INDEPENDENT CONSUMER & COMPETITION COMMISSION

FINAL REPORT

Review of the PNG Air Transport Industry

20th September 2006

Contents

Foreword

On the 26th January 2006, the government through the Minister for Treasury ("Treasurer") formally referred the Independent Consumer & Competition Commission ("Commission") to undertake a comprehensive review of the Air Transport Industry in Papua New Guinea ("PNG") with a view to considering regulatory impediments and competition constraints in the industry.

In particular, the reference asked the Commission to:

- Report on the current impediments, both regulatory and non-regulatory, to improved operating efficiency and competitiveness in the air transport industry in PNG;

- Identify issues and areas where Government action may be appropriate to improve the overall cost competitiveness and efficiency of the air transport industry in PNG; and

- Make recommendations on what action may be appropriate to be taken by Government to rectify any problems in the current regulation and operation of the air transport sector with a view to improving competitiveness and reducing air transport costs.

The Commission is a statutory body, established under the provisions of the *Independent Consumer & Competition Commission Act 2002 ("ICCC Act")*, which has been given responsibility for the promotion of competition and fair trading, the regulation of prices for certain goods and services, and the protection of consumers' interests and other related purposes. The Commission has three Commissioners:

Thomas Abe - Full Time Commissioner & CEO
Paul Baxter - Associate Commissioner (Non- Resident);
Chris Gideon – Associate Commissioner (Resident)

For the purposes of this inquiry, Thomas Abe, the Full Time Commissioner and CEO stood aside from all deliberations. Mr Abe had been an alternate Director of Air Niugini for a brief period during which he held a senior position within the Treasury, and it was considered appropriate that he should declare a potential interest in this inquiry and not participate in deliberations on its findings, conclusions, and recommendations.

As part of the overall public consultation process, the Commission released an Issues Paper in March 2006, and a Draft Report in July 2006. In addition, public hearings were held 29th August at which interested stakeholders made presentations and the Commission had the opportunity to seek clarification on points made in submissions that had been received on the Draft Report. A list of names of all interested persons who have made submissions to the inquiry is attached as Appendix D to this report along with a list of those parties appearing at the public hearing on 29th August 2006.

This represents the Final Report of the Commission on this matter. In this Report the Commission has sought to address the comments and matters raised in submissions on the Draft Report, and where appropriate, make corrections or clarifications on its earlier Draft. The Commission has also drawn a number of conclusions and recommendations which are now presented to Government for its consideration and appropriate action.

The Commission would like to acknowledge the assistance provided by consultants from PricewaterhouseCoopers in the undertaking of this inquiry, and the valuable in put made by the staff of the ICCC. As always, while assistance has been provided by a number of parties, the final conclusions and recommendations are those of the Commission itself.

Thomas Abe
Commissioner & CEO
19th September 2006

Executive Summary

The Independent Consumer & Competition Commission ("Commission") is a statutory body, established under the provisions of the Independent Consumer and Competition Commission Act 2002 ("the ICCC Act"), which has been given responsibility for the promotion of competition and fair trading, the regulation of prices for certain goods and services, and the protection of consumers' interests and other related purposes.

The provisions of Part VIII of the ICCC Act empowers the Commission to conduct specific enquiries as directed by the Minister responsible for Treasury matters or by the Parliament. On the 26th January 2006, the Minister Treasury ("Treasurer") formally referred the Commission to undertake a comprehensive review ("Review") into the Air Transport industry in Papua New Guinea ("PNG"). The main purpose of the Review is to consider competition issues and the role and place of regulation within that industry. This referral is part of the Government's 2006 Budget Strategy.

The mobility of people, goods and information is a vital prerequisite and building block for economic development. The ability to move physically and easily between locations is widely recognised as being one of the key factors contributing to enhanced economic development opportunities. In the PNG context this is self evident as the widely dispersed nature of the main population centres and remoteness of many of PNG's key economic activities such as mines and cash cropping development, would effectively be isolated from markets without the ability to transport people, goods and services into and out of these locations to link with domestic and international markets.

It is in this context that the PNG Government's commitment to an 'open skies' policy and encouragement of competition in the air transport sector is designed to encourage and facilitate the provision of air transport services to meet the many and varied needs of the PNG economy. However, it is also clear that in recent years there has been a significant decline in the number of aircraft registered in PNG and a decline in the demand for air transport. This has in part been attributed to the increasing cost of air transport, although the availability of alternate forms of transport are not many in PNG.

Transport cost and lack of transport infrastructure have been identified as major contributors to the poor performance of the tourism industry as a sector that is particularly reliant on air transport. However, there are equally significant implications for other sectors of the economy, not the least of which are those sectors that have extensively relied in the past on air transport to move their produce to markets in the main centres.

In addressing these issues, the Commission has concluded that not all of the problems being faced by the users of air transport in PNG can be attributed to the air transport sector itself. There are clearly matters that need to be resolved in the industry, and the Commission has identified a number of matters where government action can help to resolve problems and remove barriers to improved air transport services. However, some of the answers lie within the industry itself, or can best be addressed by users exercising their purchasing power. For example, there have been recent examples of the air transport industry offering special prices for tourist groups visiting and travelling around PNG. This has in part been in response to growing public concern about the state of the tourism sector in PNG. It has also been in response to new competition entering the market, causing the incumbent air transport operator to take action to retain and protect existing passenger numbers. In this environment the tourist industry has the potential to marshal its purchasing power to extract further concessional fares and conditions from the air transport sector. Government intervention and subsidies are not necessary or desirable when competition will achieve the best possible outcome.

These are areas where the solutions to perceived problems are not necessarily ones that the government is best placed to provide, but are within the power of the industry and major users themselves. The role of the government should be to continue to maintain an open and competitive environment, and provide attention to issues of market failure such as the servicing of thin routes, the availability of airport infrastructure, and the technical and safety regulation of the industry. It is to these issues that the Commission has given particular attention in this Report.

Major Findings

Air Fares in PNG

The average domestic fare for a fully flexible ticket is roughly 9% higher on a kina per kilometre basis compared to average domestic fares in other nearby countries. However, the analysis undertaken by the Commission has highlighted the fact that the per kilometre costs on major domestic routes within PNG are broadly in line with international benchmarks. Competition still exists on many of these main domestic routes, and the current airline structure in PNG, while having less active operators than in previous years, still benefits from a degree of contestability between existing operators be they regular scheduled flights or charter operations.

On international routes, the comparison of the benchmarks for PNG is not as favourable. This may in part reflect additional costs and special circumstances in PNG. However, the Commission will be watching with interest the current bout of price competition between Air Niugini and Airlines PNG on the Australia/PNG route to see whether the prices being offered and yet to be offered are sustainable for this route. The Commission is not convinced that all the difference between the benchmark results for other routes and those for the Australia/PNG routes can be attributed solely to additional costs incurred by Air Niugini.

As competition on the international routes increases, it can be expected that there will be further discounting of fares by the airlines. Greater use of internet booking and better yield management techniques should help to keep prices at levels more in line with those evident in other markets, while at the same time achieve better overall revenue recovery for the operators as load factors are improved through greater passenger patronage. Privatisation of Air Niugini is not necessary to achieve this outcome, nor does the Commission favour adoption of price control arrangements. However, the Commission does retain the powers to seek to have the industry declared for price regulation purposes should it be considered at some future time that the market is not operating effectively. For the moment however, the Commission considers that such interference in the market place would be inappropriate and costly. However, it will maintain a close informal monitoring of the market particularly for any signs of predatory pricing by any party designed to eliminate a competitor so that prices can be returned to their pre competition levels.

To assist consumers make informed choices regarding competing airfares, the Commission will continue to require clear identification of the various ‘surcharges’ that are applied by the airlines to the ‘standard’ fares. These surcharges are incorrectly referred to as ‘taxes’ when in fact they primarily seek to recover operating costs of the airlines, and primarily are used as a way of seeking to recover increases in fuel prices at times such as the present when fuel prices have been increasing rapidly.

.The CAA structure

Currently the CAA has a broad mix of regulatory, airport operational, air navigational and safety roles. There is potential for conflict between the operational and regulatory roles performed by the CAA. Ideally in best practice organisational structures for monopoly businesses there is a distinct separation of operational and regulatory roles. For example, one aspect of the CAA's relationship with an airline may see the CAA encouraging the carrier to increase frequencies to generate more landing fees whilst another part of the CAA may be sanctioning and reducing flight entitlements of the same carrier for not meeting minimum maintenance requirements and thereby potentially reducing the number of flights that can occur.

The broad mix of activities undertaken by the CAA coupled with the PNG Government public authority structure provides further challenges to the CAA in terms of being an effective, best practice organisation. The CAA can find that it is difficult to achieve effective management focus across each of the three diverse key functional areas for which it is currently responsible (airport operations, safety licensing/regulation, and air navigation). Furthermore, it may be difficult to attract, adequately remunerate and retain the specialised / highly skilled manpower which are necessary to manage effectively some of the commercial and regulatory functions given its public sector environment and the need to operate within the terms and conditions which may be more appropriate to a government department rather than an agency which has commercial, infrastructure maintenance and development, as well as regulatory responsibility.

Throughout this Final Report the Commission has noted the challengers faced within the context of the PNG operating environment. In the case of CAA this is further exacerbated by the absence of full disaggregated financial data and information on the various elements of its business. CAA's current approach to accounting for each of its business units is inefficient and ineffective in that it does not allow for the necessary transparency in its financial affairs so as to allow management to make fully informed and rational decisions. Without this information it is difficult for the CAA to identify areas within the organisation where there may be opportunities for operational improvement. In addition, the lack of information means that external stakeholders such as industry participants and other government bodies are unable to understand the justification for price increases or applications for further funding. The Commission considers that the only option available to the CAA in the immediate term is the separation of the various businesses such that separate accounts are prepared and kept for these business units. This will facilitate an increase in the quality of the information available and will help the CAA to provide better signals to stakeholders regarding the investment needs within the organisation.

There are a number of advantages associated with increasing the transparency of CAA's accounts. For example, the movement towards full separation will increase the transparency of the performance of individual airports, air services and regulatory functions within the CAA. The movement to accounting separation will also increase the ability of CAA to justify changes in fees and charges and demonstrate to stakeholders the costs of the services provided. This will enable better targeting of investment needs, be they through a community service obligation payment to recover the operating costs, or allocating capital funds between competing potential projects to improve the overall infrastructure available to the industry. For example, while there are longer term plans to achieve greater involvement by Provincial Governments in the ownership and operation of airports in main centres, it is not possible at the moment to be able to demonstrate the profitability of these existing airports on an airport by airport basis, and thereby give the Provincial Governments any certainty as to what the opportunities and risks are from taking over control of these facilities. The separation of the various functions within the CAA will facilitate better planning as the different centres of activity within the CAA will be able to clearly outline their individual development needs and longer term strategic planning.

The Commission recommends that funds be made available from the national Budget to assist in funding the accounting separation of the CAA. However, the Commission considers that this is only the first stage in the process of reform of the CAA. The second stage will be the organisational separation of the CAA. The Commission is aware of steps which are currently being undertaken within the CAA to achieve this, although there is some concern that the model being adopted will still have the various activities of the CAA ultimately reporting through the same Authority rather than being completely separate and reporting to Parliament Ultimately the longer term reform of the CAA would see the commercial activities of the organisation completely separated from the regulatory and operational activities of the organisation.

CAA charges

Industry has expressed concern about the lack of information available on the rationale for increases to CAA's charges and the services provided by the CAA. Concern about the overall performance of the CAA and lack of transparency in the determination of charges creates an environment which is not conducive to the development of the industry. However, as noted above the lack of information is an issue that has been identified by all parties as a major problem, especially as it relates to the justification for the funding of longer term infrastructure investment needs of the industry. In order to achieve the objectives of both the CAA and the airlines, it is important for both parties to agree on the reasonableness of charges made for air services provided by the CAA. Further, increased information and transparency of the information available to all stakeholders will facilitate a meaningful dialogue between the various stakeholders in the industry. Increased information will better inform the industry on CAA's plans and budgeting for future medium term capital expenditure, operating expenditure and cost recovery methodologies before charges are further adjusted. A process of consultation between the stakeholders which addresses the rationale behind any proposed changes to CAA charges would:

- Provide information on international benchmarks that represent a target for best practice infrastructure management in PNG,
- Address how changes in demand will impact on the collection of the revenue required to maintain and improve the airport facilities;
- Outline and cost the capital and maintenance programs going forward; and
- Outline the performance outcomes to be expected from the proposed maintenance and capital investment program.

The debate and uncertainty within the industry regarding the legitimacy of the level of fees charged may warrant the involvement of the Commission acting as an independent regulator and/or arbitrator in the setting of these fees. The ICCC Act gives the Commission the power to undertake public enquiries and requires a transparent process which would address the concerns raised by the industry while at the same time ensuring that the CAA is able to recover its efficient costs including as appropriate a return on its investments in essential infrastructure.

