



Board of Airline Representatives of Australia

Response to the Draft Report of the Productivity Commission's inquiry into price regulation of airport services

October 2006

Key messages

- The Productivity Commission's (PC) Draft Report makes a number of important recommendations and statements over future price setting by Australian airport operators, the key ones being that:
 - further aeronautical asset revaluations should not be used as a justification for increasing aeronautical charges; and
 - anticipated increases in passenger demand should provide a source of downward pressure on airport charges for the use of existing facilities.
- However, the PC's statements on future pricing are not consistent with either the overarching Review Principles or the PC's recommendations on aeronautical asset values.
- BARA considers that the PC should re-draft the Review Principles. The Principles need to accurately reflect the PC's expectations regarding future prices. At the moment, the Review Principles relate mainly to backward looking return on assets.
- BARA sets out below in Box 1 recommended re-drafted Review Principles on pricing. The revised Principles seek to better articulate the basis for negotiating future pricing agreements, recognising:
 - the different privatisation process of Sydney Airport and the Phase I and II Airports; and
 - the age and condition of existing aeronautical assets.
- It is critical that the PC make clear its expectations over future pricing behavior by Brisbane and Canberra airports. Both airports are likely to implement further price increases for existing assets based on their booked 30 June 2005 asset values.
- BARA is extremely disappointed that the PC has re-opened cost of capital issues in the manner that it has. Airport operators are likely to view the PC's broad-brush comments as an open invitation to seek rent transfers and increased profits. To the extent that price increases and rent transfers achieved in this way generate reductions in final demand, part of the rent transfer will impose a deadweight loss on the economy.
- As noted by the PC, BARA has acknowledged the positive outcomes generated by the overall negotiation process under light handed regulation. However, BARA has some concerns about whether, in the future, the regime will be an effective constraint on airport operators focused on rent transfers.
 - The PC has made little effort to differentiate between airport operators in terms of their price and non-price behavior. This means the worst

- performing airports can claim the same position as better performing airports.
- Sydney Airport Corporation Limited (SACL) has already implemented price increases based on a method that contradicts the PC's statements over prices going forward. However, in the Draft Report the PC neither undertakes any analysis of, nor forms a view on, this pricing behavior.
 - Given these underlying problems, it appears that airlines will have to continue to rely on Part IIIA of the Trade Practices Act (TPA) to moderate the pricing behaviour of airports focused on rent transfers. Yet the usefulness of this process is greatly diminished by the inordinately long time that it takes to achieve an outcome.
 - BARA, therefore, welcomes the statements and precedent cited by the Australian Competition and Consumer Commission (ACCC) in its submission to the PC on overcharging by monopoly providers and the impacts on downstream competition.
 - Many of BARA's members operate on thin profit margins. Increases in costs for such carriers will cause them to either reduce capacity or exit markets, thereby reducing the level of downstream competition.
 - BARA also welcomes the statements by the PC on Government-provided airport services. However, BARA finds it absurd that the PC and ACCC are making policy recommendations and pricing decisions regarding larger regional airports based on polarised views about the competition those airports face from alternative modes of transport and other holiday destinations.
 - BARA's strong view is that a common position on the market characteristics of larger regional airports for policy and pricing purposes must be established. The current polarised views represent poor public policy by Commonwealth Government agencies. They provide little confidence that robust policy recommendations and pricing decisions are being made.

Box 1**Revised Review Principles for price monitored aeronautical services**

In negotiating future aeronautical pricing agreements with customers, the Commonwealth Government considers that:

- **for Sydney Airport, appropriately defined and valued aeronautical assets are those determined by the Australian Competition and Consumer Commission in its May 2001 Pricing Decision, updated for investment, depreciation and disposal of assets; and**
- **for other price monitored airports, the prices negotiated as at 1 July 2006 are at least sufficient to provide a commercial return on existing assets.**

Furthermore, for all price monitored airports, the Commonwealth Government considers that:

- **anticipated increases in passenger demand should provide a source of downward pressure on airport charges for the use of existing assets;**
- **in the absence of investment and with strong growth in passenger numbers, even constant prices might be indicative of the exercise of market power;**
- **unless agreed with customers, future asset revaluations should not provide a basis for higher charges for monitored aeronautical services; and**
- **the benefits of improved productivity should be shared between airport operators and their customers; productivity improvements do not include increased use of existing assets through anticipated growth in traffic levels.**

1. Introduction

The PC's review of price regulation of airport services will be a key report guiding future negotiations between airport operators and their customers. Indeed, the negotiating parties will see many of the statements in the PC's Final Report as 'precedent'. It is, therefore, critical that the PC be sufficiently clear regarding its expectations over price and non-price outcomes currently being negotiated with airport operators.

This call for clarity does not mean BARA is advocating that the PC prescribe mechanical methods for setting prices. However, for monopoly suppliers, appropriate transparency over costs, revenues and profits will always be a critical element in allowing the parties to reach agreements over price and non-price terms and conditions.

BARA's response to the Draft Report tries to draw together and evaluate the various recommendations and statements on pricing throughout the Report. As discussed below, the current suite of recommendations and statements probably bring as much ambiguity to the regime as they bring clarity. Comment is also provided on service quality, dispute resolution and Part IIIA of the Trade Practices Act (Part IIIA) and Government-provided airport services.

2. Pricing expectations and identifying abuses of market power

Throughout the PC's Draft Report there are a number of important statements on the future pricing policies of airport operators. BARA has tried to draw together the various statements and assess their internal consistency. As discussed below, there appear to be substantial inconsistencies that warrant re-drafted Review Principles.

The PC also draws on three main measures as a guide to identifying abuses of market power. They are:

- international airport charges;
- larger non-price monitored airport charges; and
- pre-tax return on assets (with 'starting asset values' defined as at 30 June 2005).

Closer examination highlights the flaws with these measures. All these flaws bias outcomes in favor of airport operators. In conjunction with the PC's specific findings on SACL, BARA cannot be confident that the regime going forward will act as an effective constraint on those airport operators focused on rent transfers. To the extent that price increases generate reductions in final demand, part of the rent transfer will impose a deadweight loss on the economy.

