

**The International Air Services Commission, Start-Up Airlines and Consumer Benefits**

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Abstract:

This paper has two purposes. Firstly, it considers whether the financial tests imposed by the International Air Services Commission provide an unreasonable barrier to entry for potential entrants into the Australian international scheduled air services market. In doing so, the paper compares the IASC's procedures with those of its overseas counterparts. Secondly, the paper considers the costs of an airline collapsing financially, and how these costs compare with the consumer benefits of increased competition. In particular, the question is asked, "how long does a new airline need to sustain its services in order for the benefits to be greater than the costs" ?

*Disclaimer: The views expressed in this paper are those of the author and do not necessarily represent those of the International Air Services Commission.*

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### Introduction

The International Air Services Commission (IASC) was established under the *International Air Services Commission Act 1992*. The object of this Act is to enhance international air services by fostering:

- greater economic efficiency in the airline industry, and increased competition between Australian carriers;
- increased responsiveness by airlines to the needs of consumers, including an increased range of choices and benefits;
- Australian tourism and trade; and
- the maintenance of Australian carriers capable of competing effectively with airlines of foreign countries.

It is the role of the IASC "to determine the outcomes of applications by existing and prospective Australian airlines for capacity and route entitlements available under [international] air services arrangements" (IASC 1996, p. 3). The IASC allocates capacity in accordance with the Act and Policy Statements issued by the Minister under s.11 of the Act (currently the *International Air Services Policy Statement Number 3*, signed by the Hon. John Sharp, Minister for Transport and Regional Development, on 23 April, 1997). The Minister's Policy Statement requires the IASC to only allocate capacity if it is of benefit to the public, and it is not a benefit to the public unless the applicant is 'reasonably capable' of implementing its proposal.

If an airline is not capable of implementing its proposals, the cost to the community of the airline withdrawing from the route may outweigh any initial benefits from allocating the capacity. These costs may include damage to the Australian tourism industry, additional costs to stranded passengers and the perception Australian carriers provide poor quality services, reducing the competitiveness of other Australian carriers. In such cases, the community may be better served by the IASC not making an allocation.

However, the definition of 'reasonably capable' is open to some interpretation, and it is possible the IASC has approached this requirement conservatively. Between 1992 and 1996 there have been seven prospective airlines that have been unable to obtain capacity, primarily because they were unable to satisfy the IASC that they had the necessary funding to commence sustainable operations. An eighth airline, Australia Air "was allocated capacity to China but that determination was subsequently revoked when the airline was unable to secure funding" (Bain 1996). At the same time, only Ansett Transport Industries (now Ansett International) and National Jet Systems (NJS) received capacity to provide international passenger services.

More recently, Flight West Airlines and Australia World Airways (AW) have been allocated capacity. However, the AW allocation is on the condition that it provides evidence to the IASC that it has funding in place, on terms and conditions approved by

the IASC, within six months of the final determination being issued. Meanwhile, NJS applied to the Commission to hand back all of its capacity on the Australia-Singapore route and over half its capacity on the Australia-Indonesia route.

This paper examines the interpretation of 'reasonably capable' taken so far by the IASC in terms of:

- the approach taken by similar overseas regulatory authorities;
- the costs of airline failures; and
- the time required for an airline to remain operating before the sum of the benefits provided by the airline's services would outweigh the costs should the airline fail at any given time

As a starting point, there appears to be a difference in the number of North American start-up airlines compared to the Australian experience. For example, 19 North American carriers commenced operations in 1993 alone (Moreno 1994, see also Nuutinen 1996) compared to only two major Australian domestic start-up airlines since deregulation, and only three entrants into the Australian international aviation market since 1992. Should there be more new Australian carriers? If so, what barriers do potential Australian international carriers face? Rather than going through all the forms of aviation barriers to entry (for such a discussion see Street, Spence and Smith 1993), this paper compares the Australian aviation industry structure with US observations, to determine what are the substantial differences in the Australian circumstance.

### **International aviation regulatory requirements**

In general, there are two types of regulatory requirements that airlines must meet - a safety requirement and an economic requirement. In the US, Canada and Australia, these requirements are separated, with the safety requirements administered by the Federal Aviation Authority, Transport Canada and the Civil Aviation Safety Authority respectively. While safety requirements, particularly equipment standards can form a barrier to entry, they are not considered in this paper.

