Part IIIA as a means to address concerns about the use of monopoly power might be limited by the considerable costs, time and uncertainty associated with seeking declaration.

Complementarity between the provision of non-aeronautical and aeronautical services³⁹ may appear to provide an economic incentive for airports to limit the exertion of market power on aeronautical services. This is because most of the non-aeronautical revenue would obviously not be generated without aeronautical facilities. However, the low elasticity of demand for aeronautical services, induced by a lack of competition (particularly in Sydney), means there would need to be substantial price increases to have a notable effect on passenger usage at airports.⁴⁰

Alternatively, if airlines have sufficient countervailing market power they might be able to place pressure on an airport to achieve competitive price and quality outcomes. The negotiating power of the airline is closely associated to the airline's share of flights in that particular airport and to the contribution of connecting passengers that the airline brings to the airport.⁴¹

To illustrate, the market power of a monopoly airport could be curtailed if one airline dominates the aeronautical traffic at an airport. The dominant carrier in this case can turn the airport-airline relation into one of bilateral-monopoly. The dominant airline and the airport both command market power, with the negotiated outcome between an equally powered buyer and seller usually more efficient.⁴² In reality, Oum and Fu (2009) argue that it is more likely that a

³⁷ Schuster, D., [Australia's approach to airport charges: The Sydney Airport experience](#), 2009, Journal of Air Transport Management 15, pp.123

³⁸ Australian Competition and Consumer Commission, [Airport Monitoring Report 2008-09](#), 2010, p.22

³⁹ Passengers using airport facilities are also likely to spend on food and other retail services.

⁴⁰ Productivity Commission, [Review of price regulation of airports services](#), 2007, Inquiry Report

⁴¹ Bel, G, and Fageda, X., [Factors Explaining Charges in European Airports: Competition, Market Size, Private Ownership and Regulation](#), 2009, FEDEA Working Paper 31

⁴² Oum, T, and Fu, X., [Impacts of Airports on Airline Competition: Focus on airport performance and airport-airline vertical relations](#), 2009, OECD Transport Forum, Round Table 145; Starkie, D., [Airport regulation and competition](#), 2002, Journal of Air Transport Management, Issue 8, p.66

monopoly airport may take advantage of the hub carrier's inability to move away from a natural hub airport.

The market power of an airline, or set of airlines, is consequently dependent on there being a viable airport alternative. If there is, the airlines may be able to influence airport pricing decisions with a threat of withdrawal; albeit at a substantial cost.⁴³ With the exception of Melbourne and Brisbane (which have Avalon and Gold Coast airports respectively), all of Australia's capital cities have only one airport to cater for major domestic and international civilian and freight services. In its 2007 report, the Productivity Commission stated that:⁴⁴

...airline countervailing power may well only be a modest constraint on airport charges overall [and] that the scope for either the domestic or international airlines to collectively withdraw large numbers of services from Sydney Airport is very low (with opportunities for adjustments only at the margin).

It also concluded that because of its monopoly position and importance nationally, airlines at Sydney Airport had the least scope for exerting countervailing market power on airports.⁴⁵

Given that there is considerable uncertainty as to the 'triggers' for further regulation (e.g. Part IIIA of the TPA or other government intervention), the ACCC (2010) concluded that:⁴⁶

... the airports are in a position to establish monopoly prices and service-quality levels for aeronautical services.

In particular, it seems that the airports would have an incentive to offer non-price terms and conditions without even engaging the airlines in negotiations. For example, airports might not feel compelled to negotiate service level obligations because they would be hesitant to limit their own discretion over airport operations, and service-quality outcomes can be difficult to define. Also, the fact that airlines tend to use the same aeronautical facilities would reduce an individual airline's incentive to attempt to negotiate improved non-price terms and conditions.

3. ACCC AIRPORT MONITORING REPORTS

Under the [Competition and Consumer Act 2010](#) and in conjunction with the [Airports Act 1996](#), the ACCC is responsible for monitoring the prices of

⁴³ Airlines face high establishment costs at an airport. As such, there are a number of benefits for a carrier to concentrate operations at one airport. Use of multiple airports within a catchment is likely to lead to duplication of assets and resources. For more information see: CAPA Consulting, [Airline-related cost and revenue issues at primary and non-primary airports](#), 2012, Joint Study on Aviation Capacity in the Sydney region, Appendix C10

⁴⁴ Productivity Commission, [Review of price regulation of airports services](#), 2007, Inquiry Report, p.46

⁴⁵ Productivity Commission, [Review of price regulation of airports services](#), 2007, Inquiry Report

⁴⁶ Australian Competition and Consumer Commission, [Airport Monitoring Report 2008-09](#), 2010, p.25

aeronautical services and facilities at Brisbane, Melbourne, Perth and Sydney airports. It is also responsible for providing quality of service survey measures at these monitored airports. The ACCC publish this and other data annually in their airport monitoring reports which are used to determine whether the monitored airports are misusing their market power.

These reports and the regulatory oversight provided by the ACCC are subject to periodic review by the Productivity Commission in order to examine the effectiveness and efficiency of the economic regulation and quality of service monitoring regime for airports.

While the monitoring reports continue to be endorsed by the Productivity Commission (2011) as an effective method of monitoring, they have identified weaknesses in the ACCC methodology related specifically to their quality of service survey measures.

3.1 Purpose of the ACCC Airport Monitoring Reports

As the ACCC noted in their submission to the 2011 Productivity Commission Inquiry, the monitoring program serves as a 'first step' in determining if potential abuses of market power might have occurred, and that should then be investigated further:⁴⁷

The Government's intention in adopting the monitoring regime was twofold: to enhance market transparency to assist the competitive process without the need for heavy-handed controls, and to inform the Government as to whether further price regulation or re-regulation was required.

This view was shared by the Department of Infrastructure and Transport, which also highlighted the role of monitoring in deterring abuses of market power:⁴⁸

The broad objective of price monitoring is to assist the competitive process by allowing airport customers and the community to scrutinise prices and market outcomes and to provide evidence to support claims of unjustifiable price increases. Scrutiny of the potential receipt of monopoly rents by airports, along with the threat of re-regulation, is an appropriate deterrent to the abuse of market power.

Having acknowledged these and other submissions, the Productivity Commission (2011) summarised the Airport Monitoring program as follows:⁴⁹

...the objective of the monitoring program is to serve as an early warning system, to draw attention to potential misuse of market power that may warrant further investigation, or regulation over and above the existing light-handed regime.

⁴⁷ Productivity Commission, [Economic Regulation of Airport Services](#), 2011, Inquiry Report No. 57, 14 December 2011, p. 216

⁴⁸ Ibid

⁴⁹ Productivity Commission, [Economic Regulation of Airport Services](#), 2011, Inquiry Report No. 57, 14 December 2011, p. 217

3.2 Productivity Commission Review into the Economic Regulation of Airport Services

In December 2011, the Productivity Commission published its Inquiry Report into the [Economic Regulation of Airport Services](#). This was the third review of its kind following reviews in 2002 and 2007.

The purpose of the inquiry was to examine the effectiveness and efficiency of the economic regulation and quality of service monitoring regime for airports and whether new arrangements were needed.⁵⁰ The Inquiry was also conducted in order to make recommendations in relation to the requirement for future regulation and monitoring of services.

In this report, the Productivity Commission (2011) acknowledged the important role of the ACCC through the airport monitoring reports in the economic regulation of airport services:⁵¹

The ACCC's price and quality monitoring role is fundamental to providing the information necessary to establish whether there is a prima facie case of misuse of market power. Without continuation of such evidence gathering, any show cause mechanism would have to be triggered through a complaints-based process — an arrangement that the Commission considers would be undesirable...

While the Productivity Commission (2011) recommended the continuation of the price and service quality monitoring, it acknowledged that there were methodological weaknesses in aspects of the service quality data collected:⁵²

Although included in the same monitoring reports as the price and financial data, quality of service monitoring poses some unique challenges. In particular, the subjectivity of survey responses means that quality of service results are not as amenable to objective quantification as price data. Further...factors beyond the control of the airport itself (such as the staffing of check-in counters) can have a pervasive influence on the perceived 'airport' quality of service. Such issues are not new to this inquiry, and the current methodology used by the ACCC reflects its awareness of these limitations.

Further details and stakeholder commentary around the quality of service monitoring methodological issues can be found in Chapters 7 and 10 of the Inquiry Report. Specific recommendations were made (Recommendation 10.1) regarding the quality of service monitoring, including the review and update of the objective criteria by June 2013, noting that:⁵³

⁵⁰ Productivity Commission, [Economic Regulation of Airport Services](#), 2011, Inquiry Report No. 57, 14 December 2011, p. iv

⁵¹ Productivity Commission, [Economic Regulation of Airport Services](#), 2011, Inquiry Report No. 57, 14 December 2011, p. 214

⁵² Productivity Commission, [Economic Regulation of Airport Services](#), 2011, Inquiry Report No. 57, 14 December 2011, p. 147

⁵³ Productivity Commission, [Economic Regulation of Airport Services](#), 2011, Inquiry Report No. 57, 14 December 2011, p. 233

...there is scope for improvement in pursuing monitoring methods that can more reliably discern an airline's real views on quality of service, while minimising the risk of regulatory gaming and other survey issues.

In recommending that the price and quality of service monitoring continue to until June 2020, the Productivity Commission (2011) stated that:⁵⁴

Notwithstanding the flaws in the survey methodology used for quality of service monitoring (particularly the evidence from airline surveys), the use of survey results as *one* component of monitoring is appropriate so long as it provides a context for other data obtained, and contributes to the overall evaluation of results.

The Productivity Commission (2011) also noted that:⁵⁵

Overall, the Commission considers that some level of quality of service monitoring has been a necessary complement to price monitoring, serving to 'complete the picture' by reporting on the standard of services paid for by airport charges. Given that the Commission considers price monitoring should continue (chapter 9), then it is appropriate that quality of service monitoring also be retained. This is not to say that the present quality of service monitoring must necessarily replicate its current form and methodology.

The ACCC published an updated airport quality of service monitoring [guideline](#) in June 2013. The ACCC's approach to its quality of service monitoring role is outlined in the guideline. In addition to listing the quality of service matters and criteria, the guideline also highlights: regulatory requirements under the Airports Act and Airports Regulations; objectives of quality of service monitoring; and the process used in determining the quality of service criteria and the coverage of the criteria.

3.3 Recent trends and performance outcomes at Sydney Airport⁵⁶

The ACCC (2010) in their 2008-09 Annual Airport Monitoring report stated that:⁵⁷

Sydney Airport has an incentive and ability to permit service-quality levels to fall below that which could be expected in a competitive market environment to maintain a mark-up above supply costs.

⁵⁴ Productivity Commission, [Economic Regulation of Airport Services](#), 2011, Inquiry Report No. 57, 14 December 2011, p. 234

⁵⁵ Productivity Commission, [Economic Regulation of Airport Services](#), 2011, Inquiry Report No. 57, 14 December 2011, p. 219

⁵⁶ In correspondence with the NSW Parliamentary Research Service (26 June 2014), Sydney Airport raised various concerns around the accuracy and explanation of data presented by the ACCC which have been acknowledged at various points in this section of the paper. Further details around these and other concerns were noted in their [submission](#) to the Productivity Commission in 2011.