2.1 Pricing expectations

BARA understands the PC's key statements in relation to current and future prices to be:

1. Further aeronautical asset revaluations should not be used as a justification for increasing aeronautical charges (unless agreed with customers).
2. Current prices are sufficient to provide for existing assets. As a consequence:
 - Anticipated increases in passenger demand should, therefore, provide a source of downward pressure on airport charges for the use of existing facilities.
 - There may be little reason for further rises, other than to pay for specific new investments and any additional security upgrades.
 - In the absence of such new investment and with strong growth in passenger numbers, even constant charges might be indicative of the exercise of market power by an airport.
3. The benefits of improved productivity should be shared between the airport operators and their customers.
4. To the extent that short term variability in passenger numbers has increased, the pursuit by airports of rates of return somewhat above the benchmarks set by the ACCC five or more years ago would not necessarily be a cause for concern.

Each of these points is discussed below.

2.1.1 Further asset revaluations

BARA endorses the PC's finding regarding further asset revaluations. Such revaluations are simply a source of costless profit and have no practical economic merit. They also undermine the creditability and viability of any light handed economic regulation designed to deter the abuse of market power. The PC's clear statements on this matter should serve to end the debate on this issue. Nevertheless, BARA would not be surprised if new and rather imaginative positions emerge from some airport operators seeking to justify at least one more asset revaluation.

Unfortunately, it is possible that some airport operators will now simply shift their focus for achieving costless increases in profit to other issues. One new door opened by the PC's Draft Report is the cost of capital. Others may look to their current inflated aeronautical asset value.

BARA considers that the shareholders of some airports place considerable pressure on airport management to obtain price increases above that assumed at the time of sale. This allows them to report excessive profits as 'superior shareholder management' to investors. This is why it is critical that the PC's 'total package' provide sufficient clarity to all parties on appropriate pricing behavior. Some airport operators will seize upon unnecessary ambiguity. Negotiations with these airport operators will not move beyond basic pricing principles and agreement is unlikely to be reached.

2.1.2 Current prices and anticipated increases in passenger demand

These statements are probably the most important in guiding price negotiations. They recognise that, depending on the level of expenditure required going forward, real or nominal price decreases could actually be a possibility in the outcomes negotiated with airport operators. They also recognise that future prices should not be dictated by the current rates of return on the booked value of the assets as at 30 June 2005.

BARA considers it critical that the PC's statements be understood in the context of how the current prices charged by airport operators were negotiated.

A number of airport operators adopted five-year 'building block' models as a basis for negotiating prices with the removal of direct price controls; that is, the 'ACCC template' described by the PC. BARA did not object to the use of these models as a basis for discussion. They represented a known and accepted method of deriving forward looking prices. However, BARA has always had concerns over the starting asset values adopted by most airport operators and, in some cases, the cost of capital applied.

In the case of airport infrastructure, the general effect of this pricing model is to bring forward the returns on existing assets and capital expenditure. That is, the prices derived are likely to exceed the incremental cost of new capacity. This can occur even when incremental costs are above average costs.

This pricing outcome occurs for two main reasons. First, the average length of the pricing agreement is far less than the average life of the assets. Prices are not 'smoothed' over a more realistic timeframe. This issue is magnified by the fact that traffic is often forecast to grow at more than four per cent a year. Also, no 'residual value' of the assets is taken into account in setting prices.

Second, the airport earns the majority of its 'return on' capital charges on new assets when there is surplus capacity. That is, the pricing model actually determines prices to earn the greatest absolute level of profit when the asset is under utilised. The PC, therefore, needs to be careful in considering the influence of the 'capacity cycle' on rates of return. The majority of airports actually levy higher charges in the face of surplus capacity.

BARA does acknowledge that future prices are also influenced by the age and condition of existing aeronautical assets. For airports with older assets that require replacement, upward pressure on future prices will occur through the investment needed to modernise the airport.

In summary, the five-year building block model – especially in its first application – is likely to generate prices higher than incremental cost and bring forward the profits on existing assets. The implication is that, even in the face of significant levels of capital expenditure in the next pricing period, the prices derived from a five-year building block model for the subsequent period actually could be lower than those for the initial five

years. Actual outcomes will be driven primarily by the expenditure needed to both maintain and expand capacity going forward. But for most airport operators, current prices are likely to exceed incremental cost.

These outcomes highlight the potential inconsistency in the statements that:

1. anticipated increases in passenger demand should, therefore, provide a source of downward pressure on airport charges for the use of existing facilities; and
2. there may be little reason for further rises, other than to pay for specific new investments and any additional security upgrades.

The second statement seems to imply that as long as an airport operator undertakes **some** level of “new” investment, the prices charged by the airport operator should continue to rise. This appears to be a return to the previous ‘necessary new investment’ (NNI) arrangements, which seek to differentiate the pricing policy for replacement and capacity enhancing investments.

SACL and Phase I and II Airport operators, in preparing for the next round of price negotiations, have worked out the issues associated with five-year building block models. The dilemma most face, therefore, is that the pricing model that justified such large increases in prices the first time might not justify any increase at all going forward.

Brisbane and Canberra airports

For Brisbane and Canberra airports, the PC’s proposal on asset valuation for price monitoring purposes has probably generated considerable rejoicing at the respective airport offices. The five-year building blocks pricing model will ‘justify’ a further round of significant price increases when used in conjunction with their booked value of aeronautical assets.

Indeed, Brisbane Airport in its submission to the PC asked the PC to endorse the five-year mechanical approach to price setting. Brisbane Airport, in fact, wants a close nexus between measured costs and prices. This is because the method mechanically gouges hundreds of millions in rent when used in conjunction with its 30 June 2005 asset value.

The specific issues of Brisbane and Canberra airports are discussed in more detail below.

The ‘two aeronautical tills’ of Sydney Airport

BARA considers it possible that SACL’s management has always been uncomfortable with the idea of increasing charges on the back of aeronautical asset revaluations. If SACL had really believed in the merits of its argument it would have acted on them long ago.

Instead, it seems that SACL’s management may have been pinning its hopes on the findings of the PC in this review. That is, SACL may have been hoping the PC would

endorse asset revaluation so that SACL could then ‘safely’ implement its desired approach.

However, as its ‘backup plan’, SACL is seeking to implement a new form of pricing model as a justification for continually increasing aeronautical charges. This is done by effectively creating two ‘aeronautical tills’, namely, an ‘existing asset till’ and a ‘capital expenditure till.’

The pricing policy for the existing asset till is simply flat prices regardless of traffic growth. As stated in BARA’s first submission, SACL’s pricing policy ‘locks in’ current charges for existing assets. This is confirmed by SACL in its submission to the PC:

“As part of those negotiations, SACL has offered airlines a five year path under which charges as at 30 June 2006 would be maintained...”