Economic requirements are imposed by the Department of Transportation - Office of the Secretary (OST) in the US, and the Canadian Transportation Agency (CTA) in Canada. One difference between the IASC and its US and Canadian counterparts is that the IASC only deals with international carriers. In Australia there are no economic requirements for domestic carriers, nor are there any regulations restricting service capacity

In Europe, while the licensing of intra-European Union air carriers is regulated by EC Regulation 2407/92, member states retain administrative responsibility through their national licensing agencies (Farrell 1993). Individual EC member states continue to maintain economic regulatory authority over their national international carriers.

Although the comparison here is mainly focused on the US requirements, the IASC is continuing to seek further information on the regulations of its overseas counterparts

#### The Economic Requirements of the IASC

The public benefit criteria used by the IASC to assess applications for capacity are contained in the *International Air Services Policy Statement Number 3* (CoA 1997) Paragraph 4(b) states:

"It is not of benefit to the public for the Commission to allocate capacity to Australian carriers unless such carriers:

- (i) are reasonably capable of obtaining the necessary approvals to operate on the route; and
- (ii) are reasonably capable of implementing their proposals."

Subsection (i) refers to such matters as designation as an Australian carrier, safety approvals and timetabling. On those matters the IASC takes the advice of the Department of Transport and Regional Development (DoTRD).

It is under subsection (ii) that the IASC has established "a rough rule of thumb" (Bain 1996) to test the capability of a new carrier to implement its proposal. In general, this test consists of two parts: an assessment of the applicant's business plan; and an assessment of the applicant's funding arrangements.

The IASC's usual test of an applicant's business plan is whether the applicant's proposed services can be expected to 'break-even' by the end of the period of the determination (usually 5 years).

In terms of the applicant's funding arrangements, the IASC usually requires the applicant to have sufficient capital to cover start-up costs and normal operating costs, for a period of six months after the commencement of operations. As part of this assessment, the amount of capital required can not be offset by revenue flows to the carrier.

The amount of capital required of the applicant is not rigid since the IASC may be prepared to reduce the amount required if the applicant can provide a convincing argument, such as substantial contractual agreements providing guaranteed future revenue flows.

In addition to the quantum of funds required by the applicant to implement its proposals, the IASC is also interested in the form the funding takes. The IASC's main concern is the irrevocability of the applicant's source of funds, rather than on the gearing of the applicant's capital base.

The IASC assesses applications based on the following information requested from the new entrant:

- principals and management of the company;
- route frequencies, aircraft type and capacity;
- fares, traffic projections and break even load factors; and
- a detailed business plan including projections of profit and loss, and cash flow statements and the proposed funding base

#### The economic requirements of the OST

The US Department of Transportation, Office of the Secretary (OST) adopts a 'natural justice' process, similar to that used by the IASC, which seeks to determine whether a new airline is "fit, willing and able" to perform the proposed service (OST 1994). This three part test determines whether the applicant has the:

- managerial competence;
- disposition to comply with regulations; and
- financial resources necessary to operate a new airline.

OST requires an applicant to "provide independent, third-party verification that it has available to it resources sufficient to cover all of its pre-operating costs plus a reserve equal to the operating expenses projected to be incurred by the applicant during three months of normal operations. Because projected expenses during the first several months of operations do not include all costs that will be incurred during a normal period of operations, the three month standard is based on one-quarter of the first year's operating cost forecast" (OST 1994, p. 11). That is, the zero revenue test applied by OST is based on an average period. OST insists that its test should not be considered a zero revenue test as it argues a zero revenue test would enable an applicant to reduce the start-up capital required by excluding those operating costs incurred when collecting revenues. However, the IASC does not allow these costs to be excluded either, therefore, for uniformity, the OST test will be referred to here as a zero revenue test.

OST requires a business plan for only the first normal year of certificated operations compared to the IASC's requirement of 3 or 5 years (depending on the period of the determination sought). Although the information sought is much the same, one difference is the dimension of the bureaucratic process. For example, OST requires each applicant to file an original application and 12 copies compared to the IASC's requirement of just the original application.

Like the IASC, OST has a 'use it or lose it' principle with OST allowing one year from notification of the final order before the applicant loses its certification. The IASC applies this principle slightly differently by stating in its determinations a date by which

the applicant must fully utilise the capacity allocated to it. The 'use it or lose it' principle reflects the notion that air rights are a valuable resource.

#### European economic requirements

European Council Regulation 2407/92 states a new airline must be able to demonstrate to the "reasonable satisfaction of the competent authorities of the licensing Member State" (Farrell 1993, p. 164) sufficient capital resources to meet the applicant's fixed and operational costs for the first three months of operations without any revenue. While this is similar to the Australian and US models, there is no specific mention of start-up costs although it is likely such costs are included in the fixed cost component.