⁵⁷ Australian Competition and Consumer Commission, [Airport Monitoring Report 2008-09](#), 2010, p.18

While the ACCC (2010) concluded that Sydney Airport might be earning monopoly rents from its aeronautical activities, this has not been definitively confirmed in subsequent monitoring reports. Nevertheless, the most recent price and service quality monitoring data published by the ACCC suggests that Sydney Airport has been underperforming across a number of key investment and service quality indicators compared to the other monitored airports in Australia.

The airport monitoring results provide indirect indicators of economic efficiency and monopolistic behaviour. In particular, airline survey information indicates whether service-quality levels are consistent with competitive-market outcomes. For the price monitoring data, however, it is difficult to interpret higher profits in terms of whether charges are generating revenue consistent with long-run costs.⁵⁸ Notwithstanding such limitations, observations from these indicators can be used to assess Sydney Airport's price, service quality and investment performance in recent years.

3.3.1 Price monitoring results

The ACCC's primary measure of the change in 'average' airport charges is aeronautical revenue per passenger (which excludes security revenue). This is because it:⁵⁹

...provides a consistent service definition, as well as a measure of the cost to airlines expressed in terms of the most significant charging unit.

At the major Australian airports, aeronautical prices increased significantly when the price caps were removed in 2002. From 2000–01 to 2002–03, aeronautical revenue per passenger increased by around 80 per cent on average for the five major Australia airports (Sydney, Melbourne, Brisbane, Perth and Adelaide).⁶⁰

Specifically, in May 2001, the ACCC approved new charges at Sydney airport which resulted in a significant increase in aeronautical revenue per passenger of about 71 per cent in 2001-02. Subsequent increases in charges at most of the monitored airports, including Sydney, have been more modest following the sharp rise in 2001-02 (Figure 1).

Between 2002-03 and 2012-13, and when adjusted for inflation, Sydney Airport's average prices increased by 15 per cent from \$11.65 per passenger. This is the lowest percentage increase in average prices (excluding security) among the five monitored airports.

Nevertheless, Sydney Airport continued to report the highest aeronautical

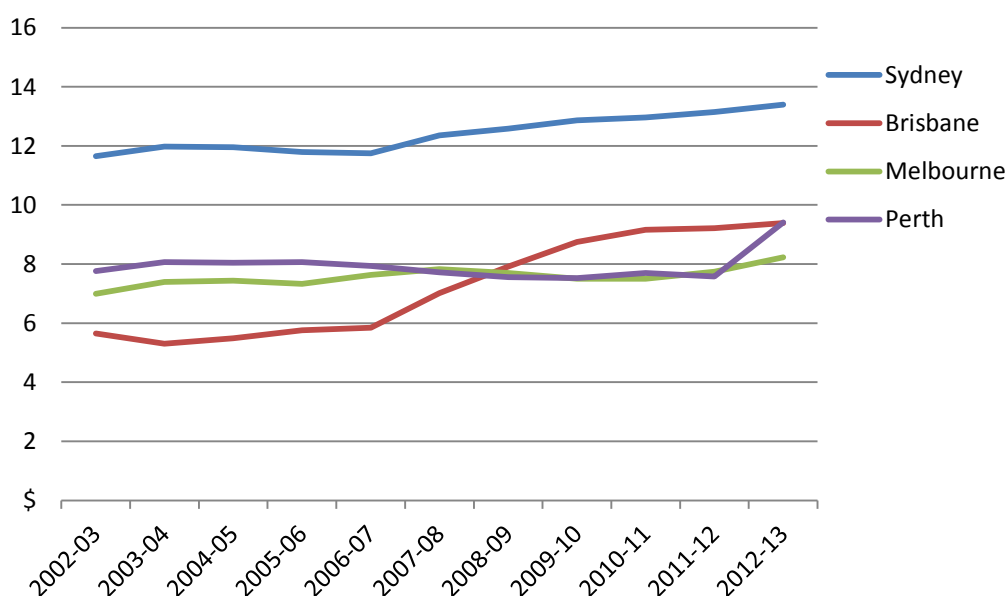
⁵⁸ Australian Competition and Consumer Commission, [Airport Monitoring Report 2008-09](#), 2010, p.25

⁵⁹ Australian Competition and Consumer Commission, [Airport Monitoring Report 2008-09](#), 2010, p.26

⁶⁰ Australian Competition and Consumer Commission, [Airport Monitoring Report 2008-09](#), 2010, p.27

revenue per passenger at \$13.39 in 2012-13, increasing by just under 2 per cent from \$13.15 per passenger in 2011-12.

Figure 1: Aeronautical revenue (excluding security revenue) per passenger, real terms⁶¹



According to the ACCC (2010), the relatively modest price increase for most of the major airports since 2002–03 does not necessarily indicate that prices were close to efficient costs over that period. Rather, the ACCC (2010) suggests that:⁶²

One possibility is that the airports were able to set prices at monopoly levels in 2002–03 and, consequently, an airport might only need to adjust prices slightly from year to year to maintain a mark-up that is significantly above costs.

With respect to price increases at Australian airports, the Productivity Commission (2011) notes that:⁶³

Given the infrastructure required to deliver most airport services, the key driver of the overall price is the level of investment undertaken at a particular airport.

In addition, with respect to price increases at Sydney and Melbourne Airports, the Productivity Commission (2011) states that:

Taken alone, these figures would not suggest misuse of market power, as — on an annual average basis — they are not markedly above the increase in CPI

⁶¹ Source: Australian Competition and Consumer Commission, [Airport Monitoring Report 2012-13](#), 2014, p.205

⁶² Australian Competition and Consumer Commission, [Airport Monitoring Report 2008-09](#), 2010, p.28

⁶³ Productivity Commission, [Economic Regulation of Airport Services](#), 2011, Inquiry Report No. 57, 14 December 2011, p. 133

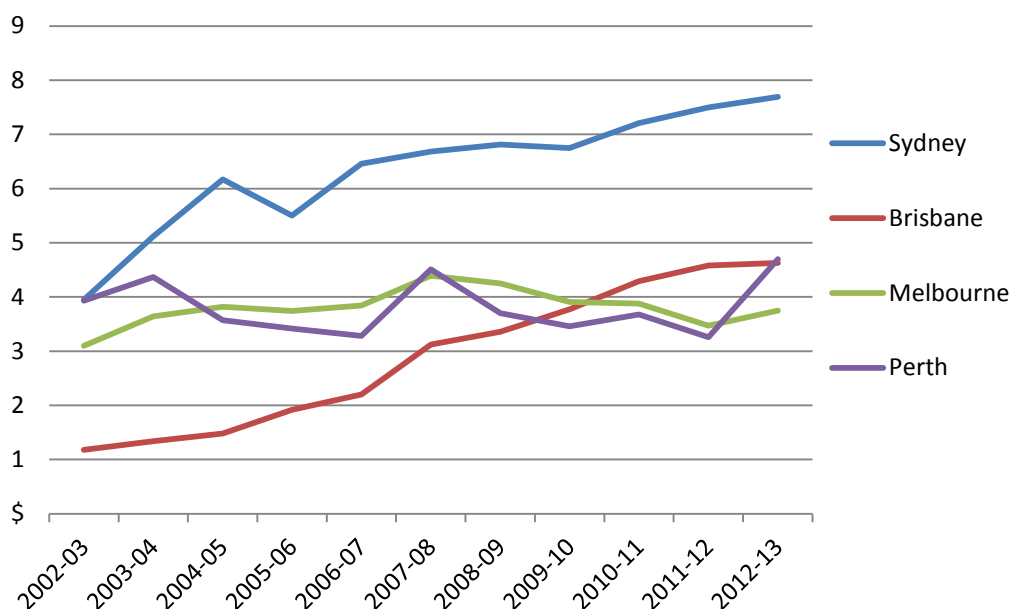
over the same period (4.4 per cent as against annual average CPI of 2.8 per cent over the period), and also reflect new investment programs by both airports.

3.3.2 Airport profitability

Profitability indicators provide insight into the operational performance of airports over time. Such indicators include operating margins per passenger and earnings (before interest and taxation) on average tangible non-current assets (that is, return on assets).⁶⁴

Operating margins (excluding security revenue and expenses) per passenger at Sydney airport have increased significantly over the last decade, particularly when compared to the other major Australian airports (Figure 2).

Figure 2: Aeronautical operating margins (excluding security revenue and expenses) per passenger, real terms⁶⁵



When adjusted for inflation, since 2002-03, Sydney Airport's aeronautical operating margin per passenger has increased by 95 per cent from \$3.95 per passenger. A large percentage of this increase occurred between 2002-03 and 2004-05. Since 2006-07, Sydney Airport's real aeronautical operating margin per passenger has only increased by 19 per cent.

Sydney Airport continued to have the highest aeronautical operating margin per passenger at \$7.69 per passenger in 2012-13, more than double that reported

⁶⁴ Source: Australian Competition and Consumer Commission, [Airport Monitoring Report 2012-13](#), 2014

⁶⁵ Source: Australian Competition and Consumer Commission, [Airport Monitoring Report 2012-13](#), 2014, p.205

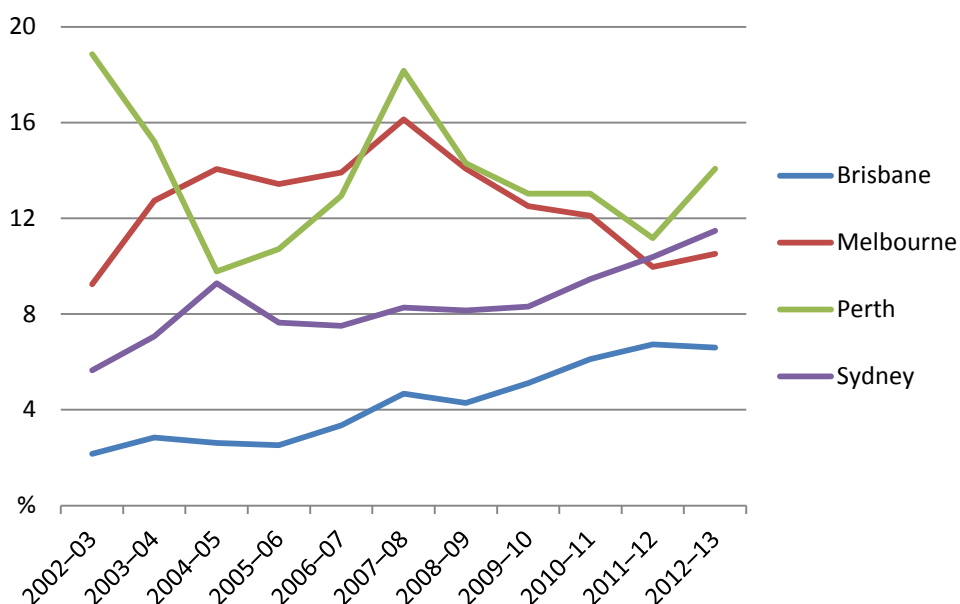
at Melbourne Airport.

The return on assets measure has the limitation of being reliant on each airport operator's valuation of its assets; the varying approaches in valuing these assets are likely to create inconsistencies. For example, in 2008–09, Brisbane Airport (with 19 million passengers) reported assets valued at \$1.4 billion, whereas Melbourne Airport (with 25 million passengers) reported assets valued at \$729 million.⁶⁶ Nevertheless, according to the ACCC (2010):⁶⁷

...trends in each airport's profitability over time (and in correspondence with trends in the operating margins) can provide some insight into the operational performance of the airports.