BARA notes that after imposing the recent round of price increases, SACL has communicated that it will now make some effort in justifying them. This is an interesting approach to negotiations – first impose the price increase, then put some thought into justifying them to customers. The justification provided by SACL to the PC in its submission to this review is simply that the prices are less than SACL’s initial, absurdly inflated, price offer.

It is unclear how SACL will seek to ‘justify’ the prices it has imposed without agreement with the international airlines. One justification might be through inflating the cost of capital. Alternatively, SACL may simply ignore the PC’s position on asset revaluations and implement its own ‘necessary’, ‘one off’ asset revaluation. Regardless, the approach to pricing already implemented by SACL directly contradicts the PC’s statements over current prices and growth in passenger numbers.

SACL’s second aeronautical till, the ‘capital expenditure till’, is priced in the same manner as the old NNI arrangements, the key difference being that all capital expenditure is included for pricing purposes. This means that SACL is trying to assert that the pricing of new capital expenditure should occur on a different basis to existing assets. Put another way, it is asserting that existing assets and new assets are no longer complementary in their provision.

In doing so, prices must continually spiral upwards with the capital expenditure needed to both maintain and expand capacity. It is one way of justifying further price increases given that the first five-year building block model generated prices higher than incremental costs.

BARA finds it ironic that the previous NNI arrangements – arrangements so despised by airport operators under the CPI-X price cap – are now being put forward as the superior pricing model once base charges are moved to a dual till basis. In reality, it is nothing more than another way of seeking additional rent transfers and costless profits in the absence of asset revaluations.

The PC's findings in relation to Sydney Airport

Given SACL's pricing behavior, it is also worth commenting that BARA is extremely disappointed with the PC's overall findings as they relate to SACL. In particular, the PC has ignored the following:

- Negotiations with SACL have been and continue to be protracted, having commenced in September 2004, but with little meaningful negotiation occurring. This outcome is explained almost entirely by the fact that SACL is focused only on rent transfers. Nothing in the PC's Draft Report is likely to cause SACL to alter this basic and, seemingly, only objective.
- SACL has not been prepared to commit to a reasonable level of transparency over costs as a basis for negotiating future prices. One of the functions of prices in competitive markets is to convey information about costs, profits and consumer preferences. In monopoly markets, the ability of prices to convey meaningful information about costs and profits is extremely limited. The PC will be well aware of the substantial volume of literature on the problems of information asymmetry with monopoly providers. SACL's attempts to obscure the true level of its cost, profit and efficiency stems from the very same market position as that which allows it to set prices.
- Non-price terms and conditions offered were a step backwards from previous draconian arrangements. As noted by the PC, outcomes for non-price terms and conditions have been less satisfactory.
- As described earlier, SACL currently significantly overcharges international airlines by creating two aeronautical tills. Without access to a reasonable level of information, BARA suspects the current prices imposed exceed justifiable levels by up to about \$2.20 per passenger, or some 15%. BARA notes that, in its submission to the NCC, Melbourne Airport claimed that 'the upper limit of SACL's capacity to increase prices without attracting Government intervention is probably around 15%, possibly less.' Reality has proven such constraints to be non-existent.
- The Australian Competition Tribunal in its decision *Re Virgin Blue Airlines* found that SACL has abused its market power.

Despite its appalling behavior, SACL can report to its shareholders that the PC found that 'there is no evidence that it has misused its market power'. BARA considers that, safe in the knowledge that its current price and non price behavior is effectively 'endorsed' by the PC, there is little reason for SACL not to push even harder on price and non price issues. SACL probably considers that as long as it submits a glowing enough commentary on its conduct in monitoring reports then the threat of a pricing inquiry or price controls is not real.

All this sets a new and disturbingly low standard for airport operators. In BARA's opinion, the failure of the PC to deal with the continued abuses of market power by SACL undermines the credibility of the regime going forward.

The PC's Draft Report attempts to explain SACL's behavior on the basis that 'compared with the other price monitored airports, the transition to a more commercial environment is at an earlier stage'. Yet BARA has been unable to find any statements from Macquarie Airports outlining and explaining its lack of experience in operating in a commercial environment. Indeed, Macquarie Airports boasts of the skills and capacity of its management team.

The reality is that all Phase I and II Airports received a considerable equity gain on their initial investments with the removal of the CPI-X price cap. While some increase in prices was probably expected, the actual outcomes far exceeded expectations. The question this generates for SACL – whose aeronautical assets were valued prior to sale – is, effectively, "Where is my rent transfer too?"

The shareholders of Sydney Airport would, no doubt, be envious of the significant profit growth and equity gains experienced by the shareholders of Phase I and II Airports. The problem is, therefore, not a lack of experience, but rather 'rates of return competition' between the institutional shareholders of Australia's major airports. Unless the shareholders of airports consider that the abuse of market power will be dealt with by the Government under this regime, the balance of risk and profits favours abuse over compliance.

2.1.3 Sharing productivity improvements

BARA has no issue with the principle of sharing genuine improvements in productivity with airport operators. However, in reading the Draft Report it is not clear to BARA how this process would work in practice. The two issues that appear to emerge are:

- how productivity improvements are measured; and
- should they relate to previous or only future improvements in productivity?

The PC notes that the simple case of improved capacity use through traffic growth is not a true source of productivity improvement. In addition, BARA notes that capital expenditure funded through price increases may also generate measured improvements in productivity. For example, the labor productivity of a baggage system may improve due to system upgrades.

BARA considers that for this Review Principle to work effectively in practice it is incumbent upon the airport operators to identify:

- the source of the improved productivity (eg, baggage systems, airfield infrastructure etc);
- the size of the improvements (principally financial, but also, potentially, service quality) offered;
- how airport management expects to achieve such improvements; in particular, why it is not just a function of traffic growth; and
- the planned sharing of the benefits.

Without a reasonably robust framework, airport operators focused on rent transfers will simply claim that they are ‘more productive’ and increase their cost of capital. The crude measures used are likely to be operating expenditure and/or asset value per passenger. This approach would simply seek to justify increases in the cost of capital via increased use of existing assets as traffic increases. This problem is magnified by the fact that airport operators often set higher prices when there is surplus capacity in existing or new assets.

Another issue is the extent to which cost of capital increases are permitted in the context of existing levels of productivity. The Draft Report appears to infer that airports with relatively higher productivity at present should increase their cost of capital. BARA considers that the current prices negotiated more than adequately compensate airport operators for the provision of aeronautical services. Sharing the benefits of improved productivity should apply to future improvements in productivity rather than retrospective evaluations.