The EC test of the applicant's business plan is that the applicant must be able to demonstrate it can meet at any time its financial obligations, both actual and potential, for the first two years of operation.

The biggest difference in the European model is its formal monitoring process. Every financial year and at any time upon request by the licensing authority, the applicant must provide to its licensing authority the audited accounts related to the previous financial year (Farrell 1993, p. 164). In addition, the licensing authority has the power, although not obligation, to withdraw or suspend the airlines operating licence when there are "clear indications that financial problems exist" (Farrell 1993, p. 165). These powers could be seen as an attempt to minimise the impact of an airline collapsing and/or lowering safety standards to remain competitive. Also, since no reference can be found to the duration of the European airline operating licences (this could be at the discretion of the individual member states), this power could be considered as an alternative to the review processes of the Australian and US authorities which occur when the term of the decision has expired.

This review of European regulatory requirements is unlikely to be comprehensive since only those regulations covering intra-European Union carriers are discussed here.

#### Canadian economic requirements

Canadian carriers seeking an issuance of a licence to operate domestic, non-scheduled international, or scheduled international services, are required to pass an economic assessment of their proposed services. A prospective carrier must demonstrate that it has or can acquire funds at least equal to the total costs of its proposed services, including start-up costs, and operating and overhead costs for a period of 90 days. However, compared to Australia, the US and Europe, the Canadian economic requirements are different in that there is no zero revenue test. Instead, this test is replaced with the condition that at least 50 per cent of the carriers funding requirement be represented as equity in the carrier's balance sheet.

While the Canadian equity requirement overcomes the difficulties of estimating future revenue streams, it is the experience of the IASC that such a requirement would pose a substantial barrier to start-up airlines in the Australian context.

### A summary of the economic regulatory regimes

The similarities between the Australian, US, European and Canadian economic regulations for new airlines are:

- sufficient capital to cover start-up costs;
- sufficient capital to meet the operating costs of the proposed service for a given period;
- the provision of a sound business plan; and
- a period of review.

These regulations, summarised in table 1, are similar enough to represent a common paradigm of the economic regulation of new airlines. However, although there is a common concern for ensuring the financial stability of a new entrant airline, whether this concern is based on the perceived costs to the community of commercial failure, or whether the concern is that financial instability may lead to a degradation of safety standards, is not known.

**Table 1 A comparison of international economic regulations for new airlines**

State	Start-up costs covered	Operating Capital test	Test of business plan	Review process
Europe	Yes	Zero revenue test, based on the first 3 months.	Financial obligations for the first 24 months able to be met at any time.	Annual and ongoing
United States	Yes	Zero revenue test, based on an average 3 months.	No tests but a business plan for the first year must be provided with the application.	Expiry of the determination
Canada	Yes	An equity test based on 90 days.	Profitability based on optimal demand.	None
Australia	Yes	Zero revenue test, based on the first 6 months.	'Breaking-even' on the service within the period of the determination sought.	Expiry of the determination

Sources Farrell 1993, OST 1994, CTA 1996 and IASC

### A comparison of barriers to entry

Baumol et al. (1992, p. 908) define barriers to entry as "any impediment to the establishment of a new firm in an industry" Barriers to entry may also include those

barriers that make it difficult for a firm to withdraw from an industry and hence deter a firm from entering the industry in the first place.

Types of barriers to entry can be considered in terms of the effect that they have upon new entrants. That is, barriers to entry may:

- exclude, limit or deter a firm from providing a service; or
- raise the total cost of providing a service above that incurred by an incumbent firm.

Before considering whether the economic regulatory requirements of the IASC are barriers to entry, it is appropriate to review some of the literature on start-up airlines. Unfortunately, little literature on the European market is available.

In addition, the focus of analyses into barriers faced by new Australian carriers has been on the inter-state market. There has been little analysis into the barriers faced by Australian international carriers. Similarly, such analyses of the US situation often do not distinguish between domestic and international carriers. Consequently, the following discussion relies heavily on domestic examples being applied to the international context, with the implicit assumption that the underlying economic conditions in the international and domestic markets are the same, allowing for the influence of international capacity limitations.