The rate of return on assets at Sydney airports has increased consistently following the introduction of the ACCC monitoring program (Figure 3).⁶⁸

Figure 3: Rate of return (EBITA) on tangible non-current assets for aeronautical services⁶⁹



Based on the ACCC's determination of allowable revenue, Sydney Airport's return on aeronautical assets increased from -0.6 per cent in 2000–01 to 4.3 per

⁶⁶ Australian Competition and Consumer Commission, [Airport Monitoring Report 2008-09](#), 2010, p.28

⁶⁷ Australian Competition and Consumer Commission, [Airport Monitoring Report 2008-09](#), 2010, p.30

⁶⁸ It is Sydney Airport's view that this trend does not reflect an underlying economic trend but results from an inconsistency between: the monitoring reports, which report asset values at the depreciated historic cost; and the ACCC pricing decision in 2001, which established the principle that Sydney Airport's asset values be indexed with inflation.

⁶⁹ Source: Australian Competition and Consumer Commission, [Airport Monitoring Report 2012-13](#), 2014

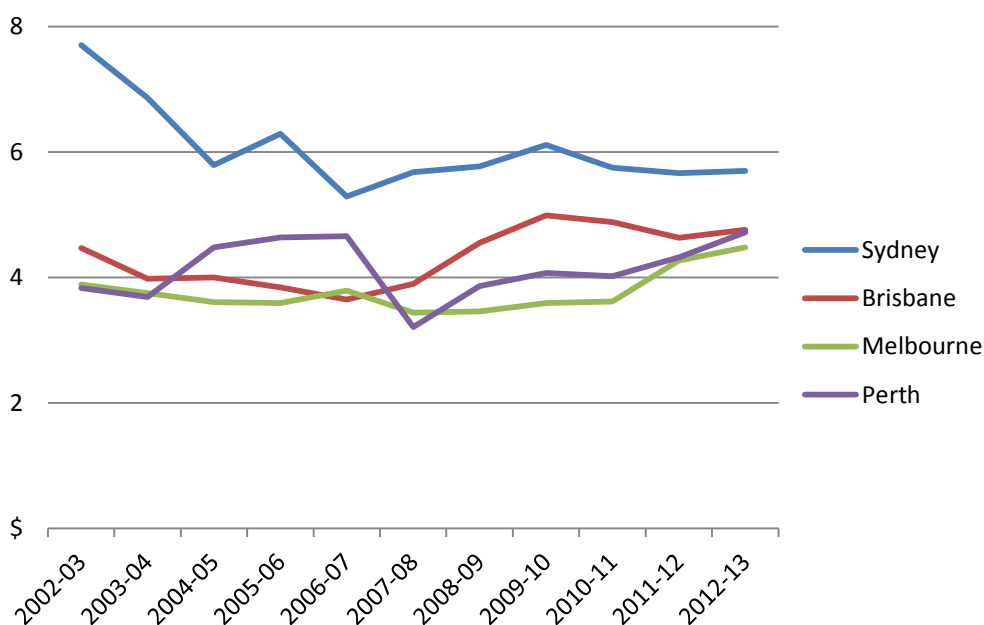
cent in 2001–02. Since 2002-03, Sydney Airport’s return on aeronautical assets has more than doubled, due to earnings increasing by more than investment in aeronautical assets.⁷⁰

Sydney Airport reported increased returns on aeronautical assets for the 5th consecutive year, increasing from 10.4 per cent in 2011-12 to 11.5 per cent in 2012-13.

3.3.3 Airport costs and investment

Aeronautical operating expenses per passenger are used by the ACCC as a measure of airport costs. Since 2002-03, Sydney Airport’s aeronautical operating expenses per passenger (in real terms) have decreased by 26 per cent (Figure 4). Given that revenue also increased over the same period, the ACCC (2010) concluded that this may have occurred due to insufficient investment and/or permitting service quality to decline (Section 3.4).⁷¹

Figure 4: Aeronautical operating expenses per passenger, real terms⁷²



The indicator ‘*additions as a percentage of tangible non-current assets for aeronautical services*’ is used as a proxy for airport investment.⁷³

⁷⁰ Australian Competition and Consumer Commission, [Airport Monitoring Report 2011-12](#), 2013, p.41

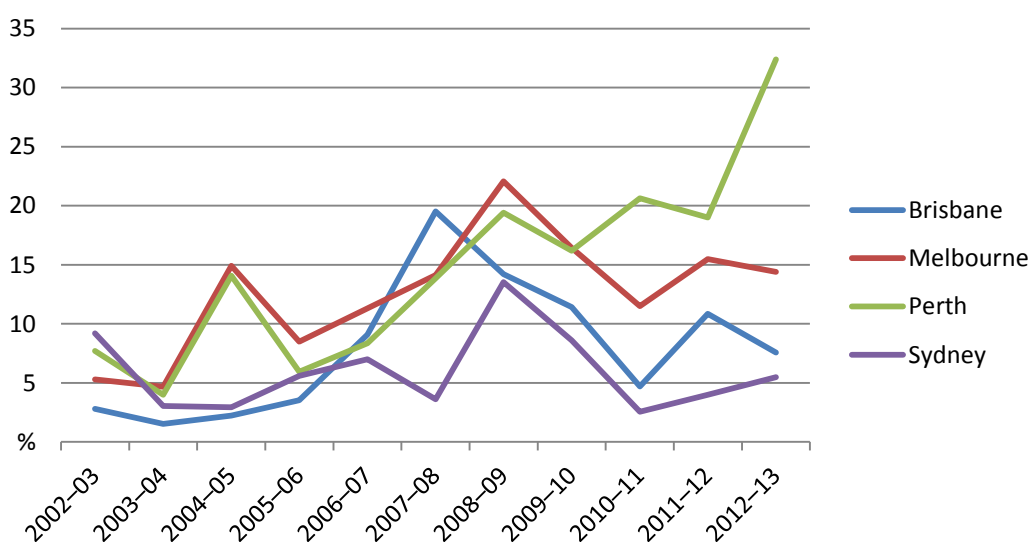
⁷¹ It is Sydney Airport’s view that, in this context, the ACCC’s conclusion in 2010 was speculative and failed to consider all the evidence that was available to the ACCC.

⁷² Source: Australian Competition and Consumer Commission, [Airport Monitoring Report 2012-13](#), 2014, p.205

⁷³ That is, additional airport investment in a financial year as a proportion of total non-current or fixed assets.

This investment indicator has been relatively volatile across the monitored airports over the last decade or so. In 1999-00, Sydney airport undertook significant levels of investment, with additions around 26 per cent of tangible non-current assets for aeronautical services. However, between 2000-01 and 2007-08, investment remained relatively subdued, with additions fluctuating around 5 per cent of tangible non-current assets. Sydney Airport's additions as a percentage of tangible aeronautical non-current assets then reached a peak of 13.5 per cent in 2008-09 (Figure 5).

Figure 5: Additions as a percentage of tangible non-current assets for aeronautical services⁷⁴



Sydney Airport's additions as a percentage of tangible aeronautical non-current assets increased to 5.5 per cent in 2012-13, making it the lowest in terms of investment among the other major airports in Australia.⁷⁵

The Productivity Commission (2011) highlights that:⁷⁶

...major airport investment is 'lumpy' and indivisible, meaning that it is not possible for an airport operator to incrementally increase the capacity of an airport as demand grows; rather, new investments often significantly increase an airport's capacity.

As such, the relatively low levels of investment in 2012-13 may be a by-product of the relatively high levels of investment seen at Sydney Airport in 2008-09.

⁷⁴ Source: Australian Competition and Consumer Commission, [Airport Monitoring Report 2012-13](#), 2014

⁷⁵ It is Sydney Airport's view that this conclusion reflects the fact that: it has the second highest level of assets per passenger; and the growth of traffic has been slower, requiring a lower rate of ongoing investment.

⁷⁶ Productivity Commission, [Economic Regulation of Airport Services](#), 2011, Inquiry Report No. 57, 14 December 2011

Nevertheless, even during that year Sydney Airport had the lowest relative level of investment among the other monitored airports in Australia.

3.3.4 Airline ratings of quality of service⁷⁷

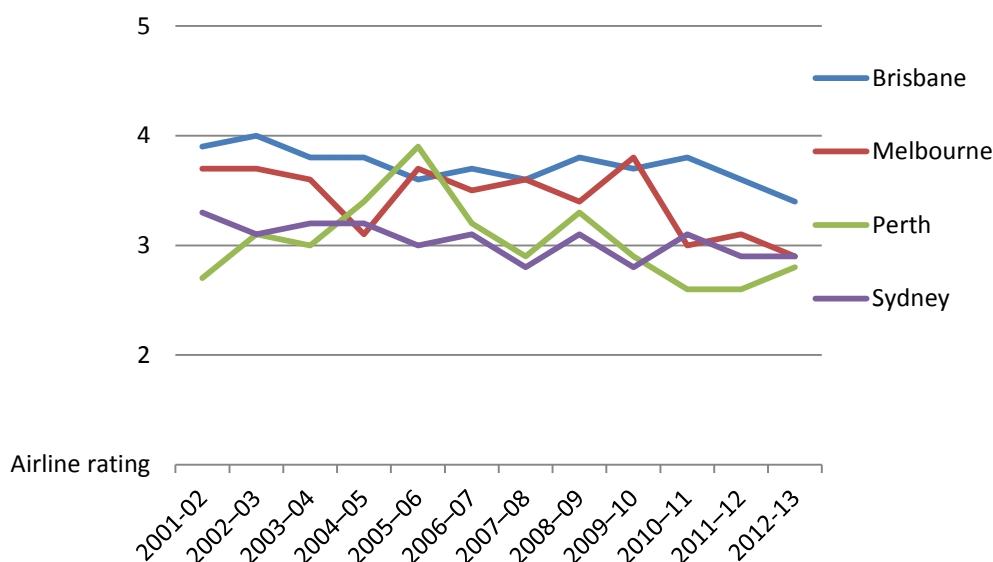
Airline survey information obtained by the ACCC is the airlines' subjective rating of the quality of service that the airport operators provide them on a scale of 1 to 5 (1 is very poor; 2 is poor; 3 is satisfactory; 4 is good; and 5 is excellent). The aeronautical services for which overall airline ratings are based include terminal-related services (e.g. aerobridges, check-in and baggage processing) and airside services (e.g. runways, taxiways, aprons, aircraft gates and ground equipment sites).

Airline quality ratings are used as indicators of whether an airport has provided quality above a minimum efficient level (that is, an average rating of at least satisfactory or 3.0 by user airlines). According to the ACCC (2010):

...in a competitive market, it is expected that a firm would be unable to sustain a level of quality that is below satisfactory as it would lose its customers to rivals.⁷⁸

Over the whole reported period, the airlines' ratings for Sydney Airport fluctuated around the satisfactory level on average.

Figure 6: Average of airline survey ratings⁷⁹



⁷⁷ Refer to Section 3.2 for discussion around the methodological issues raised by the Productivity Commission (2011) with respect to the quality of service surveys.