2.1.4 Underlying cost of capital

Based on a couple of ambit complaints by SACL and Adelaide Airport, the PC has effectively re-opened an issue largely resolved between the parties. Just like asset valuation, the cost of capital is extremely important in price negotiations. For example, a one percentage point increase in rates of return will increase total payments to price monitored airports by around \$35m per year – roughly the same impact as SACL doubling its aeronautical land value.

However, the PC has justified cost of capital increases in favour of airport operators based on a few broad brush statements over passenger volatility. This approach would go a long way to ensuring that no commercial agreements are reached with airport operators as part of the current price negotiations.

BARA offers the following general comments on airports’ cost of capital and, in particular, asset betas:

1. The “ACCC benchmarks” were set during the previous NNI process. As noted by the PC, during the first five years of privatisation there were claims and perceptions that airport prices were ‘unsustainably low’. NNI price increases were the only mechanism available to the ACCC to increase measured book rates of return. The ‘ACCC benchmarks’ were, therefore, quite generous. They were set for marginal capital outlays in a time of low or negative overall returns.
2. Previous analysis undertaken in 2004 by independent consultants in relation to Airservices Australia’s cost of capital demonstrates that airport asset betas compare favorably to other infrastructure industries (see Attachment A). This is to be expected given the environment in which they were determined.
3. Any empirical evidence on overseas airport asset betas is mixed. For example, BARA understands that the measured asset betas of the British Airport Authority

(BAA) and Auckland International Airport (AIA) have actually fallen since September 2001.

4. BAA's and AIA's asset betas highlight the fact that betas are a function of covariance and not variance. It is incorrect to assume that an increase in the short term variability in passenger numbers directly translates into a beta increase. What matters is the change (if any) in the covariance with the market as a whole. This point was in fact emphasised by SACL in its 2001 pricing decision:

“...it is important to note that any estimate of beta must be grounded in arguments about fundamental systematic riskiness. With this context, it is not passenger volatility per se that constitutes risk, but rather factors that cause fluctuations in earnings relative to fluctuations in earnings of the market portfolio.”
5. Airport operators have failed to demonstrate that previous volatility will be a feature of the next pricing agreements. Indeed, it is arguable that the productivity and cost base position of the two domestic carriers is unlikely to mean another significant domestic supply shock to the aviation industry over the next five years.
6. Non-aeronautical revenues mean that airports are actually willing to invest at low rates of return. This is because the opportunity cost of not investing to maintain and grow passenger demand includes both aeronautical profits and non-aeronautical revenues. That is, by not investing in aeronautical infrastructure to support traffic growth, an airport is likely to constrain non-aeronautical revenues.

In terms of SACL's claims regarding its cost of capital, BARA notes that SACL handed out its intention to increase its cost of capital for new aeronautical investments at a meeting not attended by the pricing representatives of either SACL or the airlines. The non-response by the airlines' technical planners was then claimed by SACL to be acceptance on the part of airlines. Only when pressed by the pricing representatives of the airlines did SACL reveal its position.

It is also interesting to note that, in statements to investors, a very different take on airport revenue and profitability volatility is presented by airport operators. For example, on 8 July 2002, in its *Acquisition of Sydney (Kingsford Smith) Airport Investor Presentation*, Macquarie Airports proclaimed –

“Airports are resilient to world economic and political shocks”.

The headline for traffic forecasts was also printed in bold:

“Strong and Stable Passenger Growth”

The IATA report on traffic forecasts commissioned by Macquarie Airports also indicates that previous volatility experienced in Australia might well be less likely in the future:

“In the short term IATA expects that international traffic should continue to recover post September 11 in a manner similar to the recovery which followed the Gulf War. Domestically, the collapse of Ansett has resulted in a domestic market which is expected to be more efficient and more competitive than the duopoly

which existed prior to 2001. The new competitive landscape is expected to support long term passenger growth in part due to the relative strength of both Qantas and Virgin Blue.”

Adelaide Airport, the airport that at the time of privatization expected CPI-1% going forward, seems to claim it had little room to negotiate on pricing issues, including rates of return. However, if its rate of return is inadequate, then why did the airport enter into a 15 year pricing agreement for the new terminal costing about \$260 million based around such parameters? What this demonstrates is that the airport operator is willing to invest at such rates of return.

BARA is disappointed that the PC has re-opened cost of capital issues in the manner that it has. For those airport operators focused on rent transfers, the PC’s statements will be seen as an open invitation to increase its cost of capital. In particular, the PC seems to imply that any short term increase in passenger volatility should immediately justify an increase in the cost of capital. This gives airport operators the opportunity to put forward the most rudimentary justification and then simply state in its commentary in the prices monitoring reports that it is ‘of no cause for concern’.

The airlines actually adopted a pragmatic approach to cost of capital issues. That is, the airlines accepted that rates of return determined for marginal capital during the CPI-X price cap regime could apply to overall airport assets.

Despite the complaints by some airport operators (that is, those at the lower end of the ACCC’s determinations), airport operators have continued to invest at such rates of return. Increasing the underlying cost of capital will not generate any extra investment in aeronautical assets by airport operators. Nor are current rates of return constraining any investment. Rather, current rates of return are favorable compared to other infrastructure providers. Continued investment in aeronautical infrastructure is also necessary to allow airport operators to achieve continued non-aeronautical revenue growth.

2.2 Hypothetical empirical outcomes

The previous discussion has highlighted the potential divide between the airports and airlines over possible pricing outcomes, given the various statements in the PC’s Draft Report. It is, therefore, worthwhile to place the statements in the context of possible pricing outcomes.

The following hypothetical example is based on an airport that has:

- 15m passengers with expected growth of around 5% per year;
- existing assets of \$350m;
- \$40m in capital expenditure per year (\$200m in total over 5 years);
- \$33m in operating expenses, rising with CPI;
- pre tax nominal WACC of 11%; and
- current price of \$5.20 per passenger.

The pricing outcomes as a basis for negotiation under different interpretations of the PC's recommendations and statements are shown in Table 1.