#### Factors facilitating start-up airlines in the US

In the US, from January 1990 to July 1995, there were 180 applications to OST, by potential new airlines, for an authority to operate commercial services, of which 90 were approved (GAO 1996). At the end of July 1995, 57 were still operating, although there is no indication how many of these airlines operate international services. In 1993, Nocella argued the following reasons for the number of start-up airlines entering the US aviation market even though the larger incumbent airlines were making substantial losses:

- the success of Southwest Airlines;
- the inability of large carriers to control their costs;
- the availability of low cost aircraft;
- a ready supply of cheap labour and experienced managers;
- the availability of gates at airports; and
- a readily available pool of capital.

Nuutinen (1996) added other factors such as:

- the improved government approval process;
- growth in aviation support services; and



- improvements in distribution technologies.

Comparing these influences to the Australian international and domestic markets provides an interesting insight. The Australian domestic market is considered here since, given the substantial start-up capital requirements for potential Australian international carriers, it is likely future international air carriers would have at first been domestic carriers, as is the case of Flight West Airlines.

#### The lack of a successful new carrier

When the Australian domestic aviation market was deregulated in 1990, Compass commenced operations within a month, and six potential carriers were preparing to enter the market within a year (BTCE 1991, p. 15). However, both Compass Mk 1 and 2 collapsed and were not replaced by any new carriers

Although National Jet Systems successfully entered the international aviation market, its limited operations from the north of Australia to Singapore and Indonesia has probably resulted in its success not being widely known. This lack of publicity contrasts dramatically with the publicity surrounding the more recent collapse of the New Zealand carrier, Kiwi International, on the Australia-New Zealand route.

#### The lack of available capital

The perceived lack of a successful new entrant is likely to reinforce the unwillingness of the capital market to provide funds for new start-ups. When Compass was formed, "the airline floated \$50 million on the Sydney Stock Exchange and was oversubscribed by \$15 million" (BTCE 1991, p. 22). However, Compass Mk 2's attempt to raise \$50 million of capital through a public float was under-subscribed by 46 per cent (Street, Spence and Smith 1993, p. 169). More recently, when the IASC approved Australia Air's application for capacity on the Australia-China route, Australia Air was unable to attract the minimum \$55 million of capital even after 15 months of the determination being made.

While obtaining funding may be easier in the US, "the majority of the applicants that do not complete the process or never begin operations do not acquire the financial resources necessary to cover the start-up costs for their proposed operations" (GAO 1996).

### The nature of the Australian domestic and international aviation networks

If there is a lack of available capital in Australia, and since the type of route chosen by the airline has a direct impact on the required start-up capital, then one could expect that by starting small it may be easier for an airline to gain the required funds to commence operations. However, in Australia the inter-state domestic network is characterised by a fairly simple string of routes dominated by the high volume Sydney-Melbourne corridor from which most other flights extend either north or west. Although this means a new entrant can "gain access to a large number of passengers by flying on only a small number of key routes" (BTCE 1991, p. 11), it also means the new entrant would be in direct competition with the two incumbent airlines, Ansett Australia and Qantas. Holloway (1995) suggests such a strategy would make it difficult for a new entrant to be successful

Instead, Holloway argues that a new entrant should be seeking a route structure that provides quick turnaround times, keeping clear of congested airports particularly if associated with high airport user charges. This is supported by Halstead (1996) who identified two types of route structure used by new entrants in the US domestic aviation market. Halstead suggests Southwest employed a saturation strategy that consisted of using three aircraft between two city pairs, while ValuJet adopted a triangular network, with three aircraft rotating around the three routes. Also, Windle and Dresner (1995) argue Southwest tended to enter more concentrated markets with lower passenger volumes.

While the size of the US domestic aviation network may provide many opportunities for such route structures, the opposite is true in Australia. In addition, Australia's geographical position determines an international network that also provides few opportunities for new entrants. The only significant short distance international route is the highly competitive Australia-New Zealand route. While Indonesia and New Guinea are closer to Australia, they are significantly further from the more populous south east Australia region, the main source and destination of Australian traffic.

### Operating costs

As in North America, there is little evidence to suggest new Australian airlines are faced with higher operating costs compared to incumbent carriers. For example, the BTCE estimated Compass had a thirty per cent cost advantage over the incumbent airlines (BTCE 1991, pp. 11-5). In that study and others, the sources of cost savings available to new entrants are usually attributed to lower labour and maintenance costs due to improved work practices and lower unit wages.