⁷⁸ Australian Competition and Consumer Commission, [Airport Monitoring Report 2008-09](#), 2010, p.33

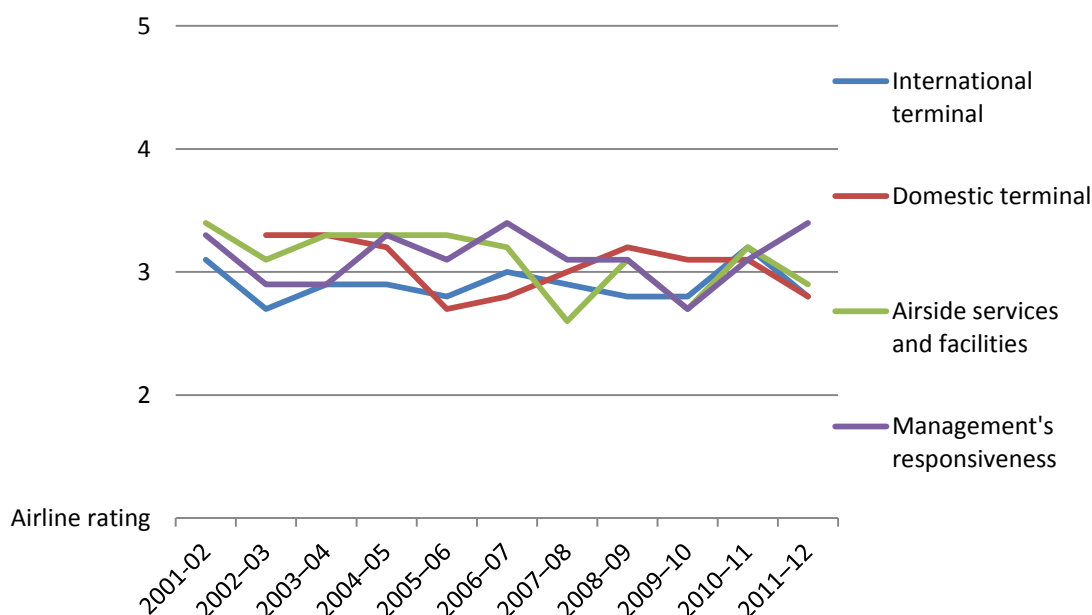
⁷⁹ Source: Australian Competition and Consumer Commission, [Airport Monitoring Report 2012-13](#), 2014

Between 2005-06 and 2010-11, Sydney Airport had been ranked last in overall service quality among the monitored airports. Perth airport is now the worst airport in terms of service quality. Sydney Airport's rating in 2012-13 was marginally less than satisfactory on average; with the airlines' rating of Sydney Airport reaching a low of 2.83 in 2007-08.

As shown in Figure 7, airlines raised concerns with the ACCC regarding the quality of service at the international terminal and rated the quality of service they received at the international terminal as less than satisfactory in every year since 2002-03, except for 2006-07 and 2010-11.⁸⁰

When examining the ratings for individual services, the ACCC (2013) observed that airlines consistently raised concerns about particular services. For example, at the international terminal, airlines rated the standard of baggage processing facilities as less than satisfactory over nine consecutive periods from 2001-02 to 2009-10. Airlines again rated the standard of baggage processing facilities as poor in 2011-12, with some airlines stating that the system is ageing and that equipment is out of date.⁸¹

Figure 7: Airline ratings for quality of service at Sydney airport⁸²



The ACCC (2013) in their 2011-12 report also observed that:⁸³

⁸⁰ Australian Competition and Consumer Commission, [Airport Monitoring Report 2011-12](#), 2013, p.15

⁸¹ Australian Competition and Consumer Commission, [Airport Monitoring Report 2011-12](#), 2013, p.15

⁸² Source: Australian Competition and Consumer Commission, [Airport Monitoring Report 2011-12](#), 2013, p.14

⁸³ Australian Competition and Consumer Commission, [Airport Monitoring Report 2011-12](#), 2013,

Sydney Airport has not reported an increase to the number of aerobridges at the international terminal since it added four aerobridges in 2008-09 to have a total of 34. Nor has it reported an increase in the number of international check-in desks since 2001-02 and the number of desks has remained constant at 192 since 2004-05. By way of contrast, demand for these services in terms of international passenger numbers increased by 45.1 per cent between 2001-02 and 2011-12, and demand in terms of total aircraft movements increased by 22.1 per cent over the same period.

3.4 ACCC assessment of Sydney Airport's performance⁸⁴

Referencing the Productivity Commission (2002) and findings from the Australian Competition Tribunal (2006), the ACCC (2010) concluded that.⁸⁵

Sydney Airport possesses a high degree of market power in domestic markets and, as the main international gateway airport in Australia, it is likely to have a more significant degree of market power for international traffic compared with the other major airports.

Sydney Airport is in a strong position to set prices and service quality at levels that would not be sustainable in a competitive environment. In fact, it was found that Sydney Airport has exercised its market power in the past (as concluded by the Australian Competition Tribunal), which suggests the potential for opportunistic behaviour by the airport into the future.

In comparing the expected price and service quality outcomes against the monitoring results for each of the other airports, the ACCC (2010) considered that Sydney Airport might be earning monopoly rents from its aeronautical services. Along with maintaining higher aeronautical prices, the ACCC (2010) indicated that it had achieved higher profits by:⁸⁶

...permitting service-quality levels to fall below that which could be expected in a competitive environment over a sustained period.

To be specific, from 2002-03 to 2011-12, airlines rated Sydney Airport's international terminal at below satisfactory on average for every year except 2010-11. The ACCC (2010) suggests that Sydney Airport has potentially undersupplied quality relative to a competitive-market benchmark.

Although Sydney Airport completed significant capital works at the terminal in 2010, the ACCC (2010) stated that.⁸⁷

p.15

⁸⁴ Sydney Airport stated that they did not agree with certain assertions made by the ACCC and had concerns around the methodology implemented used in the airport monitoring report; Further details around these and other concerns were noted in their [submission](#) to the Productivity Commission in 2011.

⁸⁵ Productivity Commission, [Price regulation of airport services](#), 2002, Inquiry Report; Australian Competition and Consumer Commission, [Airport Monitoring Report 2008-09](#), 2010, p. 40

⁸⁶ Australian Competition and Consumer Commission, [Airport Monitoring Report 2008-09](#), 2010

⁸⁷ Australian Competition and Consumer Commission, [Airport Monitoring Report 2008-09](#), 2010, p.17

...the timing of this investment might have been inefficiently delayed by the airport and, in the meantime, there has been inadequate maintenance.

Following the upgrade of its international terminal, the ACCC observed that the quality of service provided to airlines had not significantly improved and that the airport's prices and profitability continued to increase.⁸⁸

Figure 8: Aeronautical revenue per passenger and overall quality of service ratings⁸⁹



Further, the ACCC (2011) noted that a proportion of the investment undertaken by Sydney Airport in its international terminal was for non-aeronautical services, such as a new retail, food and beverage outlets (the airport receives almost half of its total revenue from such services).⁹⁰ In finding this, the ACCC (2011) stated:⁹¹

That the airport appears to have undertaken significant investment in non-aeronautical services, while potentially undertaking insufficient investment in aeronautical services, consistent with the airport having a higher degree of

⁸⁸ Australian Competition and Consumer Commission, [Airport Monitoring Report 2009-10](#), 2011, p.44

⁸⁹ Source: Australian Competition and Consumer Commission, [Airport Monitoring Report 2012-13](#), 2014, p. xxviii

⁹⁰ Sydney Airport, [International terminal upgrade – a better travel experience](#), Media Release, 11 June 2010.

⁹¹ Australian Competition and Consumer Commission, [Airport Monitoring Report 2009-10](#), 2011, p.47-48

market power in aeronautical services.

The findings from the ACCC should be treated with caution as they do not definitively conclude that Sydney Airport had been misusing its market power. The Productivity Commission (2011) acknowledged this:⁹²

While the ACCC has, in its last two monitoring reports, pointed to the possibility that some airports might have earned monopoly rents, it has not demonstrated this.

The Productivity Commission (2011) made a number of recommendations related to the ACCC and their regulatory role, noting in their final report that:⁹³

This process would place a responsibility on the ACCC to be robust in its process, explicit and definitive in its judgment and be prepared to stand by and act on that judgment.

Specifically, the Productivity Commission recommended that the ACCC should be able to nominate that an airport show cause why its conduct should not be subject to scrutiny under a Part VIIA price inquiry.⁹⁴

Even with the price, investment and service monitoring data collected, the ACCC (2014) recognise that there are significant difficulties in making a comprehensive assessment on the misuse of market power:⁹⁵

...monitoring is limited in scope and does not allow a detailed assessment of the airports' performance to be undertaken and cannot be used to establish whether or not an airport has exercised market power to earn monopoly profits.

Claims relating to the potential misuse of market power by the ACCC on the part of Sydney Airport have not been repeated subsequent to the release of the Productivity Commission report in 2011. Despite this, when assessing trends across the more recent reporting period from 2008-09 to 2012-13, Sydney Airport's performance across a number of key indicators has either remained unchanged or worsened. For example, Sydney Airport's passenger-related service survey ratings have either remained unchanged or declined within the 'satisfactory' range. Similarly, average ratings on the standard and availability of aircraft-related services decreased within the 'satisfactory' and 'poor' categories respectively during 2012-13. Additionally, investment as a proportion of total non-current assets has declined in subsequent years and still remains the

⁹² Productivity Commission, [Economic Regulation of Airport Services](#), 2011, Inquiry Report No. 57, 14 December 2011, p. xxxiv

⁹³ Productivity Commission, [Economic Regulation of Airport Services](#), 2011, Inquiry Report No. 57, 14 December 2011, p. 191; Further details around the regulatory processes in Australia and the Productivity Commission recommendations around the role of the ACCC in this process can be found in Chapter 9 of the 2011 report.

⁹⁴ Productivity Commission, [Economic Regulation of Airport Services](#), 2011, Inquiry Report No. 57, 14 December 2011, p. 199

⁹⁵ Australian Competition and Consumer Commission, [Airport Monitoring Report 2012-13](#), 2014, p.318

lowest of the monitored airports.

3.5 Productivity Commission findings related to market power at Australian Airports

As mentioned, the focus of the 2011 Productivity Commission Inquiry Report was to examine the effectiveness and efficiency of the economic regulation and quality of service monitoring regime. Nevertheless, the Productivity Commission (2011) did make some broad assessments of the misuse of market power at Australian airports with respect to a range of pricing, investment and service quality indicators. While not directly referring to Sydney Airport, these statements appear to be somewhat contrary to the assessments made by the ACCC in previous airport monitoring reports.

In assessing the pricing monitoring data from the ACCC between 2002-03 and 2009-10, the Productivity Commission (2011) concluded that:⁹⁶

Price monitoring data since 2002-03 show substantial total price increases at most of the monitored airports. However, taken in context, these increases do not indicate systemic misuse of market power.

In assessing the service quality monitoring data from the ACCC between 2002-03 and 2009-10, the Productivity Commission (2011) stated that:⁹⁷

Recent quality of service monitoring for the overall and passenger survey results alone do not indicate any persistent trends that would suggest the misuse of market power.

With respect to investment at Australia's airports, the Productivity Commission (2011) noted in Findings 6.2 and 6.3 that:⁹⁸

There is evidence of significant investment in aeronautical infrastructure at Australian airports in the period since light-handed monitoring was introduced in 2002, with significant future investment planned [and that] despite instances of delays to aeronautical investment, it does not appear that such delays have been unreasonable.