Table 1 Possible outcomes for a hypothetical Australian airport

Pricing outcomes	Scenario 1	Scenario 2	Scenario 3
	Traffic growth puts downward pressure on prices	Revalued assets	Two aeronautical tills
Increase in price	0%	+64%	+10%
Revenue over 5 years (\$m)	\$452m	\$741	\$492m
Change in revenue (\$m)		+\$290m	+\$40m

Scenario 1 is based on the premise that growth in passenger numbers puts downward pressure on prices and there is no increase in the cost of capital. The indicative model indicates that existing prices are sufficient to fund \$200m in capital expenditure over five years.

Scenario 2 shows the outcomes for an airport operator that considers its starting asset value and cost of capital, respectively, should increase to around \$650m and 12%. Not surprisingly, a \$300m increase in existing asset values and an increase in the cost of capital require an enormous uplift in existing prices to earn the 'fair' rate of return on existing aeronautical assets.

Scenario 3 shows the impact of adopting the 'two aeronautical tills', as currently applied by SACL, in conjunction with an increase in the cost of capital to 12%. While not as dramatic, the two aeronautical tills approach is also effective at obtaining price increases and tens of millions of dollars in further rent transfers even on relatively modest levels of capital expenditure. The price increases will be magnified as the level of capital expenditure increases. BARA notes that most airport operators are indicating that substantial capital expenditure is required over the next five to ten years.

The hypothetical examples demonstrate that the PC's proposed Review Principles and various statements potentially provide no meaningful bounds around the pricing negotiations. For those airport operators focused on rent transfers, it appears there is likely to be an impossible divide between the parties on what constitutes fair and reasonable prices. The PC's various statements could be interpreted to endorse a further round of significant price increases, even with relatively modest levels of capital expenditure.

2.3 Threshold measures to identify abuses of market power

In BARA's opinion, the PC currently has a rather weak and somewhat poorly researched suite of measures to identify abuses of market power. This problem is highlighted in the inability of the PC to differentiate between airport operators. This approach may have been intentional, so as not to be seen to 'single out' any particular airport. However, a 'conduct based' light handed economic regime must do just that. The PC approach is

also contrary to the expectation of the Department of Transport and Regional Services (DOTARS) for the PC ‘...to examine in some detail and judge, under the current regime, whether it considers each of the 7 major Federal airports has behaved in a manner consistent with the Government’s pricing principles.’

Taking a generalised, high level approach to each airport operator’s conduct effectively means the worst performing airports can claim the same position as better performing airports. This is a major weakness of the current review. It endorses the poor conduct and abuses of market power by SACL.

Work is required for the threshold measures to provide meaningful guidance on the pricing conduct of individual airports. Without further work, BARA has little confidence that the threat of a pricing inquiry or re-imposition of price controls are genuine components of a light handed regime.

2.3.1 International airport charges

While recognising the deficiencies of the data, the PC notes that ‘charges at Australia’s major airports are, for the most part, mid-range by international standards.’

BARA sought generalised information through IATA on the pricing arrangements at the five most expensive airports (New Jersey, Toronto, Athens, Osaka and New York). The general themes received about these airports were:

- there was no explicit (even light handed) form of economic regulation;
- users had little input into pricing decisions;
- users were provided with very little information on costs and profits; and
- excessive profits were often extracted from government-owned airports to fund unrelated infrastructure, such as sea ports.

BARA does not consider airports with these institutional characteristics and approach to pricing to be useful benchmarks in examining Australian airport charges.

If the PC is going to use international airport charges as part of its judgment on Australian airports, then it needs to undertake research to understand the individual factors driving pricing outcomes. This would provide a much more useful basis for comparing airport charges. At the moment the PC simply acknowledges unknown information deficiencies then draws broad conclusions from the data available.

BARA suggests the PC undertake its own benchmarking work on both the level of charges and factors driving differences between airports. This work should be undertaken and published prior to the publishing of the planned monitoring reports in early 2009.

2.3.2 Larger non-monitored price airports

Airports with traffic volumes less than the large price monitored airports tend to have higher charges because of their smaller size. The PC goes to great length to justify Darwin's price increases on the basis of its lower traffic volumes. Scale issues, therefore, significantly reduce the usefulness of comparisons of prices charged at larger non-price monitored airports with those of large price monitored airports.

In terms of market power, the 'effective' market power wielded by an airport is a combination of both the underlying market power and any institutional constraints on its use. While non regulated airports may have less underlying market power, there is no constraint on its use. Price monitored airports, on the other hand, should perceive some constraint on their ability to exercise market power. It, therefore, cannot be concluded that non-price monitored airports have less effective market power than price monitored airports.

Further evidence in relation to the 'effective' vs 'underlying' market power issue is demonstrated in price and non-price terms and conditions. The PC has noted that 'the behavior of airports in relation to some non-price terms and conditions of access has arguably been less satisfactory'. One reason for this, arguably, could be that there is no effective monitoring of non-price conduct. Airport operators, therefore, have a greater ability to exercise their underlying market power over non-price issues.

In summary, prices charged at non-price monitored airports are a useless benchmark for the large price monitored airports. Any reference to such prices in considering the pricing behavior of airports such as Sydney, Melbourne and Brisbane should be discontinued.

2.3.3 Pre-tax return on aeronautical assets

BARA considers that, under the PC's proposed arrangements, the only meaningful numerical measure of pricing conduct is going to be pre-tax return on assets.

The PC's draft proposal is that "previous 'booked' revaluations in the aeronautical asset base submitted by airports for price monitoring purposes should be allowed to stand, but that a line now be drawn in the sand. Thus, any revaluations made after 30 June 2005 should be netted out of the asset base used to monitor rates of return."

The PC acknowledges that this is a less than perfect solution. The problem with this approach is that it does not align with the PC's statements over future prices, the key problem airports being Brisbane and Canberra.

Brisbane Airport has clearly signaled its intention to significantly increase prices for existing assets in its next pricing agreement. For example, in its submission to the PC, Brisbane Airport states that:

“BAC believes there may be merit in developing industry guidelines, which clarify matters used in the building block methodology for establishing airport charges, namely:

- support for a fair return on aeronautical assets for airports; and
- confirmation of the use of DORC as an appropriate “line in the sand” valuation for aeronautical assets and opportunity cost for land.”

And

“The pricing agreement introduced by BAC in 2002 saw moderate increases in aeronautical charges, with BAC committed to earning a fair return on its aeronautical assets over time (not instantly).”

BARA finds it difficult to fathom the continual complaint by Brisbane Airport that it does not earn a ‘fair’ return on its investment in aeronautical assets. The airport boasts in its media releases of its profit growth. It also boasts that it is now so flush with cash that it can start to invest in business opportunities outside Brisbane Airport. This is hardly evidence of an infrastructure provider struggling to earn a reasonable return on its investments.