### **Regulatory versus non-regulatory barriers to entry**

Given that the Australian domestic aviation market has no economic regulatory controls, the lack of new Australian domestic carriers implies that there are substantial non-regulatory barriers to deter new carriers from entering the market. This premise is supported by a post-Compass study conducted by Street, Spence and Smith. They concluded that the "opportunity for entry of the type attempted so far, that is, by Compass Mk1 and 2, is somewhat limited" (1993, p. 178). The main reasons for this conclusion were:

- the lack of risk finance and credit facilities;
- difficulty in capturing a share of the business market;
- lack of access to domestic terminals; and
- the experience gained by the incumbents.

In comparing Australia with the US, the substantial barriers that exist in Australia include:

- the lack of a well known successful new airline;
- the lack of risk capital; and
- the 'thin' nature of the Australian domestic network.

The latter three factors are significant in that they are interdependent. That is, the nature of the Australian inter-state network dictates that a start-up airline would require substantial capital resources to commence operations, however, the existing capital market perception of start-up airlines makes it difficult to secure the required capital.

Given the domestic situation, it is possible that even if the IASC imposed no economic regulations, it is unlikely that a new airline would be able to secure enough funding in order to commence operations. As a result, it could be argued that the economic requirements of the IASC do not impose a substantial barrier to entry for new airlines. At worst, the economic regulations imposed by the IASC do not appear to be substantially different with those imposed by the EC and US authorities.

However, what if a future applicant, with a sound business plan, could demonstrate that it had secured capital but not enough to meet the IASC's current minimum requirements? Would the IASC's test then pose an inappropriate barrier to entry, whereby possible net public benefits of the new airline's services are not realised because of the possibility that the new airline might collapse? This is, perhaps, the more appropriate measure of whether the IASC's economic requirements are too burdensome.

### **The costs and benefits of start-up airlines - an initial analysis**

The importance of new entrants in stimulating greater efficiencies and consumer benefits in the provision of aviation services is very real. Smith and Street (1992) estimated that the net welfare gain from the first year of a deregulated Australian domestic aviation market was approximately \$100 million. It is likely that a significant proportion of these gains were caused by the market entry of Compass. Also, the US Department of Transportation estimated that low cost new entrants saved American consumers over \$US6.3 billion in domestic air fares in 1995 (DoI 1996). However, no studies have been found on the cost to the community of an airline collapsing.

The following example is used to understand the dilemma faced by the IASC between balancing its competition and consumer benefit objectives. This example focuses only on consumers but obviously there are benefits and costs to industry as well. However, many of the benefits and costs to particular firms are likely to represent transfers. Consequently, the costs and benefits to consumers are likely to represent the largest proportion of net welfare gains or losses

One important cost not considered here is the effect of another airline collapse on the ability of future airlines to gain capital backing for their proposed services

#### **Benefit to consumers from air fare savings**

Table 2 presents three different scenarios of an applicant being given capacity on an international route where there exists an incumbent Australian carrier. The difference between each scenario is the amount of air fare discounting, based on an economy return fare of \$2500.

The amount consumers save via reduced air fares depends on the depth of discounting offered by the new entrant and the pricing response by the incumbent carrier. If the new entrant's services compete with indirect services provided by the incumbent carrier, it is possible that the new entrant could offer lower air fares compared to those offered by the incumbent carrier. If both the new entrant and incumbent carriers provided direct services, but the new entrant offered a 'cola and nuts' service compared to the incumbent carrier's higher quality service, it is also likely that passengers could take advantage of significant air fare savings. However, the total consumer benefit may not necessarily equate to total air fare savings since an adjustment for the quality trade off would have to be made, particularly if the incumbent carrier adjusts its air fares and level of service provided in response to the new entrant.

**Table 2 A hypothetical comparison of potential consumer benefits and costs**

	Case 1	Case 2	Case 3
Annual number of passengers per year (incumbents and start-up)	35000	35000	35000
Market share of the start-up	20%	20%	20%
Return economy fare	\$2500	\$2500	\$2500
<b>Potential Consumer Benefits</b>			
Discount	5%	10%	15%
Discount fare	\$2375	\$2250	\$2125
Consumer savings (per annum)	\$4.3m	\$8.5m	\$12.8m
<b>Potential Consumer Costs</b>			
Number of pre-paid tickets <sup>1</sup>	600	600	600
Pre-payment	\$1.43m	\$1.35m	\$1.28m
Cost to consumers as proportion of savings	33%	15%	10%

<sup>1</sup> The number of pre-purchased tickets at any time is assumed to be one months worth of annual ticket sales.