In Finding 6.1, the Productivity Commission (2011) also stated that:⁹⁹

The Australian Government has a number of regulatory and other levers to influence the timing and nature of investment at Australian airports, including lease provisions and requirements under the Airports Act 1996. To date, these levers have not been triggered, as investment has exceeded requirements

⁹⁶ Productivity Commission, [Economic Regulation of Airport Services](#), 2011, Inquiry Report No. 57, 14 December 2011, p. xlvi

⁹⁷ Ibid

⁹⁸ Productivity Commission, [Economic Regulation of Airport Services](#), 2011, Inquiry Report No. 57, 14 December 2011, p. xlvi

⁹⁹ Productivity Commission, [Economic Regulation of Airport Services](#), 2011, Inquiry Report No. 57, 14 December 2011, p. 108

established at the time airports were sold.

It should be noted that these findings regarding the misuse of market power refer more broadly to the Australian airports as a group (than specifically refer to Sydney Airport) and are based on individual pricing, service quality and investment indicators alone (rather than an assessment based on the indicators collectively). These assessments were also made in 2011 and with reference to data for the years published up until the ACCC Airport Monitoring Report 2009-10.

The ACCC has not determined conclusively that Sydney Airport has misused its market power; nor has this been suggested by the PC. Nevertheless, Sydney Airport's price, investment and service quality monitoring results remain relatively weak when compared to the other monitored Australian airports and have, for the most part, not improved since the Productivity Commission report was published in 2011.

3.6 Sydney Airport Master Plan 2033

On 18 February 2014, the Australian Government approved the [Sydney Airport Master Plan 2033](#) which outlines Sydney Airport's plan for the operation and development of the airport for the period to 2033. According to the report, this will: allow the airport to accommodate a wide range of future air traffic scenarios; increase the productivity, flexibility and capacity of the airport; and benefit all passengers through a more balanced use of the airport's airfield, terminals and roads.¹⁰⁰

Major development and operational proposals in the report include:¹⁰¹

- The development of new major international terminal infrastructure, with the capability for up to 16 additional A380 type international contact gates.
- Better use of existing infrastructure through the introduction of up to 30 swing gates.
- Taxiway enhancements, prepared in consultation with Airservices Australia, that improve airfield efficiency and therefore on-time performance.
- Both the T1 and T2/T3 terminal precincts will become integrated terminals for international, domestic and regional airlines.
- Significant improvement to ground transport access to and around the T1 and T2/T3 precincts.

While these and other developments and upgrades to airside and terminal facilities have the ability to improve the operational efficiency of Sydney Airport, it is not possible to conclusively determine the extent to which they will do so;

¹⁰⁰ Sydney Airport Corporation Limited, Sydney Airport Master Plan 2033, February 2014, p.10-11

¹⁰¹ Ibid

and specifically how such improvements will translate into improved aeronautical and non-aeronautical pricing and quality of service outcomes at Sydney Airport.

4. ECONOMICS OF AIRPORT COMPETITION¹⁰²

Major airports in different cities do not compete very much, except sometimes to attract hub traffic. As such, competition between primary and secondary airports in the same city or catchment for low cost carrier traffic is the main form of active competition between airports.¹⁰³

The steady growth of low cost carriers has had a particular effect on airport competition by acting as a catalyst for the development of low-cost airports and forcing legacy airports (i.e. those predominantly serving full-service carriers) to compete back in terms of price and service offerings.¹⁰⁴ Jiminez et al. (2013) cites De Neufville (2008) who explains that:¹⁰⁵

...many legacy airports have lost their previous virtual monopolies. This fact has to motivate their management to build facilities that will be more competitive with low-cost airports.

Competition between primary and secondary airports can have both positive and negative features, dependent on a number of locational and structural factors in the airport catchment. Competition can lead to better allocation of air traffic to airports and pressure inefficient airports to perform better, thus resulting in improved price outcomes at these airports. In some circumstances, however, inefficiencies in allocation of traffic can come about when prices do not reflect costs, or when prices at secondary airports are kept artificially low by subsidies.¹⁰⁶

This section of the paper briefly discusses, at a theoretical level, various economic aspects of competition between primary and secondary airports. Section 4.1 will discuss how airports actually compete; and section 4.2 will assess the potential efficiency outcomes of competition in terms of pricing and service quality from having a secondary airport. Section 4.3 will assess the role

¹⁰² Note that the focus of this paper is on the issue of competition and the literature relating to it. It is acknowledged that the second airport question might also be considered from the perspective of the potential benefits of common ownership.

¹⁰³ CAPA Consulting, [Airline-related cost and revenue issues at primary and non-primary airports](#), 2012, Joint Study on Aviation Capacity in the Sydney region, Appendix C10

¹⁰⁴ Jiminez, E, Claro, J, and de Sousa, J., [The airport business in a competitive environment](#), 2013, European Journal of Transport and Infrastructure Research, Issue 13 (4), p.320

¹⁰⁵ De Neufville, R., [Low-Cost Airports for Low-Cost Airlines: Flexible Design to Manage the Risks](#), 2008, Transportation Planning and Technology, Issue 31(1), pp. 35-68

¹⁰⁶ For more discussion see: Forsyth, P., [Competition between Major and Secondary Airports - Implications for Pricing, Regulation and Welfare](#), 2006, Air Transport Research Society Conference; Oum, T, and Fu, X., [Impacts of Airports on Airline Competition: Focus on airport performance and airport-airline vertical relations](#), 2009, OECD Transport Forum, Round Table 145

of competition as a substitute for price monitoring and other forms of regulation. Sections 4.4 and 4.5 will then examine secondary airport efficiencies compared to primary airports and the potential limitations to airport entry and competition.

4.1 How do airports compete?

Airports in the same catchment compete, in terms of price and/or service quality offerings, through the provision of key aeronautical services to attract inbound and outbound airline traffic.

Airports sharing overlapping catchment areas compete for outbound traffic by providing a more convenient and competitively priced service to airlines and passengers. For instance, airports that are more accessible (e.g. by road or public transport) and with more non-stop services allow travellers to bypass hubs, delivering higher quality in terms of travel time. Additionally, airports that attract low cost carriers gain a competitive advantage in the sense that these they can offer lower prices for their flights, expanding the catchment area (and demand) by attracting price-conscious passengers.¹⁰⁷

Destination (or inbound) competition may also occur between airports and according to Jiminez (2013), there is:

...the possibility to appeal to passengers or other users solely by the attractiveness of the surrounding environment (the hinterland) or by the characteristics of the airport itself. This occurs in airports with a large share of inbound traffic, which are normally located nearby tourist destinations.

The size of an airport's catchment area, the intensity of competition and the level of inbound or outbound demand for its services ultimately depends on the type of services offered. For example, a small to medium size airport offering regional/domestic flights will not compete intensively with a major hub airport offering long-haul international traffic; this is because they offer different routes and cater for different passenger types. Airports will typically compete more strongly with other airports for airlines offering routes to comparable destinations and with competitively priced fares.¹⁰⁸

The broad point to make is that, while airports compete directly with one another in terms of price and service offerings, the nature and extent of this competition depends on a number of variables within the catchment which determines airline and passenger demand at each of these airports.¹⁰⁹

¹⁰⁷ Jiminez, E, Claro, J, and de Sousa, J., [The airport business in a competitive environment](#), 2013, European Journal of Transport and Infrastructure Research, Issue 13 (4), p.321

¹⁰⁸ For more discussion see: Jiminez, E, Claro, J, and de Sousa, J., [The airport business in a competitive environment](#), 2013, European Journal of Transport and Infrastructure Research, Issue 13 (4), p.321

¹⁰⁹ For more discussion see: Jiminez, E, Claro, J, and de Sousa, J., [The airport business in a competitive environment](#), 2013, European Journal of Transport and Infrastructure Research, Issue 13 (4), p.315-335; Starkie, D., Airport regulation and competition, 2002, Journal of Air Transport Management, Issue 8, p.63-72

4.2 Efficiency and pricing with airport competition

Normally the expectation is that an increase in competition would be economically beneficial. This is not always the case in the airport market and is dependent on various structural and locational characteristics of the respective airports. However, Forsyth (2006) claims that if a secondary airport is established and takes traffic away from a primary airport (which is facing excess demand), its entry is likely to lead to a more efficient allocation of flights to airports in the region.¹¹⁰ This is likely to be the case at Sydney airport which has been forecast in the Joint Study to have excess demand by 2035.¹¹¹

Competition will limit monopoly power. This is obvious when the airport is subject to competition from other airports, and its ability to set any prices, airside or non-airside, is limited by the strength of this competition.¹¹²

This is because as a second airport enters into the market, it may be able to offer lower charges than the primary airport because it is either more efficient or flexible to the requirements of the low cost carriers (discussed further in Section 4.4). The monopoly status of primary airports may have meant that they were not previously minimising their costs and/or maintaining prices well above an efficient level; for such airports there is scope to reduce the overall level of aeronautical charges to airlines.

Alternatively, for those airports that do not have such capacity to reduce prices in the short run, secondary airport competition may force the primary airport to review its costs in order to lower aeronautical charges over the medium to longer term and attract the low cost carriers.¹¹³ While these changes take time to implement, it could be that competition from the secondary airport induces measures that improve efficiency at the primary airport, which had previously allowed costs to rise when it had no competition.

According to Forsyth (2006), in this situation, the additional competition from the secondary airport can have a positive economic effect through its impact on productive efficiency.¹¹⁴ O'Donnell et al. (2011) also concluded that competition is needed to ensure productivity and efficiency levels are improved following an airport's privatisation.¹¹⁵ In referencing Shirley and Walsh (2001), O'Donnell et

¹¹⁰ Forsyth, P., [Competition between Major and Secondary Airports - Implications for Pricing, Regulation and Welfare](#), 2006, Air Transport Research Society Conference, p.3

¹¹¹ Steering Committee, [Joint Study on aviation capacity in the Sydney region](#), March 2012, p.2

¹¹² Forsyth, P., [Locational and monopoly rents at airports: creating them and shifting them](#), 2004, Journal of Airport Transport Management 10, p. 54

¹¹³ Forsyth, P., [Competition between Major and Secondary Airports - Implications for Pricing, Regulation and Welfare](#), 2006, Air Transport Research Society Conference, p.6

¹¹⁴ Productive efficiency refers to producing goods and services with the optimal combination of inputs to produce maximum output for the minimum cost.