The reality is that Brisbane Airport was a major beneficiary of the previous FAC network pricing policy. The large gap between the network price and the dual till price was a function of its smaller size and newer assets. For example, Brisbane Airport’s current aeronautical asset value is around \$611 million compared to \$484 million for Melbourne Airport’s. Yet Melbourne Airport currently serves 30% more passengers than Brisbane.

What this reveals is that the Commonwealth Government effectively leased the aeronautical assets at Brisbane Airport at a considerable discount. Brisbane Airport is simply seeking to capture this discount through setting prices on revalued assets.

BARA considers the economic efficiency justification for Brisbane Airport to continue to increase prices for existing assets is as weak as the justification for increasing prices based on further revaluations. Indeed, Brisbane Airport’s main argument is not economic efficiency, but ‘fairness’. BARA considers that Brisbane Airport has already set prices at least sufficient to meet its commercial objectives. Further price increases for existing assets are nothing more than a rent transfer. They will not impact the continued supply of aeronautical services and facilities at the airport.

While BARA’s international members do not operate regular passenger transport (RPT) services to Canberra Airport, it is noted that its aeronautical revaluations far exceed the total purchase price of the airport. For Canberra Airport, the PC’s proposal could well rate as one of the largest windfall gains in recent Australian business history. It can also only encourage larger airports to abuse their market power if the owners of Canberra Airport are allowed to reap such large windfall gains.

It is critical that the PC make clear its expectations over future pricing behavior by Brisbane and Canberra airports. Brisbane Airport will almost certainly interpret the PC’s

proposal as the ‘green light’ for significant increases in prices for existing assets. The rent transfer will probably exceed \$300 million. BARA also would consider it to be an utter disgrace if the regulatory regime delivered more than \$90 million free rent to the owners of Canberra Airport.

In summary, while the PC’s proposal has merit, the PC must be prepared to deal with the ‘outlier’ airports. These are primarily Brisbane and Canberra airports, where the proposal effectively sanctions another round of significant price increases and rent transfers on existing assets.

3. Basis for negotiating future pricing agreements

3.1 Revised review principles

BARA considers that all of the problems associated with the various statements over future prices and threshold measures to identify abuses of market power would be best addressed by re-drafting the Review Principles. The Principles need to accurately reflect the PC’s expectations over future prices. In doing so, the Principles need to recognise:

- the different privatisation process of Sydney Airport compared to Phase I and II Airports; and
- the age and condition of existing aeronautical assets.

BARA’s suggested Review Principles to better articulate the basis for negotiating future pricing agreements with airport operators are:

In negotiating future aeronautical pricing agreements with customers, the Commonwealth Government considers that:

- 1. for Sydney Airport, appropriately defined and valued aeronautical assets are those determined by the Australian Competition and Consumer Commission in its May 2001 Pricing Decision, updated for investment, depreciation and disposal of assets; and*
- 2. for other price monitored airports, the prices negotiated as at 1 July 2006 are at least sufficient to provide a commercial return on existing assets.*

Furthermore, for all price monitored airport, the Commonwealth Government considers that:

- 3. anticipated increases in passenger demand should provide a source of downward pressure on airport charges for the use of existing assets;*
- 4. in the absence of investment and with strong growth in passenger numbers, even constant prices might be indicative of the exercise of market power;*
- 5. unless agreed with customers, future asset revaluations should not provide a basis for higher charges for monitored aeronautical services; and*

6. *the benefits of improved productivity should be shared between airport operators and their customers; productivity improvements do not include increased use of existing assets through anticipated growth in traffic levels.*

The first principle is based on known facts. As stated by the PC in its Draft Report:

“...in the case of Sydney Airport, the successful bid prospectus indicates that the bid was formulated on the basis that assessments of charging outcomes would be premised on the land (and other asset) values established under the ACCC’s 2001 pricing determination.”

The difficulties faced by the PC in determining aeronautical asset values for Phase I and II Airports do not apply to Sydney Airport. The principle, therefore, greatly enhances the credibility of the light handed economic regime. As stated by the PC:

“...it is not apparent why a redistribution of income from airlines and air travellers to airports resulting from asset revaluations and sanctioned flow through to charges would be either reasonable, or helpful in engendering public confidence in a light handed regulatory approach.”

BARA notes that SACL has apparently ‘put to one side’ the revaluation of its aeronautical land for the moment. However, in seeking to justify ‘locking in’ its base charge, SACL might revalue its above ground assets. SACL has also clearly not abandoned its desire to revalue aeronautical land for pricing purposes at some point in the future.

The light handed regime will have little credibility if SACL is not required to abide by the asset valuations determined by the ACCC prior to sale. The best way to establish the regime’s credibility is for the Review Principles to explicitly recognise the basis on which Sydney Airport’s lease was acquired.

The second principle breaks the nexus between current prices and rates of return on the booked value of aeronautical assets for Phase I and II Airports. It allows the parties to negotiate future prices without some airport operators being under the impression that further increases in prices for existing assets are justified. In effect, the principle caps the rent transfers to airport operators at those levels established with the removal of price controls.

Principles 3 and 4 seek to end the ‘two aeronautical tills’ approach to price setting. The principles effectively require existing assets and capital expenditure to be priced on the same basis. It also takes into consideration the age and condition of existing assets by removing the reference to ‘new’ investment.

Principles 5 and 6 reaffirm the PC’s draft recommendations.

In summary, BARA considers that re-drafted Review Principles that focus on expectations over the future prices will be far more useful in guiding price negotiations.

The current Review Principles relate mainly to backward looking return on assets. By being more explicit over future prices the robustness of the regime is improved.

3.2 Commentary on pricing outcomes

Under the PC's draft proposal there is no framework or criteria established to guide commentary on pricing outcomes. Instead, airports and airlines are left to 'put pricing outcomes in perspective'. The ability of some airport operators to write the most glowing account of their conduct regardless of actual behavior is well documented in the submissions to the PC in this inquiry. BARA is, therefore, not convinced that the draft proposal is going to lead to much useful information on which to form a view on whether an airport operator has abused its market power.

The problem is exacerbated by the PC's proposal that price and quality monitoring reports should be combined and produced every two years rather than annually as at present. Perceived abuses of market power by one or more airport operators would be hidden away for an extended period and the timeliness of formal assessments of such behaviour further diminished.