The Commission notes that it is better for an independent body, such as the Commission, to play the role of arbitrator in these circumstances rather than a party who may be seen as having a vested interest in the outcomes. Under the CAA Act it is the Minister for Transport who is charged with the responsibility of independently assessing the merits of changes in CAA's charges. Given the Minister has a number of roles throughout the industry the Commission considers that the Minister may not have the ability to separate himself from these other roles to provide an objective and balanced view of the arguments presented. An independent body, such as the Commission, does not play a role in other part of the industry, as the Commission does not regulate airfares nor does the Commission have any oversight over the CAA. This position provides an independent figure who is able to assess the proposed changes to the CAA's charges objectively and without a bias to any of the parties involved. The Commission considers that in addition to the changes recommended above regarding the separation of the CAA, the CAA legislation should be amended to provide an independent review provision nominating the Commission as the arbitrator should the stakeholders in the industry be unable to reach agreement on proposed fees and changes to charges. This proposed model is less regulatory intrusive than other more formal approaches, such as having a formal regulatory contract. Instead it is based on the negotiation and arbitration model which provides an opportunity for stakeholders to first agree and any areas of contention being referred to an independent body only after there has been a process of negotiation between the stakeholders. For the model to be successful the arbitration needs to be binding on all parties which increases the need for an independent party which all stakeholders find acceptable.

Fuel Costs

Submissions to this inquiry have given extensive attention to the price of aviation fuel and the perceived impact of the move to the supply of all PNG's Jet A1 fuel requirements from the Napa Napa refinery. Fuel is a significant component in the overall cost structure of operating an airline. Increasing fuel prices have resulted in increasing costs for airlines which must either be absorbed by the airlines themselves through an erosion of margins thereby producing a lower rate of return on invested capital, or passed to consumers through higher fares.

The establishment of the Napa Napa refinery in PNG has changed the way pricing for petroleum products is determined in PNG and the sourcing of supply of petroleum products for the economy. The Commission undertook a major review of the pricing arrangement for petroleum products at the time the Napa Napa refinery was commissioned[1]. The outcome from the Commission's review was a reduction in the retail and wholesale margins for petrol and dual-purpose kerosene (that is kerosene for household use and use as Jet A1 in the aviation industry) in PNG. However, these changes also occurred at a time of significant upheaval in the international oil market. Any consideration of the impact of the commissioning of the Napa Napa facility needs to be considered in the context of the effects of the changes in international oil prices, and the flow through effects of these changes on the PNG economy. As was shown in the Commission's 2004 report, the Napa Napa facility did not necessarily increase the price of fuel to users in the main centres in PNG. However, it did have an effect on prices for users in many of the outer areas and smaller towns. This in part reflects the cost of transport within PNG, a cost that has to be recovered when fuel is transported significant distances from the refinery in Port Moresby.

[1] ICCC *Petroleum Industry Pricing Review* August 2004

In submissions received by the Commission all airlines noted that the impact of rises in the crude oil price has been significant for their businesses. Further, airlines have argued that the supply of product from the Napa Napa oil refinery has resulted in an increase in the cost of Jet A1 fuel of approximately 10% above the prices that applied under the previous arrangements whereby all fuel was fully imported into PNG in its final form. The Commission has had to examine this claim closely as it was the Commission that determined the prices to apply both prior to and subsequent to the commencement of supply from the Napa Napa refinery.

At the time of the introduction of the Napa Napa refinery as the source of supply of fuel in PNG, the Commission introduced a new pricing model for petroleum products which for dual use Kerosene/Jet A1 reduced the wholesale and retail margin in the main centres of Port Moresby and Lae by up to 22%. However, at the same time there was an increase in the world price of oil which ultimately flowed through to PNG resulting in increases in the price for dual purpose kerosene /Jet A1 by up to 5% in the main centres. Therefore, any increases in prices in the PNG market at that time were more a reflection of the increasing international world prices which coincided with the changeover of supply from Singapore and Australia to direct supply from Napa Napa.

Under the previous arrangements fuel prices in PNG were based on the price of fuel ex Singapore, plus the normal transport related costs, on the day the fuel was shipped to PNG. As noted above, there were a number of changes as a result of the introduction of the Napa Napa refinery to the manner in which fuel prices were set. In addition to the changes to the retail and wholesale margins the price for fuel went from being based on a spot price to an average price. The Commission notes that for the last month of the old price regime, prices were 8% on average lower than the first month of the new regime. It is possible that this price increase is somewhat responsible for the comments relating to a 10% price increase once the price of fuel was determined under the Napa Napa project agreement. Further, there were some changes to the manner in which freight costs were calculated in the overall price which may have resulted in relatively higher prices in the more remote areas of PNG. While the Commission's 2004 price determination resulted in reductions in the wholesale and retail margins for fuel, for the airline industry which had negotiated margins below those for the retail market, these margin reductions may not have been passed through as effectively as the industry was already receiving the advantage of much lower margins. The combination of the retention of the existing margins, the domestic freight costs within PNG and the rise in international oil prices at the time of the change over to the Napa Napa refinery appears to be the reason why the airline industry incurred an increase in fuel prices, while retail consumers in the major towns encountered very little if any change.

The airline industry has also raised concerns about the availability of Avgas as a fuel type used primarily by piston driven aircraft which provide the majority of services to the smaller, more remote locations throughout PNG. These types of aircraft have been widely used in PNG in previous years and still have a role in servicing small remoter locations. However, there is now much less demand for Avgas, and it is no longer readily available in PNG. Nor is it produced by the Napa Napa refinery, despite an earlier commitment to produce this product.

The growing scarcity and higher price for Avgas reflects a change in technology whereby most aircraft now operating commercially in PNG use Jet A1 fuel. The decline in the demand for this product, and technical issues which limit the ability to store the product, will ultimately drive airline operators to replace piston driven aircraft with turbo prop or jet aircraft which use the more readily available Jet A1 fuel. There are technologies available that can convert existing piston driven aircraft from a reliance on Avgas to an ability to use Jet A1 or other fuels including diesel. The Commission believes that there may be a case for some form of government subsidy to support a retrofit of this technology for aircraft which are currently solely reliant on Avgas. Any form of subsidy arrangement would however, need to be carefully structured and strictly for conversion purposes. To subsidise the cost of the Avgas itself would not have a net beneficial effect for PNG as all it would achieve would be to delay the transfer across to Jet A1 fuel and ultimately prove to be very costly without any longer term benefit to the nation.

Code Sharing

Code sharing arrangements are where two or more airlines enter into an agreement whereby they share aircraft or other facilities for the purpose of providing air travel or freight services to consumers. The use of code sharing raises fundamental competition policy issues. There is a danger that code sharing may actually be little more that a duopoly arrangement which operates to the detriment of consumers. At the same time code sharing has the potential to promote competition among carriers on 'thin' routes where it may not be commercially sustainable for multiple carriers to operate services.

The actual form of the code sharing arrangement itself deserves careful consideration. There are various options available that may ensure that there is a level of competition between joint service providers on a code share route. Before code sharing arrangements are either embraced or rejected, an appropriate public process of review and consideration of the code sharing arrangement is desirable. Under the current legislative arrangements this is facilitated through the Commission's powers under the ICCC Act. Section 70 of the ICCC Act provides the Commission with the ability to make authorisations approving contractual arrangements which limit competition where a clear public benefit can be established.

The Commission notes that the current Air Niugini/Qantas code share arrangement is due to be reconsidered mid 2007. The Commission recommends that Air Niugini and Qantas seek a formal authorisation of their code sharing arrangement particularly as it has been foreshadowed that this arrangement is to be extended beyond mid 2007.

1. Introduction

The Independent Consumer & Competition Commission ("Commission") is a statutory body, established under the provisions of the Independent Consumer and Competition Commission Act 2002 ("the ICCC Act"), which has been given responsibility for the promotion of competition and fair trading, the regulation of prices for certain goods and services, and the protection of consumers' interests and other related purposes.

The provisions of Part VIII of the ICCC Act empowers the Commission to conduct specific enquiries as directed by the Minister responsible for Treasury or by the Parliament. On 26 January 2006, the Minister for Treasury ("Treasurer") formally referred the Commission to undertake a comprehensive review (Review) into the Air Transport industry in PNG. The main purpose of the Review is to consider competition issues and the role and place of regulation within that industry. This referral is part of the Government's 2006 Budget Strategy. Further to the receipt of this reference the Commission has also received two additional references to investigate along similar grounds the Coastal Shipping and Tourism industries.

In terms of the air transport sector, the Government has foreshadowed a Review of the air transport industry with a view to increasing competition and reducing air transport costs. Included as part of this review are both passenger and freight air transport issues and the operation of air transport on international routes into and out of PNG as well as internal domestic routes. The industry for purposes of this review will also include the provision of air and passenger side services and flight servicing arrangements.

The review of the each of these industries comes at an important time in the development of the PNG economy. After a number of years of contraction in the economy general economic conditions are now favourable due to responsible fiscal discipline and a booming mineral and commodity sector. However, the PNG economy still faces a number of barriers to its economic development. These barriers are largely the result of structural problems within the economy; including most notably insufficient investment in basic infrastructure. This problem extends throughout the economy in a number of sectors including telecommunications, power, basic health, education and transport sectors.

This Review has endeavoured to canvass the air transport industry to develop a view as to the impediments to the efficient operation of the industry. The review has had to grapple with extremely difficult questions relating to the matching of the dispersed population of PNG with the relative need for concentrated populations to support a modern aviation industry. The industry as a whole has been in decline over a number of years, largely as a result of a contracting PNG economy. At the same time the Industry has experienced significant cost growth in a number of key cost inputs including notably fuel.

1.1 Objective of review

The principle objectives and deliverables of the Review are to:

- Report on the current impediments, both regulatory and non-regulatory, to improved operating efficiency and competitiveness in the air transport industry in PNG; and

- Identify issues and areas where Government action may be appropriate to improve the overall cost competitiveness and efficiency of the air transport industry in PNG.

At the conclusion of this review, the Commission will make recommendations on what action may be appropriate to be taken by Government to rectify any problems in the current regulation and operation of the air transport sector with a view to improving competitiveness and reducing air transport costs.

1.2 Review of Terms of Reference

In the current domestic context, air transport plays a crucial and important role due to the following:

- The absence of effective national road links or rail systems;
- The demographics and topography of PNG; and
- The reliance of PNG on international trade links outside of the country and links to remote export mining and agricultural activities within the country.

The Commission is required to investigate the various impediments to business resulting from the current structure of the aviation industry. In doing so the Commission has analysed the current operation of the aviation industry in PNG, including:

- Identifying the characteristics of the market
- The degree of competition and any countervailing power within the industry,
- The extent of substitutability for aviation services and the contribution of aviation to the tourism industry;

The Commission has also been instructed to address the following issues in the industry:

- The current aviation regulatory arrangements
- The current pricing practices within the industry
- The possible barriers to entry and potential for the entry of new competitors into the air transport industry; and
- The level of implicit community service obligations within the industry.

1.3 Intention of Paper

In discharging its responsibilities under the ICCC Act the Commission is required to provide the government with a draft report which is open to public comment and then after consultation a final report highlighting its findings. The ICCC is to identify whether there are any improvements that can be made to the efficiency of aviation in PNG through reducing regulatory costs and increasing competition. In looking into the various issues throughout the industry the Commission is required to identify and where possible quantify the potential benefits for the PNG economy from proposed changes to the structure of the industry.

This Report is the third in a three part series to be released by the Commission. It is a Final Report analysing the various issues associated with the industry. The Commission has made a number of recommendation throughout this report on which the Commission will now make to the Department of Treasury. These findings have been based on the Commission's analysis of the various issues presented to it through the public consultation phase resulting from the Commission's release of the Issues Paper in March 2006, the Draft Report in July 2006, and public hearing on 29 August 2006.

1.4 Structure of Report

This Report has been structured to ensure that all comments from individual stakeholders have been addressed. Furthermore, this Report has analysed the impact of the various alternatives to the current industry structure in an effort to determine the appropriate structure of the industry. In so doing, the Commission has been careful to consider the full implications of any potential changes to the current industry structure and has been mindful of the implications of changing the structure of the industry for related industries, with a particular reference to the tourism sector.

This Report is structured as follows:

- Chapter 2 provides a contextual background to the importance of the aviation industry and to the review.
- Chapter 3 provides a comparison of international prices of aviation against those charged in PNG.
- Chapter 4 considers the infrastructure issues associated with the aviation industry.
- Chapter 5 considers the various costs associated with the aviation industry
- Chapter 6 addresses the various competition issues of the industry.

2. Context

The mobility of people, goods and information provides an important building block for economic development. The ability to move between locations easily has the ability to facilitate economic development. This is applies equally to goods and information as it does to the services provided by people. While reduced mobility of goods, information and people impedes development, access to markets through increased mobility of goods, information and people is a catalyst for development.