¹¹⁵ O'Donnell, M, Glennie, M, O'Keefe, P, and Kwon, S., [Privatisation and 'Light-Handed' Regulation: Sydney Airport](#), 2011, The Economic and Labour Relations Review Vol. 22 No.1, p.67

al. (2011) emphasise that:¹¹⁶

...expanding profitability, unmatched by increases in efficiency, represents the worst case scenario for privatisation. This may result from the replacement of a public monopoly with a private monopoly, with the lack of competition and/or regulation providing minimal incentives for technical efficiency gains. Rising profitability in this context demonstrates the ability of the new private owners and their managerial agents to exercise their market power

Copenhagen Economics (2012) concluded that the greater the constraints on a previously monopolised airport arising from competition (in terms of the availability of alternative means of travel or from airline buyer power), the more likely it is to be sensitive to the needs of its customers (airlines or passengers).¹¹⁷

The threat of an airline switching between airports also provides a direct and powerful competitive constraint for airports. If an airport loses an airline customer to a competitor, it can incur both a loss of aeronautical and non-aeronautical revenue, as fewer passengers visit the shops and other retail facilities or use car parks at the airport. An airport is largely a fixed cost business, comprising not only fixed assets that have to be remunerated but also many operating costs that are unavoidable, particularly in the short term. Copenhagen Economics (2012) consequently argue that revenue losses will translate disproportionately into reduced profitability.¹¹⁸

Forsyth (2013) suggests that the introduction of a second Sydney airport will create competition for Kingsford Smith Airport but it is inconclusive whether the gains from having a duopoly will be that substantial.¹¹⁹ The most likely scenario is that Sydney Airport Corporation Limited will take up the first right of refusal to build and operate the airport. Under these circumstances, the economic benefits (or costs) of competition from having a second airport are even more ambiguous. Oum and Fu (2009) argue that common ownership of several airports located in the same metropolitan area or a region is likely to increase the market power of those airports collectively.¹²⁰ One costly possibility might be that the owners of Kingsford Smith could be bought out and relinquish their claims to develop and operate the second Sydney airport.

Forsyth (2006) claimed that secondary airports in multi-airport cities generally have unattractive locations compared to the primary airports. This applies to an extent to the Sydney case, as Kingsford Smith is substantially closer to the CBD and would be more convenient for tourists and business travellers. Conversely,

¹¹⁶ Shirley, M. and Walsh, P., [Public vs. Private Ownership: The Current State of the Debate](#), 2001, World Bank, Washington

¹¹⁷ Copenhagen Economics, [Airport Competition in Europe](#), 2012, p.18

¹¹⁸ Copenhagen Economics, [Airport Competition in Europe](#), 2012, p.24

¹¹⁹ Forsyth, P., [Air capacity for Sydney](#), 2013, OECD Discussion Paper, p.16

¹²⁰ Oum, T, and Fu, X., [Impacts of Airports on Airline Competition: Focus on airport performance and airport-airline vertical relations](#), 2009, OECD Transport Forum, Round Table 145, p.44

a second airport in Badgerys Creek would be more convenient for residents of Western Sydney, an area which is more densely populated than other typical locations for second airports elsewhere in the world.¹²¹

The adverse locational impacts could be lessened with efficient ground transport options (high-speed rail) to the CBD and other major residential areas in Sydney; although these transportation options also come at a significant cost to develop.

4.3 Competition as a substitute for regulation

Since the deregulation practices in the aviation industry that started at the beginning of 1980's, airports have been subject to various forms of price regulation and monitoring to curb their market power.¹²² O'Donnell et al. (2011) suggest that:¹²³

In the absence of effective competitive pressures, an effective regulatory regime is needed to curb the potential for abuse of market power by private monopolies.

The main forms of economic regulation can be classified as cost-based ones, including rate of return regulation, and more incentive based ones like the price-cap regulation (which was in place at Sydney Airport and other Australian airports until 2002). Economic regulation can be effective in keeping the aeronautical and non-aeronautical service charges of airports at acceptable levels and curbing their market power. On the other hand, it has some drawbacks depending on the regulation type in practice.¹²⁴

Economic regulation in many instances can be ineffective because of the imperfect information regulators obtain about the dynamics of firms, especially about their actual costs.¹²⁵ If regulators knew firms' costs perfectly, they would be able to determine the optimal airport charges so there are no inefficiencies and welfare losses.¹²⁶

Forsyth (2006) believes that strong competition between airports can be a good

¹²¹ For more discussion of other second airports see: Bonnefoy, P, de Neufville, R, and Hansman, R., [Evolution and Development of Multi-Airport Systems: A Worldwide perspective](#), 2008, Journal of Transport Engineering

¹²² For more discussion on international airport regulation see: Bel, G, and Fageda, X., [Airport management and airline competition in OECD countries](#), 2005

¹²³ O'Donnell, M, Glennie, M, O'Keefe, P, and Kwon, S., [Privatisation and 'Light-Handed' Regulation: Sydney Airport](#), 2011, The Economic and Labour Relations Review Vol. 22 No.1, p.67

¹²⁴ Hancioglu, B., [The Market Power of Airports, Regulatory Issues and Competition between Airports](#), 2008, German Airport Performance Project, Federal Ministry of Research and Technology Germany, p.17

¹²⁵ Ibid

¹²⁶ Starkie, D., [Airport regulation and competition](#), 2002, Journal of Air Transport Management, Issue 8, p.64

substitute for regulation; because even if competition cannot drive prices to marginal costs, airports will be more efficient. This gained efficiency will generally outweigh the deadweight loss caused by the higher prices when the airports are not regulated.¹²⁷

Starkie (2002) discusses the need for economic regulation for airports in some detail; and suggests that the need for regulation in the context of a monopoly airport should be assessed on a case by case basis and according to the degree of market power held and exerted by airports:¹²⁸

It is only when the market does not work well, when there is a clear case of natural monopoly and when regulation can reasonably be expected to improve matters that the regulatory option is worthwhile. Market imperfections alone are not a sufficient justification for intervention. Moreover, once economic regulation has been introduced in a particular sector, the case for having it at all should be re-examined from time to time in the light of changing circumstances.

At first glance, two Sydney airports (assuming the second is based in Badgerys Creek) appear to be potential competitors due to their overlapping catchment areas. However, Forsyth (2006) argues that:¹²⁹

...even if these airports in multi-airport cities do not collude with each other under separate ownership, competition between them will not be strong enough to replace economic regulation. This is due to the fact that most primary airports are already congested and do not want to compete on price with second airports in their cities (since they do not have the extra capacity to handle the potential additional traffic).

4.4 Why are secondary airports generally cheaper?

In Sections 4.2 and 4.3, it is assumed that costs at the secondary airport are lower than those at the primary airport and are actually in a position to compete on price.

This is typically the case when low cost carriers are induced to use secondary airports. There are other factors which can be significant in inducing traffic to a second airport, such as the absence of congestion, which makes airline operations cost less; and there may be less head to head competition with full service carriers than at a primary airport.¹³⁰ However, in practice, lower charges

¹²⁷ Forsyth, P., *Airport Competition: Regulatory Issues and Policy Implications*, 2006, *Advances in Airline Economics*, Vol. 1

¹²⁸ Starkie, D., [Airport regulation and competition](#), 2002, *Journal of Air Transport Management*, Issue 8, p.64

¹²⁹ Forsyth, P., *Airport Competition: Regulatory Issues and Policy Implications*, 2006, *Advances in Airline Economics*, Vol. 1

¹³⁰ For a more comprehensive discussion of factors determining airline choice between primary and secondary airports see: CAPA Consulting, [Airline-related cost and revenue issues at primary and non-primary airports](#), 2012, *Joint Study on Aviation Capacity in the Sydney region*, Appendix C10

are generally the strongest selling point for secondary airports.¹³¹

Nevertheless, Forsyth (2006) suggests that, in practice, there are a number of reasons why a primary airport might be more efficient than a secondary airport.¹³² For example:

...given the normal patterns of airport costs, it might be expected that secondary airports would have higher, not lower, costs. If there are economies of scale present, smaller airports would have higher costs. If airports involve substantial sunk costs, for example, in the provision of runways, the average cost of the larger airport would be lower than that of the smaller airport because the sunk costs would be averaged over more users. In spite of this, many secondary airports are able to offer lower charges, which is one of the reasons why they have been so successful in attracting low cost carriers. There must be other factors at work.

In his paper, Forsyth (2006) examines, in detail, some of the key reasons for the cost advantages at secondary airports, one of which is the greater **efficiency of operations**:¹³³

Clearly, if airport costs are dominated by sunk costs, it would be difficult for a smaller airport to have lower costs than a major airport (since the marginal cost of sunk costs is zero). However, variable costs may be present, and they could be quite significant. The lower operating costs of an efficient small airport could outweigh the economies of scale gained by the less efficient major airport. If so, overall average costs could be lower.

Forsyth (2006) also suggests that secondary airports may face **lower input costs**:¹³⁴

Suppose that the secondary airport is located some distance away from the destination, but the main airport is located close by. Land prices in the remote location are likely to be lower, and to the extent that these are factored into the airport costs, the secondary airport will have lower costs. It can then offer a lower price schedule to the airlines. Some related services such as car parking may be quite land intensive, and secondary airports may be able to offer much lower priced car parking.

The secondary airport may be able to offer lower access prices to the low cost carriers because it is **supplying a lower quality of service**. In particular, it may have a low cost terminal, while the primary airport may have a costly, high quality terminal. If the variable costs of terminal operation are lower at the secondary airport, then it is efficient for the low cost carriers to be attracted to the secondary airport, granted that it is not prepared to pay for the higher

¹³¹ Forsyth, P., [Competition between Major and Secondary Airports - Implications for Pricing, Regulation and Welfare](#), 2006, Air Transport Research Society Conference, p.8

¹³² Ibid

¹³³ Ibid

¹³⁴ Forsyth, P., [Competition between Major and Secondary Airports - Implications for Pricing, Regulation and Welfare](#), 2006, Air Transport Research Society Conference, p.9

service quality.¹³⁵

In the longer term, and assuming there is flexibility in terms of capacity and contract with the airlines, the primary airport should be able to offer terminals of a quality which low cost carriers are willing to pay for. Alternatively, it is possible that the primary airport has constructed a high quality terminal which has ample capacity which can be used at a low marginal cost.¹³⁶ If so, it would be efficient for the low cost carriers to use it. This is not the case at Kingsford Smith which has limited terminal and runway capacity. If the sunk costs of the terminal must be recovered by high use charges, this will also not happen.

In summary, Forsyth (2006) illustrates that there may be several reasons why a small secondary airport may be able to offer lower airport charges to the low cost carriers than the primary airport does. It is necessary to determine whether there may be a cost advantage and exactly which of these reasons apply in a particular case. If the reason for lower charges is greater operational efficiency, it can be desirable for the secondary airport to capture primary airport low cost carriers' traffic.¹³⁷

Despite this, it is difficult to draw any direct conclusions about the costs and efficiency of a potential second airport in Sydney as its prospective functions are unclear. That is, will the second Sydney airport be used specifically for domestic flights and by low cost carriers; or will the airport offer terminal access for full service carriers and international flights? The aeronautical service offering of the airport determines the nature and extent of the facilities which would have to be established at an airport. This would, among other factors, determine the cost structures at a second Sydney airport and ultimately whether they have a cost advantage over Kingsford Smith.

4.5 Limitations to second airport entry and competition

There are limits to the extent of this secondary airport competition which depends largely on the type of market the airports are competing for.¹³⁸ According to Hancioglu (2008), the degree of competition is strongest when secondary airports compete with each other to attract low cost carriers, short-haul and cargo traffic.

According to Forsyth (2006), the oligopolistic character of airport markets is one of the key limiting factors to competition. For example, in many cities with multiple airports, the owners of the airports are the same (like the airports in London, Paris and Berlin) so that they do not compete with each other. This

¹³⁵ Forsyth, P., [Competition between Major and Secondary Airports - Implications for Pricing, Regulation and Welfare](#), 2006, Air Transport Research Society Conference, p.10

¹³⁶ Ibid

¹³⁷ Ibid

¹³⁸ For more information see: Tretheway, M, and Kincaid, I., [Competition between airports in the new Millennium: what works, what does not work and why](#), 2005, 8th Hamburg Aviation Conference

may be the case in Sydney if an airport was developed by the owners of Kingsford Smith who have the first right to develop the second Sydney airport. If this were to happen, the economic benefits from second airport competition in Sydney are even more ambiguous. Even if there are at least two airports belonging to different owners in a city, they may not compete with each other since their short term capacities are fixed.¹³⁹

Forsyth (2006) argues that even if a new airport has the financial resources to build new facilities and enter the market, it may not be allowed to do so by legal entities. Environmental issues are also another type of obstacle that deter an airport from entering into a market because it is usually very difficult to build a new airport in the vicinity of large urban areas. Scale effect is important in the airport industry from a cost point of view, so it is difficult for small airports to reach these scale effects.