The re-drafted Review Principles as proposed by BARA also should serve as the basis for providing commentary in the prices monitoring reports. Airport operators and airlines should be required to comment on the specific statements over pricing as contained in the PC's Final Report. An additional issue for comment is the rate of return adopted by the airport operator and any justification for departing from that previously determined by the ACCC.

One possible issue is the extent to which airlines are able to provide accurate commentary due to the confidentiality restrictions required by many airport operators. Nevertheless, by at least creating consistent criteria, the quality of the comment provided should be enhanced.

3.3 Services encompassed

BARA supports the PC's recommendation regarding the scope of the airport services that should be covered by the prices monitoring regime. The services specified by DOTARS for inclusion in the monitoring process in order to align the coverage of the two regulatory instruments giving effect to the monitoring process are all services for which airports have significant market power. BARA endorses the PC's assessment that airports exercise market power in relation to the provision of aircraft refuelling, ground and airside freight handling and check-in counter services.

4. Service level standards

As noted by the PC, service level standards can be just as important to airlines as prices. The way service level standards are addressed in competitive markets is through service

level agreements (SLAs). These specify the capacity and quality of services purchased, including commercial consequences based on actual performance. In the absence of a SLA with almost all airport operators, BARA considers that enhanced service quality monitoring is appropriate.

BARA is quite surprised that the PC has interpreted its proposal on service level commitments as one that would ‘impose service level requirements — either directly, or through government endorsed service level ‘indicators’’. Rather BARA argued that:

‘... all aeronautical services agreements between airlines and airport operators need to be strengthened in terms of service level commitments by airport operators. It is BARA’s view that the Government’s airports’ pricing policy should address this matter by providing specific guidelines for service level commitments to be incorporated in all aeronautical services agreements.’

The guidelines contained in the appendix to BARA’s first submission actually identify key infrastructure services, together with examples of how they might be measured and non-performance addressed. The airport operator and airlines would be required to negotiate the service level standards and commercial consequences applying to the key infrastructure services. The guidelines are no more specific than the Review Principles relating to pricing outcomes. By including guidelines on service level commitments a workable framework can be created to facilitate commercial negotiations over service level standards.

The key problem with the PC’s proposal is that an airport operator may decide that it does not want to enter into any meaningful form of service level commitments. The impact of the proposed regime on such conduct is zero. Indeed, it is now the airlines’ (purchasers’) responsibility to gather the relevant data on an airport operator’s service quality performance. This is not an outcome consistent with contracts for the provision of services in competitive markets.

The PC’s proposal also appears to contradict the Review Principle on service quality outcomes:

“Quality of service outcomes should be consistent with user's reasonable expectations, and consultation mechanisms should be established with stakeholders to facilitate the two way provision of information on airport operations and requirements.”

Under the PC’s proposal there is no obligation for the airport operator to provide any information on service level outcomes.

In summary, BARA considers that negotiations over service level standards will go the same way as price negotiations. Some airport operators are likely to continue to improve on their existing SLA with the airlines. Other operators, however, may simply ignore service level standards. Instead, management time and resources will be spent on exploiting the ambiguity in the PC’s various statements over pricing outcomes.

5. Dispute resolution and Part IIIA

BARA is somewhat surprised by the PC's characterisation of its proposal to deal with abuses of market power as a 'suggested airport-specific arbitration mechanism'. BARA would assume that any light handed economic regime for monopoly infrastructure would include some mechanism to deal with abuses of market power.

In substance, the PC's current proposal is very similar to BARA's proposal. That is, users are given a formal opportunity to comment on the pricing policy and outcomes of individual airports. Based on this information, the Government then needs to form a view as to whether a price inquiry or re-imposition of price controls is warranted. The only difference to BARA's proposal is that the PC proposes the airlines lodge their issues in the monitoring reports rather than with DOTARS and the 'the Government', defined as the relevant Minister.

As stated in BARA's first submission, a better constructed and well understood prices monitoring regime might provide a worthwhile constraint. The real issue with this approach is a willingness of the review body to 'single out' an airport or airports that have abused their market power and for the Government to intervene when abuses of market power are identified.

Unfortunately, the PC's Draft Report appears to severely limit the extent to which the prices monitoring regime might provide a worthwhile constraint on aeronautical charges. In particular, by effectively endorsing SACL's past and current price and non-price conduct, the PC ensures the Government is unlikely to ever be burdened by any evidence from its advisory body that might warrant further investigation.

As further evidence to this position, BARA notes that the PC has a history of being a staunch supporter of SACL. As stated by the PC to the NCC:

"There appears to be no evidence that Sydney Airport is currently exercising market power to the detriment of competition or efficiency, and the commercial and regulatory pressures which are currently constraining its behaviour can be expected to operate in the foreseeable future."

In the light of experience, BARA must respectfully state that the public position of the PC in respect of SACL is incorrect. Further, the ACT has stated that it was 'satisfied that SACL has misused its market power in the past, and that, unless the Airside Service is declared, competition in the dependent market will continue to be affected.'

The basic problem, therefore, seems to be a genuine reluctance on the part of a review body to 'single out' a particular airport for further investigation. Given this underlying problem, it appears the airlines will need to continue to rely on Part IIIA to moderate the pricing behaviour of those airports focused on maximising rent transfers. Yet this process is not an effective constraint on airports' market power due to the delay, cost and difficulty in obtaining any redress. In this regard, it is worth noting that the application

by Virgin Blue Airlines for the declaration of the Airside Service at Sydney Airport commenced on 1 October 2002 and the matter is ongoing.

A key issue discussed in the Draft Report is the use of market power and competition in downstream markets. BARA expressed initial concerns over a general price increase and the impact on competition. This issue was also highlighted by the PC in its Draft Report:

“But if an airport exercised market power by uniformly raising charges for all airlines, it is less certain that such behaviour would be construed as deterring downstream competition and hence justifying declaration. Whether the downstream ‘market’ was considered to encompass other transport modes would be one important consideration bearing on the likely outcome.”

As one would expect, expressing these concerns has drawn out the relevant precedents on the issue. In particular, the ACCC’s second submission states that:

“Prices substantially above ‘competitive’ levels for monopoly infrastructure services are inconsistent with effective competition in dependent markets. Therefore, the prospect of removing these rents via declaration is likely to promote competition in one or more of those markets.”