Unlike many countries, there have been a number of natural and cultural barriers to such mobility in PNG. The limitations to mobility have been largely driven by the geographic constraints throughout the country. These constraints have resulted in the limited provision of road infrastructure. Furthermore, for those road systems that exist the ability of the Government to fund proper maintenance and repair restricts their usefulness as a means of transporting goods, services and people across the country. This has resulted in two main methods of travel for longer, cross-island or inter-provincial trips throughout the country, namely shipping and air.

After a number of years of economic contraction the PNG economy has started to grow. This growth is largely driven by increased activity in the resources sector but is also extending into other areas of the economy. However, the economy is under significant pressures due to infrastructure bottlenecks and shortcomings in a number of key sectors including transport and telecommunications. While this review is focused primarily on the aviation industry it is important to consider a number of concurrent reviews being undertaken by the Commission, including:

- A review of the Coastal Shipping Industry
- A review of the Tourism Industry; and
- A review of the Telecommunications Industry.

The review of coastal shipping should be seen as the direct counterpart to this review in that a number of the findings, particularly as they relate to the provision of infrastructure, will be relatively common across both industries. At the same time given the impact of aviation on the tourism industry any review of the sector should also include a consideration of the impacts on tourism. The impact of the telecommunication industry is less directly linked although just as important. As noted above, mobility is a key foundation of economic development. This includes mobility of information which is facilitated largely through the telecommunication network as well as mobility of people and physical goods.

The Commission has recently completed the process of assessing licence applications for the introduction of competition in the provision of mobile telephone services in PNG. The importance of the introduction of new entrants in this industry on the economic development of the PNG economy should not be understated. Increased and improved communication coverage, as provided for by a competitive telecommunications network, is vital to ensure that remote villages and surrounding areas have increased access to markets. It is expected that better access to larger markets will ensure that farmers and suppliers in these remote regions are able to find buyers for their produce. In the first instance this produce will need to be delivered to markets, which in more remote regions is only possible via aviation services. Therefore, increased economic activity flowing from improved telecommunications services will result in increased demand for aviation services. Further, the improved access to markets will in turn lead to increased demand for discretionary services including passenger aviation services in those remoter regions. Development of these regional economies will become a key driver of the sustained economic growth of the broader PNG economy. The absence of an integrated road network through PNG has meant that travel by air is the common dominator which facilitates travel in both the Highlands and the Islands provinces of PNG.

While it is beyond the scope of this review, the Commission notes the potential impact an integrated national highway system could have on economic development in PNG. However, an integrated highway system would require significant capital expenditure, continuing recurrent funding, and decades to complete. An improved aviation industry will assist economic development, but an effective road network would make a much larger contribution to the economic growth of PNG. This growth would be largely driven by the increased access of Papua New Guineans to generally cheaper transport than what is potentially available from even an efficiently operating aviation sector.

There are a number of benefits to businesses which arise from an efficient air transport industry. Air transport plays a significant role in the movement of high-value and/or time sensitive freight and mail. The timely and efficient delivery of air freight services would help PNG firms conduct business which results in a general increase in economic efficiency and activity. Also an efficient air transport industry would assist PNG firms compete with international rivals for the supply of goods to world markets. Further, an efficient air transport industry also facilitates the importation of key inputs which are required throughout the PNG economy. Further a strong and robust aviation sector provides an important link in the logistics chain used by many parties to transport mail and other sensitive documents. Effectively the customers serviced by either Post PNG or one of the other commercial couriers are actually customers of the aviation industry. Therefore, the reliability of each industry directly impacts on the other.

Air travel, be it by passengers, freight, or mail, is an intermediate product in that it is a complementary good with other activities, namely:

- The conduct of business
- Visiting friends and relatives
- Leisure and holiday activities.

Therefore, the demand for air services is derived from the demand for these goods and services. While there are alternative to air travel, there is a demand for air travel over other substitutes reflecting the speed with which travel can occur and the convenience of such travel. These factors become increasingly important when travel is time sensitive. While the preference for aviation services is dependant on a number of factors the two primary factors which appear to influence the demand for services are:

- The cost of airfares relative to other forms of transport; and
- The level of Gross Domestic Product (GDP) or national income.

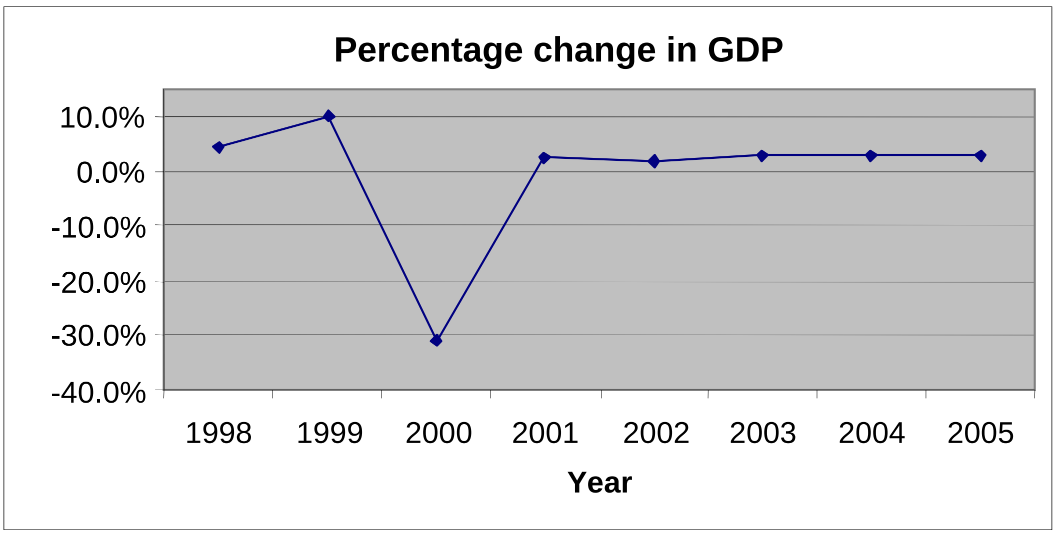
Both factors are directly linked to the affordability of services to ordinary Papua New Guineans and businesses operating in PNG. Importantly there are a number of additional influences on demand including population growth, the social environment, attitudes to travel, attractions at destinations, and quality factors such as the speed, safety and convenience of air travel.

In general, as income levels increase the demand for air travel increases due to two main factors, namely:

- A rise in private disposable incomes leading to higher discretionary expenditure on travel for family and leisure purposes, and
- Higher economic activity increasing the demand for business travel as well as stimulating demand for freight services.

The worldwide market for air travel has experienced significant growth over the last twenty years. This has been supported by strong economic growth which has stimulated demand for both business and discretionary air travel. However, in PNG there has been a significant contraction in the economy over the last decade notwithstanding an important turnaround in recent years and as such the level of income has stagnated. The size of the contraction in the PNG economy is represented in figure 2.1.

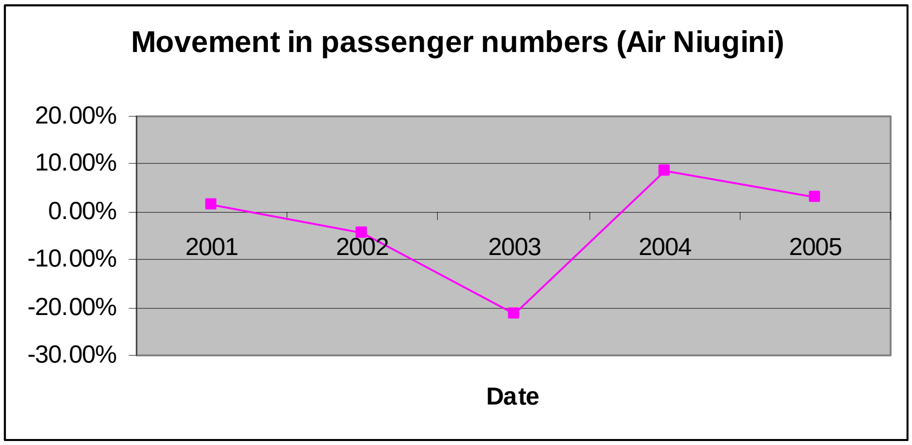
Figure 2.1 Recent economic growth performance in PNG



Source: National statistics office of PNG and Bank of Papua New Guinea Monetary policy statement

Air Niugini, as part of its presentation to the Commission's public hearing, has cited that a relatively stable economy has resulted in an increase in demand. Further Air Niugini has found the opposite is also true, that is the more volatile the economy, the more volatility in the overall demand for air services. To highlight this point, figure 2.2 sets out the corresponding movement in passenger numbers on PNG's main airline, Air Niugini over the period of economic activity identified in Figure 2.1.

Figure 2.2 Passenger numbers for Air Niugini 2001-2005



Source: Air Niugini Submission and Department of Transport

In comparing GDP and passenger numbers in figures 2.1 and 2.2 the Commission notes the movement in GDP is somewhat mirrored by the movement in passenger numbers. While there was a lag in the impact on passenger numbers the decline did eventuate in 2001 to 2003 where passenger traffic fell by 33%. There has been a slight increase in traffic over the following years. However, demand is still 16% lower than the peak in 2001. While these numbers are representative of Air Niugini, given the relative size of Air Niugini versus the rest of the industry the Commission believes that this outcome was replicated throughout the industry.

Operating environment

Infrastructure

Through PNG the state of airport infrastructure is the biggest challenge to the aviation industry. These challenges have been highlighted by a number of industry stakeholders. There are approximately 400 airstrips and aerodromes throughout PNG. The majority of these airstrips are rudimentary in that they have been designed to service relatively small local population groups and have not always been well maintained. The majority of operators who utilise these smaller airstrips use single engine piston driven aircraft. The ownership of these airstrips is either by provincial governments, landowners, private companies, mission groups and/or local communities. It is potentially uneconomical to upgrade the majority of the airstrips. This reflects the relatively low demand for services in the more remote areas of PNG and in some instances major physical constraints given the location of the airstrips.

There is another level of airports in PNG which are owned and operated by the Civil Aviation Authority ("CAA"). These 21 aerodromes are capable of landing larger aircraft, including Boeing 767's, Dash 8's and Fokker 28s and 100s.

Services

In general, existing air services can be categorized as follows:

- International travel;
- Domestic travel between the main domestic airports; and

- Third-tier airlines serving minor airports, charters to remote locations and mining townships, aerial services, and flying schools.

Airlines in PNG operate different types of aircrafts including jets and turboprops, helicopters, and piston driven aircrafts. For example Air Niugini flies jets to international ports while Airlines PNG uses turboprop Dash 8s to fly between Cairns and Port Moresby, the same route which Air Niugini uses Fokker 100 Jets. On the POM/Brisbane route, both Air Niugini and Airlines of PNG use jets.

There are two carriers which provide international services, Airlines PNG and Air Niugini. While Air Niugini services seven major international ports in Singapore, the Philippines, Japan, Solomon Islands, China (Hong Kong) and Australia, Airlines PNG only provides services between Port Moresby and Cairns and Port Moresby and Brisbane in Australia. Air Niugini and Qantas provide code share services into Australia. The Japan, Singapore, Hong Kong and Philippine and the Solomon sectors are exclusively provided by Air Niugini. With the exception of the Cairns/Port Moresby and POM – Honiara sector, Air Niugini's other international services are provided by a Boeing 767 aircraft which is leased from AWAS with the maintenance contracted to Air New Zealand. Airlines PNG competes with Air Niugini on the Cairns/Port Moresby sector using Dash 8 aircraft which takes slightly longer to complete the route than the Air Niugini Fokker 100 aircraft. On the POM/Brisbane route, Airlines PNG uses a chartered B737 aircraft. In addition to these scheduled services, there are some direct charters into PNG from Cairns which service the major mining centres. For example, Fubilan Air is a charter operator which services the Ok Tedi mine site directly from Cairns.

There is an open skies policy throughout the PNG domestic aviation industry. As such any registered carriers are able to compete against each other for all routes throughout the country. On the more profitable routes, e.g. Port Moresby to Lae or Port Moresby to Mount Hagan there are a number of operators servicing the routes. However, in terms o operations between the major centres in PNG, Air Niugini is still the dominate carrier. There are a number of smaller operators which provide services into the major centres from more remote centres and who also provide services between the more remote locations.

Legislative environment

The three major pieces of legislation that provide the legal framework that governs the operations and management of the aviation industry in PNG are:

- National Airline Commission Act 1973 (Consolidated to No 1 of 1996) ("NAC Act");

- Civil Aviation Act 2000 ("CAA Act"); and

- Aerodrome (Business Concessions) Act 2000 ("ABC Act")

The NAC Act establishes the National Airline Commission (NAC) to operate a national flag carrier, whilst the CAA Act establishes the Civil Aviation Authority ("CAA") to provide all aviation support services and safety regulation for the airline industry. The Aerodrome (Business Concessions) Act provides for the granting of leases and licences for business purposes at aerodromes.