Most of the major city airports face excess demand and congestion. Under such circumstances, secondary airports may be appealing for the traffic that cannot be served by the incumbent. However, it is hard to classify this case as contestable competition since the major airports have no incentives, in the short run, to reduce their prices given they have extra demand.¹⁴⁰ In the long run, airlines have greater flexibility in switching aeronautical operations and facilities to a second airport with additional capacity. This may reduce the demand at the primary airport (such that it is below capacity) and induce competition between airports.

5. EMPIRICAL ANALYSIS AND INTERNATIONAL CASE STUDIES

Following on from Section 4, this section of the paper briefly reviews findings from selected empirical studies which have assessed the role of competition and its effect on airport efficiency and pricing at primary and secondary airports.

The breadth of international research and literature into this specific area of airport economics is limited. Haskel et al. (2013) highlight reasons for this:¹⁴¹

Perhaps until twenty years ago, it might be argued that the study of airports was not particularly rewarding either by itself or as something that might inform the study of airline competition. Most airports were public sector owned and regulation or specific agreements held landing fees to non-profit levels. The vast majority of airports held plenty of spare capacity and their location was a historical accident; new entry was almost unheard of. Competition between airports was a fanciful notion regarded as impossible.

¹³⁹ Forsyth, P., *Airport Competition: Regulatory Issues and Policy Implications*, 2006, *Advances in Airline Economics*, Vol. 1

¹⁴⁰ Hancioglu, B., [The Market Power of Airports, Regulatory Issues and Competition between Airports](#), 2008, German Airport Performance Project, Federal Ministry of Research and Technology Germany, p.15

¹⁴¹ Haskel, J, Iozzi, A, and Valletti, T., [Market structure, countervailing power and price discrimination: The case of airports](#), 2013, *Journal of Urban Economics* 74, p.13

Airport privatisation combined with the rapid growth in low cost carriers has seen competition become an important element in the airport industry.¹⁴² As such, a growing number of researchers have sought to identify and quantify the effect of secondary airport competition on airport pricing and efficiency.

While the breadth of research is still somewhat limited, by and large it shows that competition can have a positive, and at times, significant effect on airport pricing and efficiency. The research also suggests that, under certain conditions, airport competition can act as an effective substitute for economic regulation. In highlighting these findings, this section of the paper will provide an insight into the potential role a second airport at Badgerys Creek may have in improving pricing and efficiency at Kingsford Smith Airport.

5.1 United States

Van Dender (2007) examined the determinants of airport revenues, with respect to airport competition, for a sample of 55 large US airports between 1998 and 2002. The main finding from the study was that the revenues from aeronautical activities (which are a proxy for airport charges) are lower when there is competition between airports in the same geographical or catchment area. Van Dender (2007) also concluded that when there is no airport competition, delays lead to higher aeronautical revenues per flight.¹⁴³

Yan and Winston (2014) similarly explored the effects of private airport competition on runway prices and the welfare of travellers, airlines, and airports for the San Francisco Bay area. They did this by developing an empirical model of competition between the Oakland, San Francisco, and San Jose airports.¹⁴⁴ The results from this study are therefore specific to this region and do not apply as broadly as the Van Dender (2007) study.

Nonetheless, the main finding of this paper was that private airport competition can allow for a relative improvement in a commercial travellers' economic welfare and airlines' profits, and enable the airports to be profitable. The key conditions to this occurring were that all three Bay Area airports were privatised to different owners.

Yan and Winston (2014) conclude that allowing competition between airports with different owners, and bargaining between airports and airlines, are essential components of an efficient airport competition policy. Otherwise, airports would exercise considerable market power to set unreasonably high runway and aeronautical charges.

As part of their paper to determine a technical definition for airport markets,

¹⁴² Ibid

¹⁴³ Van Dender, K., [Determinants of fares and operating revenues at US airports](#), 2007, Journal of Urban Economics, 62 (2), 317-336

¹⁴⁴ Yan, J, and Winston, C., [Can Private airport competition improve runway pricing? The case of San Francisco Bay Area Airports](#), 2014, Washington State University, Working paper

Brueckner et al. (2014) assessed the incremental competition (or spill over) effects from nearby airports on average fares at a metropolitan area's primary airport. They identified these spill-over effects separately for low cost carriers and legacy airlines (or full service carriers) across major metropolitan areas of the United States.¹⁴⁵

Results from a quarterly panel data set for the period 2003–2009 provide strong evidence that multiple airport competition in a metropolitan area can have significant spill over effects in the form of reduced airfares (for both low cost and legacy carriers).¹⁴⁶ Brueckner et al. (2014) specifically showed this for multiple airport cities in the US including Washington DC, San Francisco, Boston, Chicago, Cincinnati, Dallas, Detroit, Houston, Los Angeles, Miami and New York. While the extent and significance of the price effects vary between airports, Brueckner et al. (2014) showed that the presence of secondary airports can reduce the airfares at primary airports in respect to routes for which both airports are in direct competition.

It should be noted that this study relates specifically to airports in the US which adhere to different regulations to those in place in other countries. For example, in the US, airlines have a role in the management and financing of airport facilities, which means that the charges paid to the airports are fixed according to the conditions established in the contract signed between themselves and the airport. In most other countries, including Australia, the airports are more independent and less conditioned by the airline companies when it comes to fixing the operational charges.¹⁴⁷

5.2 Europe

Bel and Fageda (2009) examined the determinants of the prices charged by airports for a broad sample of European airports. The study considered the influence of various factors on prices related to competition, regulation mechanisms and ownership structure.¹⁴⁸

The empirical analysis was applied to 100 European airports that generated the highest volume of passenger traffic in 2007. A significant number of the airports studied were privatised and have similar regulatory arrangements as at Kingsford Smith airport, which makes this study perhaps more applicable than the US case studies already considered.

¹⁴⁵ Brueckner, J, Lee, D, and Singer, E., [City-pairs versus airport-pairs: a market-definition methodology for the Airline industry](#), 2014, Review of Industrial Organization, Volume 44, Issue 1, p.1

¹⁴⁶ Brueckner, J, Lee, D, and Singer, E., [City-pairs versus airport-pairs: a market-definition methodology for the Airline industry](#), 2014, Review of Industrial Organization, Volume 44, Issue 1, p.12-13

¹⁴⁷ Van Dender, K., [Determinants of fares and operating revenues at US airports](#), 2007, Journal of Urban Economics, 62 (2), 317-336

¹⁴⁸ Bel, G, and Fageda, X., [Factors Explaining Charges in European Airports: Competition, Market Size, Private Ownership and Regulation](#), 2009, FEDEA Working Paper 31, p.3

For the sample of European airports, Bel and Fageda (2009) found that competition from other airports located in nearby areas and managed by different companies seems to discipline the behaviour of the corresponding airport operator. Bel and Fageda (2009) concluded that, in the absence of competition, airports controlled by private companies that are not subject to regulation fix higher prices than the airports managed by public firms or private firms subject to regulation.¹⁴⁹ This implies that while privatisation of airports may be positive, in the absence of any direct competition, there may be a role for regulation and monitoring in order to prevent the exertion of market power by monopoly airports.

In addition to the Bel and Fageda (2009) study, Hancioglu (2008) analyses the need for price regulation under different levels of competition between airports. One of the main conclusions of the study is that when strong competition between airports exists, a price monitoring approach will perform better in terms of total welfare than other traditional price regulation (e.g. price caps).¹⁵⁰ In addition to the price and service benefits, competition does indeed have the capacity, in certain circumstances,¹⁵¹ to limit the extent of regulation required at airports (Section 4.3). Reduced regulation results in lower monitoring costs for the regulator, and lower compliance costs for the airport, which ultimately represents a collective economic gain.

D'Alfonso et al. (2013), from the University of Rome, assessed the impact of competition on airport efficiency but with specific reference to a subset of Italian Airports. This report found that that, on average, the impact of competition on technical efficiency is positive and, after a certain threshold, it becomes negative.¹⁵² In other words, an excessive level of competition can have a negative effect on efficiency. This is most likely related to the fixed costs associated with airports and the economies of scale required to average out those costs. For example, if the supply of aeronautical services offered by airports in a multi-airport system significantly outweighs the demand, there will be insufficient traffic to make those airports viable and efficient (in terms of costs per unit of traffic).

Choo (2014) tested the hypothesis that competitive market forces (specifically, competition from a proximate airport as a close substitute and bargaining power from airlines) are expected to decrease aeronautical charges. Hence, a number

¹⁴⁹ Bel, G, and Fageda, X., [Factors Explaining Charges in European Airports: Competition, Market Size, Private Ownership and Regulation](#), 2009, FEDEA Working Paper 31, p.18

¹⁵⁰ Hancioglu, B., [The Market Power of Airports, Regulatory Issues and Competition between Airports](#), 2008, German Airport Performance Project, Federal Ministry of Research and Technology Germany, p.2

¹⁵¹ It is important to note that there are different types of airport market structures and competition (such as that to serve a local shared market or competition for cargo traffic) which ultimately determine the need and extent for price regulation or monitoring for a particular subset of airports.

¹⁵² D'Alfonso, T, Daraio, C, and Nastasi, A., [Assessing the impact of competition on the efficiency of Italian airports](#), 2013, University of Rome, Department of Computer Sciences and Systems Engineering, Technical Report No. 1, p.20

of US airports (59 airports with data from 2002 to 2010) with more than 100,000 passengers, within an airport's 100 km catchment area, and managed by a different operator are used to capture the effect of proximate airport's competition.¹⁵³

Choo (2014) was able to establish a negative relationship between the number of airports in a catchment and airport charges, although this relationship was statistically insignificant. This paper also showed that airports dominated by low cost carriers appear to have lower airport charges, albeit with statistical insignificance. The results, nevertheless, are consistent with the findings in the other papers discussed.¹⁵⁴

Merkert & Mangia (2014) empirically estimated the effect of competition on the cost efficiency of 35 Italian and 46 Norwegian airports. In identifying the level of competition at the relevant airports, they showed that the level of both airport competition and competition from other modes of transport can have a positive and significant effect on an airport's efficiency.¹⁵⁵

For both countries, airports that are considered to be large or are in a strategic location encounter a high level of competition. This is also related to the fact that large airports in both countries are located close to major cities where it is common to find many other modes of transport.¹⁵⁶

The results from this paper confirm economic theory as they show a significant and positive impact of competition on the airports' efficiency. However, given that Merket & Mangia (2014) estimated competition both from other airports and different forms of transport; they are unable to quantify the extent to which this competition is specifically attributable to other airports.

Copenhagen Economics (2012) undertook a comprehensive study examining the extent and implications of competition among European Airports. One of the main findings from the study was that:¹⁵⁷

...the flexibility and choices available to airlines and passengers constrains the commercial behaviour of European airports.