And:

See, for example, Ordovery & Lehr [appendix 5 to NCC MSP final recommendation] @ p12-13: “First, absent coverage or any other form of price regulation, the MSP may be able to set prices for transport services that substantially exceed its forward-looking, long-run economic costs. This would have the effect of increasing the delivered cost of gas in the NSW/ACT markets, which would, in turn suppress demand for upstream production from the Cooper Basin....

“The combination of lower upstream and downstream margins from above competitive transport rates will tend to reduce incentives to invest in both upstream and downstream markets and therefore could have an adverse effect on competition in both of these markets.”

BARA notes that many of its members operate on very thin profit margins. Increases in costs for marginal routes and flights will cause carriers to either reduce capacity or exit markets completely, thereby reducing competition in the downstream market for international RPT air travel. Key elements of airline competition are frequency and capacity. Both elements are damaged by prices for inputs being set above competitive levels.

BARA has no issue with its concerns about the matter of a general increase in prices and the impact on downstream competition being addressed. BARA would expect, however, that Australia’s economic advisory and recommendation making bodies would have greater knowledge of the issue and relevant precedents. In this regard, it should be noted that the statements of the ACCC align with the actual outcomes experienced by BARA’s members.

6. Government-provided airport services

BARA welcomes the recognition by the PC of the importance of efficiently providing and pricing Government-provided airport services. BARA's particular concerns at this time relate to the pricing of aviation rescue and fire fighting (ARFF) services by Airservices Australia.

In terms of efficient provision, Airservices did enter into meaningful and transparent discussions over the cost of providing ARFF services. However, despite the co-operative approach adopted by Airservices, BARA supports contestability, as it offers the opportunity for further efficiency gains in the provision of ARFF services.

In the case of ARFF services, the main problem stems from how the services are priced. The current network based charges significantly overcharge international airlines to cross-subsidise the provision of ARFF services at regional airports. The level of overcharging probably exceeds \$30m per year. Charges at regional airports often are less than 10% of the incremental cost of providing ARFF services at such locations.

It is important to note, however, that contestability will not ensure efficient pricing. Indeed, the ACCC actively promotes models of competition that embed the current cross subsidies. As noted in its Preliminary View on ARFF charging structures:

“Airservices’ preferred charging option is not necessarily incompatible with introducing competition in the supply of ARFF services. ... it would be possible to introduce competition for ARFF services on the basis of costs through an independent tendering process. Such a model for introducing competition would provide an incentive for Airservices to incur its costs efficiently, and would be independent of any charging option chosen to recover the total costs of providing ARFF services.”

Under this approach the benefits of reduced costs at large airports are likely to be re-distributed to smaller airports. Contestability, therefore, potentially offers nothing to the international airlines.

In reaching its Final Decision on ARFF charges, the ACCC adopted an entirely different position to the PC on the key market characteristics for larger regional airports; namely, inter-modal competition and competition between destinations for holiday travellers. The sample of views reported in Box 2 illustrates the major divide between the PC and ACCC on those characteristics. This means that the PC and ACCC are making policy recommendations and pricing decisions based on polarised views on key competition issues facing large regional airports. In BARA's opinion, the polarised views and resulting outcomes represent poor public policy on the part of Commonwealth Government agencies.

Box 2**The PC's and ACCC's position on large regional airports**The PC on inter-modal competition and competition between destinations

The larger non-monitored airports generally face significant competition from other airports, other modes of travel and/or other destinations. (Draft Report p. 33)

The ACCC and inter-modal competition

.....given the weak substitutability between air travel and other modes of transport, inter-modal competition would only have a small impact on Airservices incentives to incur costs efficiently. (ARFF Final Decision, p. 6)

And:

In general, it is the Commission's view that alternative modes of transport are only weak substitutes for air transport. Only in a small proportion of cases are air travelers likely to consider these alternatives. These cases will generally relate to journeys over shorter distances, or to destinations that are infrequently serviced by airlines. ACCC first submission to PC's 2001 Airport pricing inquiry, p. 64)

The ACCC on competition between destinations

Where the demands to land at different airports are independent, the guiding principle of this minimisation problem is that prices for particular services should be a percentage mark up above marginal cost in inverse proportion to the elasticity of demand for that service.

Where the demands are related, altering the mark-up on one service will impact demand for another service. In this case, mark-ups should take into account both own price effects, and cross price effects. However, for most of Airservices' users, these cross price effects will be quite small. (ARFF Preliminary View, pp. 38-39)

At one end of the spectrum, the PC considers that large regional airports face strong competition from both alternative modes of transport and other holiday designations. That is, there are relatively high cross-elasticities that discipline the pricing practices of the regional airport. On this basis, the PC recommends that larger regional airports should not be subject to the prices monitoring regime applied to large capital city airports.

At the other end of the spectrum, the ACCC considers that regional airports face only weak competition from both alternative modes of transport and other holiday destinations. That is, there are relatively low cross elasticities. On this basis, the ACCC considers that network charges for ARRF services are more efficient than location specific pricing (LSP). This is because the ACCC assumes the subsidies will not distort outcomes in either transport or holiday markets.

There is no middle ground on these issues. Instead, the only rather confusing comment from DOTARS to the ACCC on ARRF pricing was:

“...while the Airservices charging proposal does not effectively signal incremental costs and thereby apply a location specific incremental/avoidable cost approach, it is a reasonable proposal at this time to deal with network distortions created by the regulatory requirements and a full location specific approach.”

BARA finds it absurd that the PC and ACCC are making policy recommendations and pricing decisions regarding large regional airports – decisions that have direct consequences for the pricing of services at capital city airports – based on polarised views over the competition they face from alternative modes of transport and other holiday destinations.

BARA’s strong view is that a common position on the market characteristics of larger regional airports for policy and pricing purposes must be established. The current polarised views represent poor public policy by Commonwealth Government agencies. It provides little confidence that robust policy recommendations and pricing decisions are being made.

Attachment A

Extract From the Report by PriceWaterhouseCoopers for Airservices Australia on WACC

Company Sector	Asset beta
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Utilities

Range	0.01 – 2.34
Median	0.37
Simple Average	0.67
Weighted Average	0.49

Transportation

Range	0.05 – 1.37
Median	0.45
Simple Average	0.55
Weighted Average	0.58

Infrastructure and Utilities Combined

Range	0.01 – 2.34
Median	0.45
Simple Average	0.60
Weighted Average	0.57

International Airports

Range	0.08 – 0.75
Median	0.47
Simple Average	0.49
Weighted Average	0.51