Other legislation that also impacts on the industry includes:

- Companies Act 1997;

- Investment Promotion Act 1992; and
- Public Finances Management Act 1995.

There are also a number of international requirements which airlines and the CAA are parties to, such as the ICAO standards relating to air safety. Further there are some discretionary bodies which impose certain operating requirements on airlines such as IATA.

The PNG operating environment presents a number of challenges to operators and the travelling public which are unique in the aviation industry worldwide. These challenges include:

- The current poor state of airports and aerodrome infrastructure
- Problems with respect to law and order which have resulted in increased operating costs for airlines, a limitation in the hours of operation for airlines which has resulted in reduced opportunities for airlines to have their assets utilised, and a constraint on the flexibility of consumer travel times and travel arrangements
- Increasing total costs for the industry in a relatively stagnant or even contracting market which has necessitated increases in fares at the same time as there has been decreasing patronage.

However, these challenges do not represent insurmountable obstacles for the industry. Improvements to infrastructure through targeted investment and the potential for increased demand from international tourist markets have the potential to dramatically improve the overall performance of the PNG aviation sector. This Report is focused on providing solutions and highlighting opportunities which will enable the aviation sector to flourish despite the challenges of operating in the PNG environment.

3. International comparisons

Tourism is expected to be a key driver of economic growth in the PNG economy over the coming years. As noted, the Commission is currently undertaking a review of the tourism industry on behalf of the Government. Tourism remains a largely untapped industry within PNG. While it is not the place of this Report to pre-empt the findings of the tourism review, it is clear that access to aviation services, particularly from an international perspective, plays an important role in the development of a successful tourism sector. The cost of travel to, from, and within PNG therefore becomes an important element in the consideration of the potential of the growth and development of tourism. Thus, comparisons of fares to and from PNG and within PNG are an important indicator of the performance of this sector. Accordingly, as required under the terms of reference, this section compares against international benchmarks, prices for fares to and from PNG and also within PNG.

Submissions

A number of submissions to the inquiry addressed the issue of Air Niugini's fares by comparison with international standards. Indeed Air Niugini has completed its own comparison of fares with various carriers, details of which can be found in Appendix B of this Report.

As indicative of these submissions and comments, Mr David Olley in a written submission to the inquiry, expressed concern at the levels of air fares between Australia and PNG and the possible impact these fares are having on all sectors of the PNG economy. Mr Olley provided an illustration of his concerns through the comparison of a Jetstar flight between Sydney and Cairns which cost $149.00 (AUD) or K363.41 with a fare between Port Moresby and Cairns which cost him $748.00 (AUD) or K1,824.39. Mr Olley noted that while the distance travelled between Sydney and Cairns was three hours flight time, the trip between Port Moresby and Cairns was one and half hours flight time in an older, slower aircraft. Mr Olley noted that his market observations seem to indicate that the fares on the Australia/PNG sectors were artificially high.

Air Niugini has commented on Mr Olley's submission and has noted that he has not addressed the issue which relates to the key service differential between low costs carriers, which includes Jetstar, and full services operators such as Air Niugini. Further, Air Niugini has argued that it would be more appropriate to compare its fares with carriers which face a similar cost structure and operational challenges. As such, Air Niugini has provided benchmark data from African airlines which it feels provide a more appropriate point of comparison given the similar challenges that these operators face relative to Air Niugini. The Commission has included these benchmarks in its discussion of benchmarks below.

The PNG Chamber of Commerce and Industry also highlighted the apparent higher costs of PNG carriers noting that the cost of a return flight between Singapore and Switzerland is approximately K2,200 with a flight time of 12 hours, while a three hour flight from Port Moresby to Singapore costs around K4,000. Air Niugini has responded by noting that the flight time to Singapore from Port Moresby is actually six hours. Further, Air Niugini notes that the cheapest fare available on this sector is actually less the K3,000 rather than the K4,000 quoted by the PNG Chamber of Commerce.

CAA has commented that airfares in PNG are amongst the highest in the Asia Pacific region. Furthermore, the CAA has stated that Air Niugini has engaged in selective competitive marketing on specific routes to ensure that they maintain a monopoly over the routes concerned. Air Niugini has responded by noting that it offers discounts on all fares rather than on selective routes as claimed. Furthermore, Air Niugini has identified instances where it has provided discount airfares on its international routes for over 10 years.

Discussion

Over recent years there has been a general reduction in the number of competitors on some of the routes both within PNG and between PNG and international airports. This reduction in competitors has left Air Niugini as the dominant carrier for services on many of the domestic routes and until recently, on all of the international routes to and from PNG. Air Niugini now competes on both the domestic and international level with a number of operators with Airlines of PNG now offering competing services on the Port Moresby/Brisbane route and the Port Moresby/Cairns route. In addition, there is a possibility that there will be increased competition from a new entrant on the Port Moresby/Cairns route in the near future.

Air Niugini and Qantas have argued that they also compete on all code share services between Australia and PNG. On these routes, Air Niugini has noted that while often the two airlines (Qantas and Air Niugini) match each others prices, the operation of the code sharing arrangements is such that each carrier is under pressure to manage their inventory of seats to maximise profitability. The code sharing arrangements, which is discussed in greater detail below, effectively 'sells' a block of seats to Qantas for which they are responsible to fill. Effectively it is a 'take or pay' type arrangement which means that Qantas has an incentive to fill its share of the aircraft on each flight as it will pay for these seats regardless of whether they fly empty or occupied. Consumers have raised concerns that Air Niugini's dominance in the market has translated into higher prices and lower levels of service and that the code share arrangement does not effectively make a contribution to competition between service providers,. The Commission comments further on the code share in other parts of this document. However, for the moment it is useful to note that there is at least some evidence to suggest that Air Niugini and Qantas adopt a different approach to the pricing of seats on the two 'sides' of the aircraft. To the extent that consumers are aware of this difference, thus there may be opportunities for some form of price competition between the two operators.

The PNG aviation industry is relatively small in world terms. This results in relatively high average costs as the industry is limited in the extent to which it is able to spread the fixed costs associated with service delivery over the number of travellers using the service. As such in considering the costs of travel in PNG against other airline carriers, it is important to choose appropriate airline companies for a comparison of fares. It is also important in the context of this review to consider the impediments inherent in the PNG industry which possibly limit the industry's ability to be as price competitive as other airlines in other countries. Special circumstances within PNG itself, for example the topography and remoteness of some airports, can impact upon the meaningfulness of fare comparisons. To assist in consideration of this issue, the Commission has compared the prices faced by consumers in similar markets to assess the performance of the PNG industry. This analysis has been split into an assessment of the domestic and international airfares.

In its Draft report, the Commission made a number of comparisons of airfares between different countries and PNG. Air Niugini has observed that there are a number of costs which it faces which the Commission has not acknowledged in making comparisons with air fares in other markets. These costs included:

- Air Niugini operates in an environment where every PNG based pilot and flight attendant, engineering staff and other highly trained staff member is provided with paid accommodation (with an annual cost of K3 million)
- Various household amenities, water and electricity are provided free to these staff members
- All engineering, operational and flight operations staff including technical and flight attendant crew are transported to and from their work place at various hours with armed security services as escorts

Air Niugini has also claimed that there are other costs it faces which result in a much higher cost base than that faced in other countries, for example, wider law and order and security costs, relatively higher interest rates, high costs associated with attracting and retaining skilled labour in the PNG context, and cost issues associated with the generally poor state of infrastructure throughout PNG..

The Commission accepts that there will always be differences between the costs faced by individual airlines operating within or out of different countries. However, individual airfares do provide an informative comparison from the point of view of the travelling costs observed by the travelling public. It is the consumers perception of the relative cost of air fares in PNG that influences their decision as to whether or not to use air travel, and which can be an influence on public policy decisions taken by governments on air transport charges. In the following section, the Commission seeks to address the concerns raised by the public relating to the prices they face when purchasing airfares. While the Commission accepts that there will be differences in the underlying costs structures of the various airlines in whatever sample is used, this analysis provides an interesting comparison of the different airfares available in the region.

Domestic fares

Figure 3.1 provides a comparison of domestic fares on a per kilometre basis for countries in the Asia Pacific region. The fares used for each route are the full economy, fully flexible fares. Included in this analysis are domestic fares from a number of neighbouring countries including:

- Australia
- Thailand
- Malaysia
- New Zealand

As shown in Figure 3.1 the prices paid by Papua New Guinean travellers on a per kilometre basis are broadly comparable with domestic fares charged in these other countries. The overall average fare on a per kilometre basis for the sample used was K1.15 per kilometre while the PNG average was K1.25 per kilometre. This represents an average price difference of less than 9% when PNG fares are compared to fares in other nearby countries. It is even more impressive once the low cost carriers from Malaysia and Thailand are removed from the comparison and fares are compared with the Australian and New Zealand fares. The average fare of Australian, New Zealand and PNG carriers in the sample was K1.30 per kilometre which is 13% higher than the

PNG industry average of K1.15 per kilometre. The average Australian and New Zealand fare for carriers in the sample is equal to K1.46 per kilometre flown, which is 27% higher than the PNG average fare per kilometre flown.

The Port Moresby to Mount Hagen route is the cheapest fare in PNG on a kina per kilometre basis and fourth cheapest in the sample group. Meanwhile, comparing the Port Moresby/Rabaul sector with the similar length Sydney/Melbourne sector operated by both Virgin and Qantas in Australia, Air Niugini's fare compares favourably in that it is actually cheaper on a per kilometre basis than either of the Australian carriers in the sample. Undoubtedly the busiest sector in PNG is the Port Moresby to Lae route which is below the average fare charged in PNG at K0.97. Compared to one of Air New Zealand's busier routes, the Auckland/Christchurch sector, which has a fare per kilometre of K1.26 the PNG fare structure appears to be reasonable.

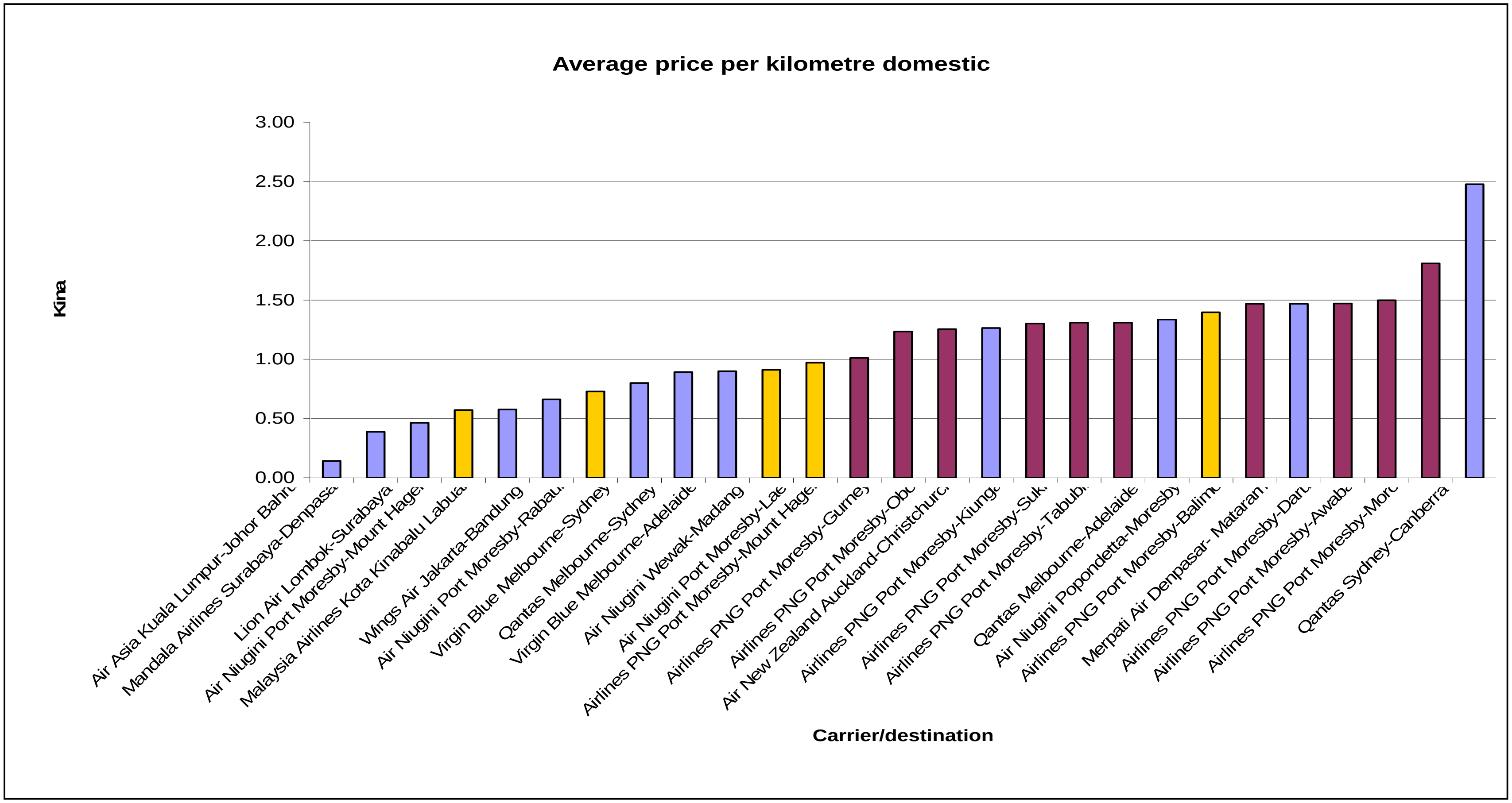
Figure 3.1 also shows that some of Airlines PNG fares are higher than the average, particularly on routes which it has monopoly. While the Commission accepts that in some part this is due to the monopoly position held by Airlines PNG on these routes, it is more likely a reflection of the fact that these routes are typically to more remote areas in PNG which are 'thin' routes. The thinnest of the routes means less opportunity for a carrier to spread the high fixed costs of aviation over a larger number of passengers which means that fares on these routes may be higher than on the more highly travelled routes. In the case of these Airlines PNG routes, the Commission understands that there is not necessarily an artificial barrier for a new entrant entering these markets, but rather a lack of demand on the route which makes the operation of a second carrier uneconomic. The Commission discusses the monopoly position of carriers on thin routes later in the document.