¹⁵³ Choo, Y., [Factors affecting aeronautical charges at major US airports](#), 2014, Transportation Research Part A 62, p.56

¹⁵⁴ Choo, Y., [Factors affecting aeronautical charges at major US airports](#), 2014, Transportation Research Part A 62, p.59; Statistical significance in econometric models does not necessarily imply that a statistical relationship is not present but rather cannot be confirmed at statistically confident level.

¹⁵⁵ Merket, R, and Mangia, L., [Efficiency of Italian and Norwegian airports: A matter of management or of the level of competition in remote regions?](#), 2014, Transportation Research Part A 62, p. 30

¹⁵⁶ Merket, R, and Mangia, L., [Efficiency of Italian and Norwegian airports: A matter of management or of the level of competition in remote regions?](#), 2014, Transportation Research Part A 62, p. 34

¹⁵⁷ Copenhagen Economics, [Airport Competition in Europe](#), 2012, p.7

Because of this, European airports now have to compete with one another to retain and attract the traffic they need. Copenhagen Economics (2012) noted that the sensitivity of consumers to changes in price or quality, and any associated assessment of market power, will vary from airport to airport; but the more and better the alternatives the greater the intensity of competition generally as airports vie for customers.¹⁵⁸

Notwithstanding this, it concluded that there was substantial evidence that the competitive pressures on European airports were generally increasing, with a disciplining effect on their behaviour. Copenhagen Economics (2012) also concluded that European airports had become more commercially focussed, the result of which was a more competitive and dynamic airport market.¹⁵⁹ Specifically, Copenhagen Economics (2013) established that:¹⁶⁰

...many European airports had responded to the increased competition by investing in service quality upgrades. In order to attract more point-to-point traffic, airports developed dedicated low-cost terminals and invested in improved surface access to the airport.

In their report, Copenhagen Economics (2012) conducted five case studies to shed light on the impact of passenger switching induced by secondary airport competition. They specifically studied market share development for the airports located around five selected European cities between 2002 and 2010.

The case studies confirm that European passengers are exploiting their ability to switch airport. In all cases, the primary airports had experienced a decline in their market share. The decline had been largest for airports around Stockholm, Oslo, and Milan with market share reductions of between 8 and 22 per cent (Table 1).

Table 1: Market share development of main airports, 2002-2010¹⁶¹

City	Main airport(s) (and distance from city centre)	Alternative airport(s) (and distance from city centre)	Change main airports' market share 2002-2010
Belfast	Belfast International (12km)	George Best (5km)	-3.2%
Paris	Charles de Gaulle (25km); Orly (13km)	Beauvais-Tille (85km)	-2.7%
Oslo	Gardermoen (35km)	Moss, Rygge (60km); Sandefjord, Torp (118km)	-8.1%

¹⁵⁸ Copenhagen Economics, [Airport Competition in Europe](#), 2012, p.53

¹⁵⁹ Copenhagen Economics, [Airport Competition in Europe](#), 2012, p.6

¹⁶⁰ Copenhagen Economics, [Airport Competition in Europe](#), 2012, p.80

¹⁶¹ Copenhagen Economics, [Airport Competition in Europe](#), 2012, p.75

Milan	Linate (8km); Malpensa (40km)	Bergamo (45km)	-17.4%
Stockholm	Arlanda (37km); Bromma (7km)	Skavsta (100km); Vasteras (110km)	-22.4%

While most of the European case studies discussed have shown competition to have a positive effect on pricing and efficiency at airports, a recent study of airport entry and exit in Europe by Mueller-Rostin et al. (2010) found that new airports had not drastically improved the level of competition in Europe.

Having studied the period between 1995 and 2005 (in which 22 airports entered the market), the Mueller-Rostin et al. (2010) study concluded that entry and exit in the airport industry is not so much driven by profits, but rather by the desire of public airports to increase economic activity for their region, with most of the new entries serving only one airline (generally a low-cost carrier).¹⁶²

5.3 Other theoretical and empirical case studies

Chi-Lok & Zhang (2009) estimated the effects of competition on airport productivity for a sample of 25 Chinese airports. Among their findings, Chi-Lok & Zhang (2009) were able to show that airports with more competition are more efficient than their counterparts. Specifically, they found that the relationship between airport productivity and distance with the nearest airport (a proxy for airport competition) is statistically correlated in their model.¹⁶³

Haskel et al. (2013) developed a theoretical model (not based on any specific countries) which assessed the impacts of ownership type, airline countervailing market power and direct airport competition on landing fees at airports (which is a large component of aeronautical charges).

From the model, Haskel et al. (2013) were able to show that competition between separate airports reduced the landing fee. Specifically, the landing fee is always lower with separate rather than joint ownership and an increase in airport substitutability further reduces the landing fee.¹⁶⁴

Haskel et al. (2013) also showed that airport countervailing market power is crucial to limiting the landing fees charged by airports. There are two aspects to this countervailing market power: airline concentration at an airport and the availability of airport substitutes. Haskel et al. (2013) specifically showed that as

¹⁶² Mueller-Rostin, C, Niemeier, H, Ivanova, P, Muller, P, Hannak, I, and Ehmer, H., [Airport Entry and Exit: A European Analysis](#), 2008; International Air Transport Association, [Airport competition](#), 2013, IATA Economics Briefing No. 11, p. 25

¹⁶³ Chi-Lok, A, and Zhang, A., [Effects of competition and policy changes on Chinese airport productivity: an empirical investigation](#), 2009, Journal of Air Transport Management, p. 166-174

¹⁶⁴ Haskel, J, Iozzi, A, and Valletti, T., [Market structure, countervailing power and price discrimination: The case of airports](#), 2013, Journal of Urban Economics 74, p.17

the downstream market becomes more concentrated, airlines are able to obtain lower landing fees, but only when the upstream ownership is sufficiently dispersed (i.e. if there are substitutes). This is because a multi-airport airline which faces an increase in the landing fee in one airport can benefit from the increase in traffic on the route flying from the other airport. In turn, this reduces the incentive to the airport to charge a high landing fee. This benefit was however, absorbed by the airlines and not typically passed through to consumers.¹⁶⁵

The combined impact of economic regulation and competition on airport performance is assessed by Adler & Liebert (2014) by using empirical results of an analysis of European and Australian airports over a 10 year timeframe.

They were able to show that under non-competitive airport conditions, economic regulation was necessary to emulate competitive forces in order to push airport management towards cost efficiency and reasonable pricing policies. However, under a situation of regional or hub airport competition, economic regulation inhibits airports of any ownership form from operating and pricing efficiently.¹⁶⁶

Adler & Liebert (2014) subsequently showed that the existence of potential gateway or regional competition replaces the need for economic regulation, thereby supporting the notion that competition rather than privatization is the key driver of efficiency. As with Haskel et al. (2014), the level of competition in the airport market had not proven to be sufficient to transfer the efficiency gains to consumers.¹⁶⁷

In summary, Adler & Liebert (2014) concluded that imperfect competition is sufficient to encourage airport cost efficiency and reduce the likelihood of abuse of market power; and non-hub airports with weak local competition generally require economic regulation in order to prevent an exploitation of market power and to encourage cost efficiency.¹⁶⁸

5.4 Summary of case study findings

While the breadth of research into the specific issue of airport competition remains limited, a number of key areas of consensus can be highlighted from recent empirical and theoretical studies.

The most important of which is the finding that airport competition had the ability to improve various forms of pricing (including landing fees and airfares) at

¹⁶⁵ Haskel, J, Iozzi, A, and Valletti, T., [Market structure, countervailing power and price discrimination: The case of airports](#), 2013, *Journal of Urban Economics* 74, p.18

¹⁶⁶ Adler, N, and Liebert, V., [Joint impact of competition, ownership form and economic regulation on airport performance and pricing](#), 2014, *Transportation Research Part A* 64, p.92

¹⁶⁷ Adler, N, and Liebert, V., [Joint impact of competition, ownership form and economic regulation on airport performance and pricing](#), 2014, *Transportation Research Part A* 64, p.93

¹⁶⁸ Adler, N, and Liebert, V., [Joint impact of competition, ownership form and economic regulation on airport performance and pricing](#), 2014, *Transportation Research Part A* 64, p.103

primary and secondary airports. This was shown by Van Dender (2007) and Brueckner et al. (2014) to be the case in the United States; and by Bel and Fageda (2009) to be the case in Europe. Haskel et al. (2013) also showed this by developing a theoretical model of airport competition.

A considerable number of empirical studies also showed that competition had the ability to improve airport productivity and efficiency across multiple jurisdictions. Yan and Winston (2014) showed this for airports in the San Francisco Bay area of the United States; while D'Alfonso et al. (2013), Merkert & Mangia (2014), Adler & Liebert (2014) illustrated this for European airports. Chi-Lok & Zhang (2014) were also able to show, from a sample of Chinese airports, that airports with more competition are more efficient than their counterparts

While studies (Haskel et al. (2013) and Yan & Winston (2014)) did show that competition had the ability to improve pricing and efficiency at airports, the benefits obtained from such improvements were largely absorbed by the airlines and not by the passengers. Brueckner et al. (2014) did however show positive spill over effects from competition in terms of airfares.

A number of other studies (Hancioglu (2008); Bel & Fageda (2009); and Adler & Liebert (2014)) were able to show that airport competition, under certain circumstances, was an effective substitute for economic regulation.

Many of the studies, however, concluded that the nature and extent of these price, efficiency and regulatory benefits varied according to various locational and structural factors in an individual airport catchment.

6. CONCLUSION

The ACCC and Productivity Commission pointed out that the natural monopoly characteristics of Sydney Airport, combined with the strength of airline demand and limited transport alternatives have resulted in it possessing considerable market power.

In comparing the expected price and service quality outcomes against the monitoring results for each of the other airports, the ACCC (2010) concluded that Sydney Airport might be earning monopoly rents from its aeronautical services. It suggested this because of the increasing profits at Sydney Airport and service-quality levels below that which could be expected in a competitive environment over a sustained period.

The ACCC has not repeated such claims in more recent monitoring reports nor has it determined conclusively that Sydney Airport has misused its market power. Nevertheless, the latest airport monitoring data showed that Sydney Airport had again underperformed across a number of key investment and service indicators in 2012-13 when compared to Australia's other major airports.

Setting this aside, the development of a second airport at Badgerys Creek should present an alternative for airlines, at least in terms of capacity, which

have had to rely solely on Sydney Airport for aeronautical services. If the second airport was developed privately and by alternative owners, its introduction may place competitive constraints on Sydney Airport's market power, the result of which may be improved aeronautical pricing and efficiency outcomes. However, Sydney Airport's valuable first right of refusal to build and operate the second airport means there is considerable uncertainty as to whether this will occur.

Having reviewed the literature and a number of empirical and theoretical case studies, there is considerable evidence to suggest that secondary airport competition can have a positive and significant influence on pricing and efficiency in a multi-airport system.

There is, however, a general consensus among the literature that the nature and extent of these effects is largely determined on a case by case basis. It is consequently difficult, without further empirical analysis, to draw any finite conclusions about the specific effect of secondary airport competition in Sydney. The ownership structures, specific service offerings and functions of the prospective Badgerys Creek airport are also unclear. These would, among other factors, determine its cost structures and ultimately whether it has a price advantage over Kingsford Smith and a capacity to actually compete.