Source IASC, based on actual passenger numbers and advertised ticket price for an international sector

In the example provided, if the number of fare paying passengers on this route was 35000 per year and the same level of discounting was applied by both the incumbent airline and the new entrant, then a simple estimate of the direct savings to consumers would be in the order \$4.3 million, \$8.5 million and \$12.8 million per year respectively for each case.

#### Benefit to consumers from time savings

If the new entrant's services provided consumers the opportunity to travel directly rather than indirectly, then these consumers will benefit in terms of reduced travel times. However, what is the value of time for these passengers? It is likely that there would be a difference in the value of time for first class, business, economy and discount passengers. In economic literature, most studies on the value of time are associated with either urban travel choices or environment resources issues, and are usually estimates of the traveller's marginal utility of the time spent travelling. For example, the BTCE recently estimated that the average national value of commuter travel time was \$15.19 per hour (BTCE 1996, p. 484). However, it is likely the marginal utility of time for urban commuters is not the same as the marginal utility for air passengers. In particular, many tourists associate a positive time utility with air travel, particularly for direct services. Also, for business passengers, it is probably more important to use an estimate of the opportunity cost of the business passenger's trip rather than the time taken travelling.

Until more robust estimates are made, it is assumed the BTCE value of time estimate provided above represents a mean value of time. Consequently, the IASC assumes the

value of time for business, economy and discount passengers to be \$25, \$15 and \$5 per hour, respectively. No estimates of time savings have been provided in the example.

#### Cost to consumers from an airline's overnight collapse

If the new entrant was to collapse there is a cost to consumers who have pre-purchased their tickets to travel on the start-up airline, and those who have purchased return tickets but are stranded away from home. However, no information has been obtained indicating the number of tickets that are pre-purchased at any one time. Although media reports indicate that when Kiwi International collapsed, \$NZ5 million was owed to 2000 pre-paid passengers (see for example *The Australian* 1997), this would equate to \$2500 per trans-Tasman passenger and seems unrealistic.

By definition, it is likely more discount passengers would purchase their tickets well in advance of flying compared to economy and business passengers. At present, the IASC assumes that, on average, discount passengers pay for their tickets four weeks in advance, while business and economy passengers pay for their tickets one and two weeks in advance, on average.

In the example provided in table 2, if the start-up airline was able to capture 20 per cent of the market, and pre-purchased tickets represent one month's worth of annual ticket sales at any one time, then the cost to consumers ranges from \$1.5 million to \$1.2 million. Interestingly, this indicates that there is little variation in the cost to consumers regardless of the amount of fare discounting.

There are other costs to consumers such as the cost of additional tickets to return home and additional accommodation expenditure for those passengers actually stranded by the airline.

#### Results

In the example provided, the new entrant would not have to remain in the market for very long before the benefit of lower air fares outweighed the cost to those consumers caught with pre-purchased tickets if the airline collapsed. While there are additional benefits and costs not taken into consideration here, these costs and benefits are unlikely to affect the overall conclusion that it is possible the benefits to the community of new airlines commencing operations may quickly outweigh any costs should the airline collapse overnight. That is, a measure of 'reasonably capable' could be the length of time a new entrant would need to remain competing before the consumer benefits of the applicant's proposal outweigh the possible cost to consumers should the start-up fail.

However, whether or not the IASC's economic requirements provide a sufficient guarantee of the start-up airline competing long enough would depend on the sensitivity

of the airline's operating costs to factors such as fuel prices and interest rates. Also, on the revenue side, the IASC can not impose a level of discounting on an applicant. While the new entrant may have every intention of providing significant discounting, the commercial reality may well result in little discounting actually occurring.

### **Conclusion**

This analysis suggests that on a comparative basis, entry into the Australian domestic and international aviation markets is more difficult than is the case in the United States. The principal difficulty appears to be a lack of available capital due to the lack of a well publicised successful new entrant, providing little encouragement for the capital market to provide funds. Also, the size of the Australian domestic network, the length of Australian international routes, the strength of the incumbents, the lack of experienced entrepreneurial managers and an appropriately skilled workforce, and a small aviation support industry, seem to limit the potential for start-up airlines.

On a comparative basis, the economic requirements of the IASC seem to be in line with those of overseas regulatory agencies. However, on a case by case basis, such financial tests may not be sensitive enough to measure the balance between the potential public benefits provided by a new entrant and the possible cost to consumers and industry due to the start-up's collapse.

The simple example provided in this paper provides an indication that more detailed work, such as applying the analysis to a real application, may provide beneficial input into the decision making of the IASC. In addition, such an analysis could also be applied to the relative benefits and costs for industry, particularly the tourism sector.

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