As noted, the fares used in the comparison in Figure 3.1 are all based on fully flexible fare arrangements. The Commission notes that there is significant discounting of these fares in the overseas markets which have not been fully reflected in the assessment above. However, this discounting is directly related to the yield management practices of the airlines concerned. There are also some considerable discounts available to PNG consumers on domestic routes. The key difference between airlines in PNG and the other carriers until now is primarily the focus on a more proactive approach to yield management by these overseas carriers. The Commission notes that it is generally accepted that operators in the PNG market have lagged behind other operators in terms of the sophistication of approach to yield management.

The degree of competition in the overseas markets has contributed to the relatively sophisticated approach to yield management adopted in other countries. In a more competitive market, price innovation is one way which airlines are able to attract customers and build brand loyalty. As such airlines are more proactive in yield management in a competitive market where margins are lower and there is greater incentive to fill planes in order to maximise profits. A more active approach to yield management from airlines in PNG would ensure that profitability is increased and air travel becomes more accessible for lower income travellers in PNG.

Air Niugini has submitted that it uses a yield and capacity management system which is the same system as used by many of the world's major airlines including Singapore Airlines, Cathay Pacific and Air New Zealand. However, Air Niugini has conceded that its yield management system has yet to realise its full potential as it has been unable to apply it fully to stimulate demand. Difficulties with telecommunications services and internet access have been highlighted as being at least part of the cause for this underutilisation of the facility. However, there would also appear to be some

Figure 3.1 Average price per kilometre (Domestic)



internal issues within Air Niugini which have limited the full potential of this facility being achieved. As the airline continues to improve its financial position (and the telecommunications services in PNG improve), it will be in a better position be active in managing the yields on services and stimulate demand through actively discounting flights at short notice. It can be expected that Airlines PNG will be seeking to build on its yield management performance also. Again, greater use of internet booking arrangements, and a growing sophistication in the domestic market on how to book flights over the internet, will improve the ability of the airlines to maximise the load factors on flights and offer prices designed to achieve the highest possible revenue and least empty seat outcome for each flight.

International fares

Figure 3.2 provides a comparison of international fares between a number of countries in the Asia Pacific region and also between some countries in Africa. The comparison is made on a full economy, fully flexible fare basis.

Figure 3.2 shows that the average fares across the routes surveyed on a Kina per kilometre basis is K0.66, which is significantly lower than the average domestic fares reported in Figure 3.1. This is to be expected given the economies of scale available with larger aircraft and potentially longer routes. The PNG average fare for a fully flexible ticket on the Port Moresby/Cairns, Port Moresby/Brisbane, and Port Moresby/Sydney routes is only marginally lower than the domestic fare at K0.98 (see Figure 3.1 above) and significantly higher than the average fare for most other routes examined. When compared against other service providers in the South Pacific it is impossible not to note that Air Niugini is the most expensive carrier, irrespective of the sector length. Furthermore, PNG's direct competitor in terms of tourism expenditure, Fiji is significantly cheaper to fly into and from the key tourist markets of Australia and New Zealand.

At the suggestion of Air Niugini who felt that the comparisons made above and presented in the Draft Report did not give sufficient consideration to the special circumstances surrounding the operation of an international airline from PNG, the Commission has also included in Figure 3.2 the average per kilometre cost of travel on a number of air transport routes in Africa as suggested by Air Niugini. The results are also presented in Figure 3.2, and identify some routes which are clearly more expensive on a per kilometre basis than the Air Niugini international routes (although not all). However, the pattern still remains much the same in that the Air Niugini fares are at the upper end of the scale and are only exceeded by two examples taken from Africa.

In considering the reasons why international flights from PNG should be higher on an average per kilometre basis than flights in similar parts of the world, the Commission has had to consider whether there are some significant operational differences between the airline operators represented in the fares used in Figure 3.2 which might explain the differences in their costs structures and consequently their pricing structures. One possible explanation may be in the size of the networks operated by the airlines used in the comparisons as airlines face considerable cost advantages as their networks become larger. Average cost decrease to the extent that fixed costs can be spread over a greater quantity and variety of output, a feature common with transport networks. For example, airlines can reduce their average in-house engineering and maintenance costs as they increase their fleet size. In contrast, Air Niugini has been in a relatively restricted operating environment in that it has been operating with primarily one main aircraft used on all but two of its international routes.

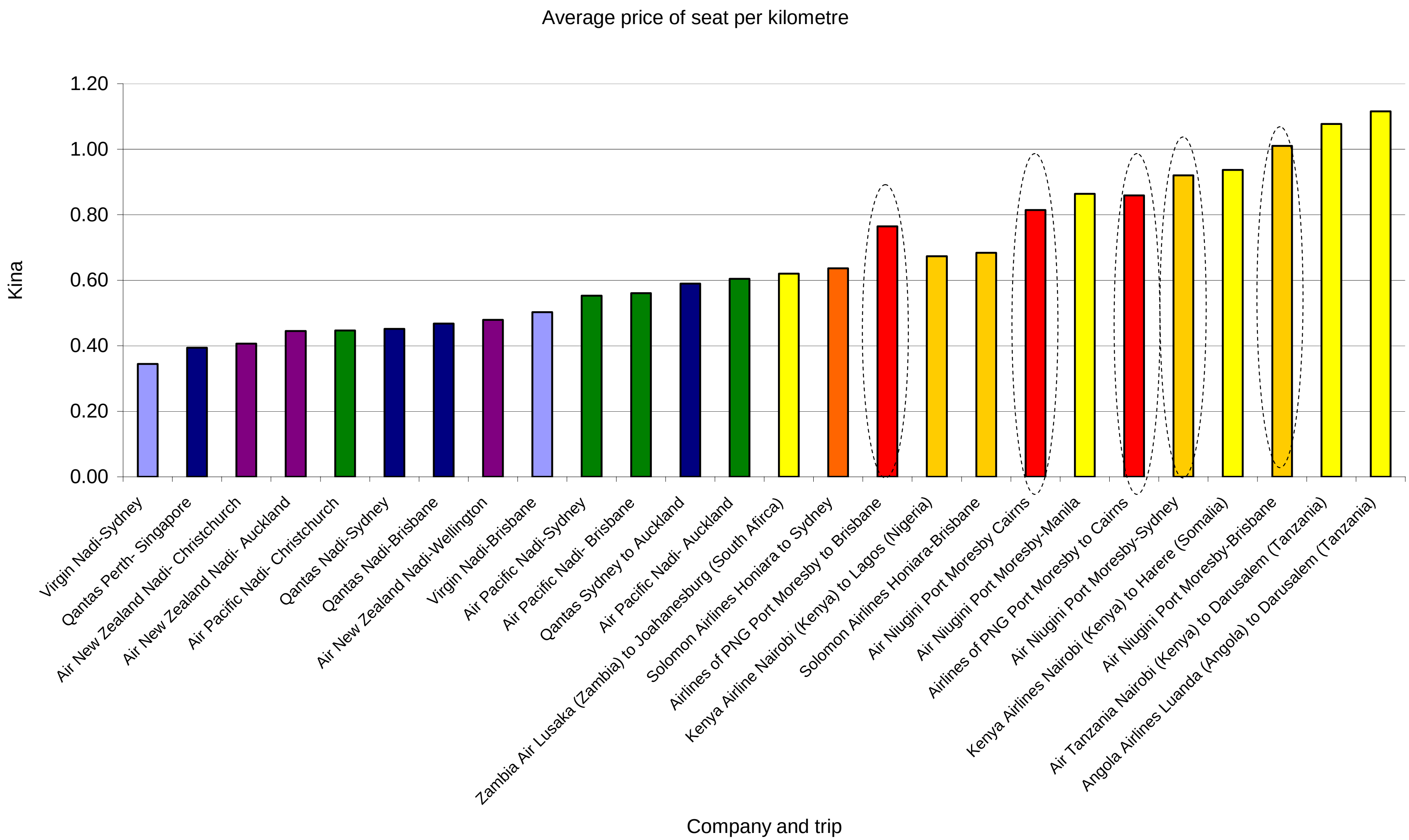
This has resulted in very limited opportunities for Air Niugini to achieve significant economies of scope and scale in the maintenance of the aircraft. This is one possible explanation as to why the Air Niugini's fares are generally at the upper end of the benchmark group.

As airlines fly over longer distances there should be a decrease in the average cost per kilometre as the fixed costs are spread over more kilometres leading to lower average fares per kilometre. However, for fares on international routes out of PNG this appears to be actually the opposite. That is, the shorter international trip has a lower average fare than the longer route.

Air Niugini has argued that its underlying cost structure is also influenced by the costs of law and order issues in PNG and the need to incur higher costs for security and associated activities. The comparisons with fare costs in Africa are intended to provide a like for like type comparison, especially in those locations where there is a high law and order problem and the need for additional security measures. Certainly there is some similarity in the average fare rates per kilometre shown for these countries, with all examples used being at the upper end of the average rates shown.

Air Niugini may also incur higher costs associated with being the national flag carrier. There is possibly an element of truth in this argument, although it is difficult to determine just what proportion of underlying costs should be ascribed to this task. It would be difficult to argue that the national flag carrying responsibilities are such as to add significantly to the costs of Air Niugini, and therefore very little of the average fare per kilometre can be linked to this cost item.

Figure 3.2 Average price per kilometre (international)



In recent months there has been the emergence of new competition to Air Niugini on the PNG/Australia routes. Airlines PNG has commenced a daily service to Cairns from Port Moresby, and a three times a week service from Port Moresby to Brisbane is now also operating with the possibility that the frequency will be increased by the end of the year. As part of the emergence of competition on these routes, there has been an extensive advertising campaign by both Airlines PNG and Air Niugini seeking to attract travellers. This campaign has featured 'special' discounted fares for the trip with various conditions attached to these discounted fares. For the purposes of Figure 3.2, the fully flexible, full economy fare has been used to make comparisons. Significantly on the Port Moresby/Cairns route, the average fare cost per kilometre for Airlines PNG is slightly more expensive than the Air Niugini equivalent fare, whereas on the Port Moresby/ Brisbane fare, the Airlines PNG average per kilometre fare is significantly less than the Air Niugini fare. These fares would in part seem to support Air Niugini's contention that the operating costs in PNG are such that higher fares on the international routes are required in order to recover these costs. However, this argument is weakened by the Airlines PNG Port Moresby/Brisbane average fare results. Furthermore, Air Niugini has indicated that further adjustments to its fare structure can be expected in the coming months as it seeks to respond to the competition from Airlines PNG[2].

Air Niugini have argued that their willingness to offer 'special' discount prices and other incentives to attract traffic to its international flights has not solely been as a result of the recent emergence of competition on the PNG/Australia routes. Indeed, Air Niugini has argued that they have effectively been competing with QANTAS on this route for a number of years, albeit under a Code Share arrangement. In support of their argument, a submission from the PNG Dive Association ("PNGDA") advised the Commission that the Association had negotiated a very attractive discount fare rate with Air Niugini for its guests in the late 1990s and this discounted fare arrangement is still operative. This fare arrangement has proved to be particularly attractive and until recently the dive industry in PNG accounted for around three quarters of all tourist travellers to PNG from Australian and elsewhere.

The Commission understands that another factor that may be constraining the use of discounting is the requirements relating to changes to international fares. Air Niugini must currently obtain approval from the Department of Transport and Civil Aviation for its passenger fares. Air Niugini's ability to engage in better yield management practices is subsequently reduced due to the constraint that the approval requirement imposes on pricing flexibility and its ability to respond to the market in a timely manner. While the Commission notes that care needs to be taken to ensure that prices recover average costs, it considers that a more flexible pricing system is needed for Air Niugini to compete effectively in the market. A potential solution could be to require Air Niugini to seek approval for passenger fares only when its proposed fares fall outside a defined range that is approved by the Department on, for example, an annual or six monthly basis. It would be counterproductive for Air Niugini or any other carrier to be prevented from offering discounts on its fares, especially as part of a yield management practice, by administrative arrangements that are unable to respond to the new market

[2] Air Niugini in its submission to this inquiry also referred to the possibility that a further competitor would be entering the Port Moresby/Cairns route in the near future

environment where instant price changes and booking arrangements can be made using the internet.

Submissions to the inquiry have suggested that as a privately owned operation Air Niugini may be more efficient in its operation, and thus have lower fares particularly on the international routes. There has been some case studies which suggest that privately owned airlines are more efficient than publicly owned airlines (Oum and Yu 1997) although these efficiencies do not necessarily translate into more internationally competitive fares in the absence of competition. It is just as possible for a privately owned monopoly services provider to capture monopoly profits on certain routes as it is for a government owned monopoly operator. As a government owned operator Air Niugini may be managed to meet a combination of objectives such as national prestige and reducing geographic inequities which could be forcing a cost structure on Air Niugini which is artificially high. The current government has taken a hands off approach to the operation of the Air Niugini. However, previous governments have had a more interventionist policy in terms of the management of the airline. In 2002 a combination of a number of external factors and poor management resulted in severe financial distress for Air Niugini to a point that it was in danger of becoming bankrupt. One of the measures which was taken at that time was the introduction of the code share agreement with Qantas which improved the load factors and margins for Air Niugini on its PNG/Australian routes. The code share arrangement and its impact on competition on the routes involved is discussed further below.

The Commission is not convinced that a privatised Air Niugini would necessarily results in a fare structure more in line with a number of the examples presented in Figure 3.2. At the same time, the Commission is not convinced that the timing of recently announced special fare deals by Air Niugini, and hints of more to follow is a complete coincidence and unrelated to the timing of the emergence of a competitor on the PNG/Australia route. Rather, the Commission would like to think that Air Niugini has taken the opportunity to reassess its demand management strategies as well as taken the opportunity of seeking to build the traffic on the Australia/PNG route in particular in response to increased attention being given to the development of the tourism industry in PNG, and the emergence of new technologies, such as internet booking arrangements which will allow Air Niugini to adopt pricing strategies to achieve higher passenger numbers per flight rather than let flights depart with empty seats.

Concern has been expressed in a submission from the PNGDA and from Mell Consultants, that the emergence of competition on the Australia/PNG route may cause instability in the market. The argument being advanced is that the new competitors may enter the market, offer prices which are not sustainable and as a result force Air Niugini to follow them down in terms of prices offered in an attempt to maintain its market share. Ultimately because the prices are unsustainable, the new entrants will either be forced to increase their prices or possibly abandon the routes altogether. In the meantime, Air Niugini will have suffered financial disadvantages which may then impact on its continuing viability.

The Commission is not convinced by this argument as it is based on the premise that the size of the market is fixed and all that is happening is that the same number of passengers are being spread between two or more competing operators. Clearly this is not the case otherwise Air Niugini, as advised in its evidence to the inquiry, would not of its own volition, have offered discounted fares to the PNGDA and to the general public well in advance of the emergence of the competition. The greater danger in a market such as this is that the incumbent will use its existing position in the market to apply predatory pricing practices designed to drive competition out of the market or discourage new entrants from entering the market. The Commission is not suggesting that the behaviour that is currently evident in the market is predatory pricing by Air Niugini, as there has been no evidence advanced to suggest that this is the case. However, the Commission will be monitoring the behaviour of the market closely for any sign of that activity occurring which would imply some form of predatory pricing.

Summary observations

The analysis undertaken by the Commission has highlighted the fact that the per kilometre costs on domestic routes within PNG are broadly in line with international benchmarks. Competition still existing on these domestic routes, and the current airline structure in PNG, while having less active operators than in previous years, still benefits from a degree of contestability between existing operators be they regular scheduled flights or charter operations.

On international routes, the comparison of the benchmarks for PNG is not as favourable. This may in part reflect additional costs and special circumstances in PNG. However, the Commission will be watching with interest the current bout of price competition between Air Niugini and Airlines PNG on the Australia/PNG route to see whether the prices being offered and yet to be offered are sustainable for this route. The Commission is not convinced that all the difference between the benchmark results for other routes and those for the Australia/PNG routes can be attributed solely to additional costs incurred by Air Niugini. Thus the Commission is anxious to ensure that competition on these routes continues to function effectively. To this end, the Commission will be monitoring closely for any signs of predatory pricing by any party designed to eliminate a competitor so that prices can be returned to their pre competition levels.

The Commission notes that there have in the past been some tourist operators who have successfully negotiated price/service packages with Air Niugini to ensure that fares for their patrons have been keep at an acceptable, internationally competitive level. The Commission considers that this is consistent with good yield management practices by Air Niugini. The introduction of a new competitor on the Australia/PNG route has meant that these types of discounts are now potentially more widely available in the market. The Commission is keen to see competition continue to provide access to competitive and more internationally comparable fares for the general travelling public on international routes. The opportunity for tourist operators to negotiate special priced deals with all international carriers, although existing to some extent in the past, has now grown significantly. This will have important implications for the tourism industry in PNG, with flow-on benefits to other parts of the economy.

Air Niugini has argued that it has always provided tourist fares between Australia and PNG which have been very attractive. For example, prior to the recently announced SuperSaver fares, Air Niugini actively promoted BNE/POM return for AUD599. This was primarily aimed at the tourism market. The SuperSaver fare has further reduced this price to AUD499 excluding taxes and surcharges. Additionally, Air Niugini has provided tour wholesaler fares at levels less than the AUD599 return fare, including a free domestic sector.

As competition on the international routes increases, it can be expected that there will be further discounting of fares by the airlines. Greater use of internet booking and better yield management techniques should help to keep prices at levels more in line with those evident in other markets, while at the same time achieve better overall revenue recovery for the operators as load factors are improved through greater passenger patronage. Privatisation of Air Niugini is not necessary to achieve this outcome, nor does the Commission favour adoption of price control arrangements. However, the Commission does retain the powers to seek to have the industry declared for price regulation purposes should it be considered at some future time that the market is not operating effectively. For the moment however, the Commission considers that such interference in the market place would be inappropriate and costly.

4. Infrastructure

Infrastructure investment in a number of sectors throughout the PNG economy has been severely restricted for over past 10 years. In PNG, most of the major airports and terminal facilities are owned and operated by the Government through the PNG Civil Aviation Authority ("CAA") while the minor airports are owned by the various Provincial governments. There are some remote and district airfields and related facilities which are privately owned and operated by commercial interests. While there are seven airports which are designated as international airports, only Jacksons Airport in Port Moresby is currently operating as an international airport.

From the submissions received the main issues associated with infrastructure are:

- The state of runways at many of PNG's airports
- The availability of adequate terminal facilities
- Adequate management of airports generally
- The funding mechanisms for each airport
- The security and safety arrangements operating throughout the aviation industry.

4.1 Runways

Airport infrastructure, particularly runways, requires significant ongoing maintenance and investment to ensure safety of landing aircraft. This investment is a significant expenditure; for example, resealing is required every 6-10 years to ensure that runways are maintained to the appropriate standard. During its initial consultations the Commission noted that there were concerns expressed by some participants in the industry that there were problems with runways especially at smaller regional airports[3]. This can create potentially hazardous landing conditions and has raised safety concerns from the industry. The lack of proper aerodrome facilities and navaids has also contributed to safety concerns leading to inefficiencies in the operation of airports. This problem has mainly been in provincial airports and rural airstrips. There are also other infrastructure concerns raised by industry. These issues have affected air service operations and have a bearing on the overall industry efficiency.

Submissions

Concern was expressed in submission received about the standard of upkeep of airstrips. For example, concern has been expressed about the ability to maintain outstation airstrips which have been transferred to the provincial governments. The PNG Chamber of Commerce and Industry (PNGCCI) claims the runway surfaces of these airstrips are often not of a satisfactory standard to cater for charter aircraft and third level operators operating services into these rural strips. This is an issue that goes to the ability of provincial governments to fund the maintenance work required. However, the ability to fund maintenance is not isolated to provincial governments.

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[3] Air Niugini claimed that Airports such as Mendi Airport is very risky in terms of landing and take-off.

Air Niugini has noted that the standard to which CAA has kept airstrips is inconsistently applied throughout the country and as a consequence has resulted in cost inefficiencies across the industry. Air Niugini considers that the lack of consistency has resulted in a lack of appropriate aerodrome facilities which has led to flight time delays. This in turn has repercussions in terms of costs to the industry and travellers and leads to an inefficient operation of the business.

Air Niugini has claimed that it faces adverse impacts stemming from continuous interruptions due to power blackouts, unserviceability of navigational aids and consistent maintenance and upkeep of airports has had major adverse impact on its operations. It is claimed that this has led to Air Niugini's brand and reputation being tarnished as it is the perception of the travelling public that anything that happens at airport is the responsibility of Air Niugini and not CAA. Further, there have been additional costs incurred by Air Niugini especially when flights have been cancelled due to the inability to use the scheduled operating aircraft which results in some customers and freight being offloaded. These costs have been mainly been in terms of hotel accommodation, meals, aircraft charters and other service recovery actions.

Air Niugini has also claimed that it is unable to operate early morning flights into certain airports due in part to the aircraft being unable to land until the airport is cleared of mist and clouds due to a lack of lighting on the runways and surrounding the aerodromes.

CAA acknowledges that a major limiting factor on the operating efficiency of carriers is the poor condition of many rural airstrips and airports compared to the capacity of the airport for a particular aircraft type. This limits the ability of the carrier to adopt the best aircraft type for the route and demand characteristics. Highlighting this problem, Airlines PNG noted that aerodromes should be upgraded and better maintained to accommodate larger aircraft. Airlines PNG stated that the present state of some aerodromes makes them marginal for safe operations – with some completely unusable in their current condition.

The Department of Treasury ("Treasury") in its submission agrees that the existing airport infrastructure should be restructured. Commenting on the proposals to lift the standard of some airports to meet international airport requirements, Treasury proposes that an extensive cost-benefit analysis be undertaken to consider the economic and social case for such projects using the current levels of economic activity as a benchmark for the case for expansion.

Treasury further commented that a cost benefit study would need to quantify how each airport will contribute to its regional and the nation's economic activity, including an assessment of:

- The expected economic rate of return on each airport
- The cost of funding recurrent items such as maintenance and associated services like quarantine, customs, immigrations and air traffic controls,
- The savings associated with not using Jackson Airport,
- The cost to Jackson Airport of having lower freight and passenger numbers
- The impact on net revenue of the CAA of a possible reconfiguration of the current operations of airports.

Without this assessment of the costs and benefits associated with an upgrade of the existing infrastructure, Treasury is concerned that there is a potential for any new investment or upgrading of facilities being inappropriate.

Discussion

The major issue associated with infrastructure is the low standard of upkeep of airports and how to fund upgrades. This has been primarily driven by low levels of funding from the government[4] which has in turn contributed to poor service delivery by the airlines themselves and as a consequence, lack of demand growth to make airlines profitable. Furthermore, there has been a general decline in the level of traffic utilising many airports. This has in turn resulted in a reluctance of officials to spend money on the existing infrastructure which consequently places further pressure on service standards at airports.

Many of the smaller PNG airports suffer from a lack of maintenance and are consequentially often below minimum standards. The provincial governments have the responsibility to maintain many of these airports, but there is a lack of finance and necessary management skills to carry out this task. Smaller rural strips are maintained by villages and small communities, and these are often in a poor state of repair. Pilots are reluctant to use these strips which results in there being little incentive for investments in the supporting infrastructure which in turn further reduces usage of these airports.

There is a need to ensure that the supply of runway and terminal space is matched to the future needs of airline operators and the demand for air services. As such it is important that airports are designed and operated along a 'fit for purpose' basis rather than necessarily seeking to make all airports suitable for jet aircraft. This approach will ensure that investment in new and existing infrastructure is necessarily prudent and that money is not wasted on airports which are inappropriate for the likely demand. It is not feasible to adopt an 'if you build it they will come' approach to airport infrastructure. Rather infrastructure should be based on a detailed consideration of the operational needs of the airport given prudent future demand projections.

As noted elsewhere in this report, the aviation industry is in decline in terms of passenger movements and is unable to afford investment in airport infrastructure. The economic stimulus to the industry must come from a combination of economic activities within the economy such as through tourism growth and new business investment in mining, gas or other business opportunities (e.g. coffee, oil palm and vanilla and agriculture). However, a careful consideration of the investment needs of the industry associated with any projected increase in demand is required. With limited investment funds available, targeting of infrastructure development and repair will be a requirement and, desirably these investments should be matched to increasing demand to support the overall businesses case underlying the investment of funds into infrastructure.

[4] The Commission is aware of the Australian government's Balus Programme which has initiated an extensive programme to provide funding to upgrade all airport infrastructures in PNG.

The consequence of not investing in airports and runways includes the possible closure of some smaller airfields. However, the Commission is not necessarily convinced that all airports should be bought up to a standard that can accommodate an aircraft larger than that which will meet anticipated demand and usage of that facility. Runways should be constructed to meet demand, including any realistic expectations for demand growth, rather than to facilitate the introduction of larger aircraft which may or may not be available in PNG. The Commission finds it difficult to make the link that there will be greater competition if runway infrastructure is increased to cater for larger aircraft. A case in point would be Nadzab which has been built to high aircraft demand standards, but has not necessarily generated greater usage or competition. However, the Commission does agree that where warranted there is a need to undertake a detailed economic assessment of the sustainability of proposed extension or upgrading of existing airports. The costs associated with upgrading runway infrastructure are considerable especially considering the recurrent cost implication which will accompany the upgrade. The need for any upgrade of the existing infrastructure should be considered on a case by case basis. Where there is a genuine need, a full cost benefit analysis and business case should be developed to consider the full implications of the proposed expansion of an existing facility.

The Commission notes the view expressed by some that without some prudent or targeted airport investments, the PNG tourism market will be adversely affected. Where the underlying business case is supportive of new investment the Commission considers that such investment should occur. However, the Commission stresses the need for sensible prudent future demand projections and cost estimates. A detailed cost benefit evaluation will be required on a case by case basis in order for there to be appropriate consideration of various competing needs for infrastructure investment.

This principle also extends to the rationalisation of some smaller existing airport facilities where for example, it may be possible for potential travellers or persons wishing to use freight services to travel a reasonable distance to a larger, better maintained and serviced airport, rather than maintain an existing poorly maintained airstrip. Where demand is not sufficient to meet the investment costs in maintaining an airport, a detailed policy assessment is required to assess the viability of the airport concerned. This assessment needs to include five overarching principles:

- An analysis of present and likely future demand for services
- The availability of alternative transportation, including access to an alternative airport
- The economic importance of the airport to the local communities and the broader PNG economy
- The ability of the regional community to provide adequate management of the facility
- The potential of the airport to support a sustainable operation

Desirably any funding provided to support the continuation of a specific regional airport should be directed to the subsidised financing of the capital works (or initiating maintenance programs to ensure that the airports are up to an appropriate standard).

Where this assessment supports the use of government funds to support investment in the capital costs of returning the airport runway to an appropriate standard, communities and government should enter into agreements which state the requirements and obligations of all parties. This will ensure that government money is not wasted and that communities are able to plan for their economic future in the knowledge that the airport will be maintained to an appropriate standard. The overriding objective of such contracts should be that the airport will achieve a sustainable operating position by a specified date. Failure to demonstrate the potential to achieve this target will disqualify the airport concerned from further funding consideration. Importantly, unless a market failure exists, for example closing an airport totally would isolate a community, there should not be a need for the government to support marginal infrastructure.

4.2 Terminal facilities (including landing facilities)

Adequate terminal facilities are necessary to ensure the continued success of airports across the country. The ability of an airline to land safely assisted where required by appropriate landing instruments including navigational aids operated in conjunction with the airport is vital. Beyond the flight operations facilities, the terminal facility is often the first impression the travelling public gains of the airport. Access to adequate services including safe and comfortable boarding arrangements, are fundamental requirements expected by the travelling public. However, terminal facilities still need to be fit for purpose. For example, an international standard facility with aerobridges is not justified for smaller airports. Access to appropriate facilities for refuelling, storage and cargo handling is also vital to the viability of an airport and to those carriers who use this facility.

Submissions

During its initial consultations, the Commission noted concerns expressed by some participants in the industry about the lack of terminal space, including access to terminal gateways, tarmac parking, freight and passenger terminal facilities and other air side and passenger side facilities at PNG airports.

In response, the CAA noted that at many airports, Air Niugini and Airlines PNG operate from their own terminal buildings. The CAA levies lease charges for these facilities to assist in airport maintenance costs, but applies a minimal charge. At airports where CAA is responsible for the terminal facilities, CAA conceded that some of these facilities have been inadequately maintained, mainly due to funding constraints.

Air Niugini stated that it has an exclusive long term lease over three airport terminal facilities[5] owned by the CAA in PNG but did not hold leases over facilities at overseas airports. At other PNG airports the CAA provides a multi-user terminal where Air Niugini leases individual assets, for example gates and check-in counters. Air Niugini is of the view that any lease charges made by the CAA for their facilities are included in the consolidated fees and charges which are levied for access to air navigation equipment

[3] These facilities are at Goroka, Madang and Mendi. Air Niugini also leases the Executive Lounges from CAA at the following airports – Port Moresby (domestic & International), Rabaul, Lae, Mt. Hagen and Madang.

and ground handling facilities by CAA. The Commission has assumed this to mean that Air Niugini does not pay any separately identifiable amount in terms of the lease payments for airside and passenger side terminal facilities.

Under the sixth freedom of air travel a carrier has the right to carry passengers or cargo from a second country, e.g. Australia to a third country, e.g. Solomon Islands by stopping in the home country, e.g. PNG. Generally this involves a short stop over in PNG of approximately two to three hours. Effectively this allows an international carrier such as Air Niugini the opportunity to increase demand for its services by offering multi sector trips. This could be used by Air Niugini as a way of improving yield management on some of its international routes. Air Niugini noted that they have in place sixth freedom flights from South East Asian ports via Port Moresby to Brisbane and Singapore and Honiara. Use of this provision would allow Port Moresby to become the hub for a number of smaller South Pacific nations. The benefits associated with Jacksons Airport becoming a hub is that it would result in increased demand for the services at the airport leading to more revenue and greater utilisation of the asset. However, Air Niugini has claimed that due to low interest by carriers in using Port Moresby as a hub and low potential passenger numbers, this opportunity has not yet been fully realised.

Airlines PNG in its submission argues that lack of terminal facilities at main airports has created cost inefficiency and has recommended that there be a tendering out of ground handling services at all major airports so that there is a single service provider in each location. Airlines PNG stated that an industry tenders board could be made up of representatives from the major airlines as well as CAA to oversee the outsourcing of services at aerodromes. Airlines PNG argued that this would promote efficiencies, reduce duplication and costs and also facilitate the opening up of terminal space for new airline operators. The Commission is somewhat uncertain as to how tendering out services at Airports will increase the availability of terminal facilitates. However, the Commission has interpreted Airlines PNG's statements as meaning that a more efficient operation of the services provided at airports would result in an increase in the money available for increased capital investment.

CAA advised that existing terminal space is allocated to tenants based on their historical arrangements with previous administrations. CAA has argued that the access fees currently paid do not adequately compensate the asset owner for a commercial rate of return on its asset. CAA has claimed that some of these past agreements have resulted in the CAA being locked into uneconomic lease terms. Although no specific examples were provided, the CAA acknowledged that it currently fails to recover the full costs of service provision at most domestic airports. Air Niugini has observed that as CAA does not have the necessary revenue to adequately manage airports it is left to airlines to meet such costs.

The PNGCCI submitted that retail services at airports could be improved by the privatisation of airports, and that airports should be treated as potentially profit making activities. Air Niugini has also claimed that retail services and access to general infrastructure at terminals is an important issue for the industry to resolve in order to better sustain itself. The PNGCCI has argued that, where appropriate, services should be outsourced or privatised to ensure that they are provided in an efficient manner.

Air Niugini has noted difficulties in using certain airports after hours or before sunrise. This reflects difficulties caused by mist and clouds and the lack of navigational aids at aerodromes. Air Niugini noted that small delays on departures and arrivals can impact on international and domestic flight schedules and thereby actually affect the travelling public. This adds cost to air travel and impacts on the economic viability of the airline and the seamless delivery of air travel that passengers seek. PNGCCI also stated that the impact of flight delays owing to inefficiencies in the operation of terminal facilities was significant and resulted in a loss in business[6] opportunities. Further, Air Niugini has cited that there have been problems with inoperative navigational aids and tower controls at a number of airports and extended power outages at major airports, including Jacksons Airport in Port Moresby.

Discussion

The Commission has examined each of the issues raised in submissions on terminals and associated airport infrastructure. The Commission considers that the issues associated with mists and low level clouds are common problems throughout the aviation industry. At many airports world wide, services are often disrupted due to fog or bad weather. While there are some navigational upgrades which are available to minimise the impact of such disruptions, e.g. landing assisted control, the cost of investment in this technology can be somewhat prohibitive given the potential benefits available. Without additional information from the industry regarding the frequency of such disruptions, it is difficult for the Commission to make any comment as to the seriousness of the problem. If the problem was causing significant concern by generating large operating losses to both the airlines and the CAA, the Commission would expect that both parties would be able to identify this as an issue which needs to be addressed. If this is the case, a business case as to the benefits of an upgrade investment in the ability of airports to operate in all kinds of weather would be required which clearly addresses the various options of solving the problem and their relative costs. Where there is an appropriate benefit/cost trade off associated with this investment, justification would exist for it to proceed. These issues should be examined systematically on an appropriate case brought forward for funding. If the funding is to be provided by the CAA, this business case would need to include an appropriate return to the CAA on investment to be made. Should it be demonstrated that there are externalities (benefits accruing to others) that provide justification for the infrastructure investment this could provide a case for seeking external funding from the government.

In order for the aviation industry to be financially viable, it must match the functionality of airports with the demand for air transport created by the market. As with runways, it is not appropriate for investment in terminals to be based on speculation that an upgrade will in itself automatically attract additional flights and/or carriers. There is a need to match the demand profile of an airport with the availability of terminal facilities such as air bridges, baggage carousels, other passenger and airside facilities, and retail outlets. It is mandatory however, that all airports meet the minimum requirements set out as part of the safety regulations regarding navigational aids and control towers. Where the existing infrastructure only permits flights at certain times of the day, a case would need to be made that there are net benefits to be gained by investing in infrastructure that would allow use of the airport at other times of the day or night.

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[6] PNGCCI claimed that some domestic flights are delayed from 40 minutes up to 6 hours and international flights from 3 to 19 hours has resulting in thousands of kina lost to wages and productivity in the industry

CAA has claimed that ensuring that all airports are up to appropriate standard in terms of terminal facilities is difficult given the differential between the cost of maintaining this basic infrastructure and revenues generated through landing charges. The Commission notes that Airlines PNG was critical of CAA's recent announcement of increased fees and charges. Airlines PNG commented that the increases would likely increase the price of fares resulting in less travel. The Commission notes this places both Airlines and the CAA in a difficult position in terms of the ability of the CAA to fund its activities and the industry to absorb increases in fees and charges. The CAA argues that without the increases it will continue to struggle to provide the services specified as required under the CAA Act. At the same time the increase in the charges to the extent they flow through to higher fares may result in less demand which places strain on both the CAA and the industry. CAA has acknowledged its dependence on demand for air travel services to maximise revenues, as charges are levied on a per passenger basis. At the same time, one of the key variables in airline profitability is the load factor on planes which is directly related to demand. As such it is in both the airlines and the CAA's interest to increase demand for aviation services.

The Commission considers that in order to achieve the objectives of both the CAA and the airlines, it is important for both parties to agree on the reasonableness of future medium term capital expenditure, operating expenditure and price path plans before charges are further adjusted. A process of consultation between the parties which addresses the rationale behind any increase in charges would:

- Provide a comparison of standard and efficacy of PNG facilities against international benchmarks;
- Address how changes in demand will impact on the collection of the revenue required to maintain and improve the airport facilities;
- Outline the capital program of CAA going forward; and
- Outline the performance outcomes to be expected from the increases in funding.

This would enable both the CAA and the industry to articulate their respective positions and views clearly and in a mutually informed manner. It would also enable both the opportunity to create a dialogue which aims to ensure that any increases in the proposed charges are communicated in a timely manner, and ensure that charges are more likely to be reasonable and within the capacity of industry to absorb. Ideally this consultation process would begin well in advance of the introduction of the new charges.

In terms of proposals for additional facilities such as retail outlets and other commercial opportunities related to the use of the airport land, the Commission considers that demand for these services and any associated capital investment needs to be considered on a case by case basis. The Commission agrees with CAA's comment that airport terminals and associated aerodrome facilities will not attract private investments until they are able to become a magnet for investment through growth in business opportunities. This may include the opportunity for a greater number of travellers (including tourists) to pass through the facility resulting in increased economic activity at the airport. Where there is economic activity at a particular airport and a consequent increases in demand for services, the Commission considers that the CAA should work with proponents using an open tender process to facilitate complementary property development. Airport operators should be aware of the potential commercial opportunities to supplement their incomes with additional leasing revenue associated with a wider range of economic activities other than simply providing facilities for passengers to board and disembark from aircraft. This does not necessarily mean that this will result in full scale retail outlets at each airport. It does however, mean that as a result of increased traffic through individual airports there will be new business opportunities which will become available to local businesses.

The Commission notes that the development of CAA facilities does not necessarily have to involve only the airport terminal facilities. The CAA has extensive land and other buildings incorporated into its airport zones and these are potential sites for further economic development and income generation. Jacksons Airport in Port Moresby provides a classical example of an airport which has space for further economic development and activity which at the moment is not being fully exploited by the CAA. Reforms in the structure of the CAA, discussed further below, could provide the focus and incentive for the CAA to address these opportunities, and in so doing help to expand its revenue base rather than rely solely upon the diminishing number of aircraft registered in PNG and static (at best) demand for passenger services.

It is in the CAA's view that the current economic position of airports is unsustainable without direct government funding of the infrastructure in the medium term. The Commission does not agree that this is universally the case. There are other opportunities available to airports to increase their revenues which should be fully exhausted before any government funding is sought. Furthermore there are potential efficiencies in operations which should be explored (see discussion below).

The Commission has monitored criticism of CAA's recent profit announcement of K17m which some within the industry have claimed is evidence that the current level of charging is too high and that there should be a reduction in charges rather than an increase. The CAA has advised that these profit result reflect the payment of charges relating to previous years, in which the CAA made significant losses (in other words there was a deferred recovery of losses from earlier years). The Commission considers that CAA's recent profit announcement is not necessarily justification for a reduction in charges. The generation of a profit or return on the investment in the CAA facilities is not necessarily something to be discouraged, although the government may take a view that in the current circumstances it would be more inclined to accept a nil dividend from this agency and allow any profit to be reinvested into the industry rather than take a return at this time when it is clear that extensive new investment is required. The Commission does note that a consultative approach between the industry and CAA regarding how it sets the charges for the aviation industry would address many of the problems encountered in terms of charges and fees including any misconception that this profit was a result of the increases in the charges introduced early in 2006.

Another option available to ensure that prices charged by the CAA are reasonable would be to introduce some form of monitoring or regulation of these charges by the Commission. To the extent that this regulatory environment forces CAA to operate on a more commercial and efficient basis, CAA would be forced to investigate options for minimising costs. Where this can be achieved through, for example, the outsourcing of various services used by the CAA as suggested by Airlines PNG, the Commission would be supportive of this option. The economic regulation of CAA is discussed further in Chapter 5 of this report.

4.3 Management of airports

Airports require significant investment in ongoing programs to ensure successful operation. Therefore, the need for adequate management to facilitate these programs and to ensure the successful day to day operation of airports is vital for customers and carriers alike. Furthermore, a well managed airport has the potential to attract significant economic benefits to its region.

Submissions

The CAA acknowledged in its submission that the administration of many of its airports is inefficient mainly due to lack of management capability of the airport managers. CAA suggested that the less successful management of certain airports is in fact a reflection of a lack of engagement from the local community which fails to realise the potential economic benefit of the airport to the region. CAA has proposed that there needs to be a greater partnership with provincial government to administer some airports and in this way develop support for improved administration and operating practices.

In response to the draft report Air Niugini has supported the approach to transfer responsibility for airport management to local provincial authorities where they have the appropriate skills and expertise. Air Niugini has suggested that local authorities are better place to take the necessary corrective measures to facilitate better management of airports, and with a direct interest in the success of their local airport, will have a greater incentive to ensure that the airport meets all the passenger facilities, navigational aids, and general operating facilities required by the industry.

Discussion

The Commission notes the importance of good management to ensure that individual airports maximise their financial and wider economic potential. Worldwide there has been a movement towards the privatisation of airports to ensure the right incentives are created to maximise management efficiency. This option may not be appropriate or acceptable in the PNG context. Alternative approaches are therefore needed to ensure that management efficiency is maintained and maximised.

Towns and region have a strong feeling of ownership toward their airports. Also, the opportunities for economic development to be maximised are best identified by local communities as they have the strongest incentives to achieve these outcomes. The empowerment of local communities in the operation of smaller airport may be an approach that has merit in the PNG context. This model has already been successfully used in PNG in terms of smaller rural strips used by third level operators and managed by the local villages and communities. Many of these strips have been built largely by hand by the villagers themselves, and they know that the airlines that service those strips will only continue to land if the strip is maintained and in readiness for the arrival of the smaller aircraft that service these locations.

However, the Commission also notes that there are some practical limitations to this model when extended to provincial centres where provincial administrations do not have the necessary skill sets or funding to ensure successful management of the airport facility. Nevertheless, the inclusion of local communities in the management structure of airports and aerodromes at some level may be preferable if it achieves two goals, namely:

- It engages local communities in the management to increase their ownership in the airport which has the consequential impact of increasing the understanding of the importance of the airport to the economic development of the region, and
- It places increased performance pressure on airport managers as they are monitored by their local community with a direct interest in the performance of the airport. This direct supervision rather than supervision from Port Moresby should ensure that realistic performance targets are set and more immediate measures are taken if problems arise.

The difficulty in the PNG context however may be that currently the provincial authorities and governments do not exhibit good governance and management skills. As a consequence the 'ownership' that the region feels towards its airport may be insufficient to ensure efficient management of the facility.

It is not sufficient to simply transfer the management responsibilities to local communities and expect that this will be the answer to the problem of inadequate management of airport facilities. It is important that individual managers, irrespective of who they report to, have the appropriate skills to ensure the success of the airport. This includes a degree of business acumen as well as a necessary skill set in airport operations. The combined emphasis on business acumen and airport operations is deliberate in that the airport should be seen by the community as a market place and as such the airport operator should be given appropriate incentives to ensure the ongoing commercial success of the facility as well as the maintenance of the underlying physical infrastructure associated with the airport. Where airports receive only a few flights a week, they will not be viable, regardless of who manages them. Hence, it is also important to consider the overall demand for services in setting goals for airport managers. There must be a sufficient cash flow from the operations of the airport to support the management of the underlying infrastructure. Without this cash flow it is impossible for the management of the airport to run a successful business. The only alternative in these circumstances may be one where the community contributes to the upkeep and maintenance of the airfield as occurs in small rural strips. However, this becomes impractical beyond a certain size of airfield, and that size is very small.

The Commission considers that where airports are able to show that they are able to support their operations they should be rewarded with priority access to investment funding from any centralised body. For example, where CAA pools revenues together to cross subsidise the funding of all airports, consideration should be given to the funding of capital infrastructure at profitable airports over those that can not recover their full costs. Effectively this should occur anyhow in the sense that a profitable airport is more likely to be able to demonstrate the net benefit from new investment than a non profitable airport. However, this should not prevent a non profitable airport from accessing investment funds if it can demonstrate an appropriate business case including the net benefits of the investment.

As part of the CAA submission to the Commission on the Draft Report, the Commission has been provided with a copy of a draft Memorandum of Understanding (MoU) between the CAA and one of the Provincial authorities in PNG for the future operation of a provincial centre airfield. The MoU outlines the responsibilities and contributions of the two parties in regard to the management, maintenance and upkeep of the province's airport. As outlined in the MoU these responsibilities translate into a works program aimed at improving the safety and efficiency of civil aviation in the relevant area. The MoU clearly articulates the responsibilities of the individual parties by setting out:

- The responsibilities on each party, including the CAA, the provincial government, and the Government of PNG;
- The contributions expected from each of the parties identified;
- The process of integration between the various responsibilities and work programs of each of the parties identified;
- The evaluation framework for work programs which should be undertaken to achieve the joint goals of increasing efficiency and safety;
- The transfer of risks between the parties, the procurement of supplies to undertake works, and the liability of each of the parties throughout the construction phases of the works program identified; and
- The process which should be followed by the parties in the event of amendment to the agreed work programs.

The Commission considers that the approach outlined above regarding the transfer of functions/responsibilities between the CAA and the relevant Provincial Government is one model which should be used to facilitate better management of airport infrastructure across all provinces. The model which has been outlined by the CAA provides for a mix of responsibilities to be managed by CAA, which is appropriate given the CAA's charter. However, at the same time it provides for the empowerment of Provincial Government to manage and provide general upkeep on what should be considered an important asset of the people in that province. This is a model that is worth further use as and when the CAA believes the provinces can demonstrate the appropriate skills and financial expertise to ensure that the safety and further viability of air services into the provincial airport are not jeopardised.

4.4 Funding mechanisms

Airports and their associated infrastructure are costly both in terms of the initial investment in the facility and the ongoing maintenance. The ongoing maintenance costs are predominantly fixed, that is they only change in a modest way with changes in flight numbers. As part of the issues paper the Commission questioned the long term viability of some of the more remote airstrips given the current contraction of the aviation industry and the investments required to lift performance to safe operating standards. This in turn raises the question of how airports are to be funded into the future given the apparent continuing decline in registered aircraft numbers in PNG.

Submissions

CAA noted that the operating conditions at airports are directly related to the funding paradigm under which the 21 airports owned and operated by the CAA are presently funded. Under the *Civil Aviation Authority Act* 2000 *(*"CAA Act"*)*, these 21 airports are expected to derive sufficient revenue from regulatory charges levied by the CAA to fund fully their maintenance and upkeep. The CAA has claimed that it is not possible to obtain any further revenue from the aviation industry, stating that:

> *An increase in charges will further diminish an industry that struggles to pay the existing charges, which in themselves are insufficient to sustain the Civil Aviation Authority.*

The CAA continued:

> *It is the view of the Civil Aviation Authority that the current economic position of airports* ***is unsustainable without direct Government funding*** *of the infrastructure in the medium term* (emphasis added)

The CAA is of the view that a new economic model is required to fund all domestic airports. Until a new economic model can be developed and become sustainable, CAA has called on the government to commit to a plan that sees sufficient funds allocated from consolidated revenue into the annual budget of CAA to operate and fund airports[7]. CAA claimed that the current level of funding is insufficient to bring all its airports up to minimum safety standards required under PNG *Regulation Part 139*.

Air Niugini has stated that it considers the amount of funding currently available to the CAA is insufficient to meet its current roles and responsibilities at a standard which is appropriate. Air Niugini has noted that there are number of negative flow impacts associated with CAA not being able to discharge its statutory responsibilities including the very real threat of a loss of accreditation which has the potential to ground the PNG fleet as this leads to the insurance policies of carriers being rendered invalid.

Discussion

One of the main features of the funding arrangements for aviation infrastructure in PNG is the reliance of the CAA on the user pays principle which was introduced as part of the Balus project. However, the costs associated with many of the services provided by the CAA do not vary significantly in response to changes in the number of flights. As a result, the costs are relatively fixed which means that if the industry contracts the same fixed costs are spread over a smaller number of consumers, thereby increasing the per passenger costs of the services for consumers as reflected in the price of tickets. Should there be an increase in demand the ability of CAA to recover its costs will be enhanced as the cost per passenger will decline.

CAA has provided the Commission with information to suggest that landing costs in PNG are already much lower than comparable rates charged in Australia. While the price of landing an F100 in PNG is K110, CAA has claimed that the equivalent charge in Australia is K1100. Obviously the higher charges allow Australian airports to provide significantly more services than those available in PNG. At the same time there is a much higher level of passenger movement in Australia and, as a consequence the charges per passenger do not have to be as high in order to recover costs. The CAA

[7] CAA stated that each airports needs to be resealed every 7 years on average. These means that three airports surfaced every year, and this alone costs around 20 million kina. The CAA only recovers 9 million each year from airports, and around 10 million Kina in passenger service charges

notes that the air services charges in Australia are around 50% higher across the board than those in PNG. However, the impact on individual passenger fares in Australia is not as great as there are more people travelling over which the charges are recovered. At the same time, the Australian officials have access to a greater source of revenue from which they can meet the costs of providing air safety and airport services. In addition, Australia has made greater use of alternative sources of revenue (for example through commercial property developments, car parking fees and similar charges) which further increases the funds that are available to meet all the needs and demands of passengers and the airlines.

The PNG experience is different despite a history of high usage of aircraft to maintain links between the various parts of the country. Recent experience both in terms of passenger carriers and air traffic movements demonstrate a significant movement away from air as a means of travel. As a consequence, the revenue base received by CAA has declined, which has meant that there is less funds available for the maintenance of airport infrastructure. Furthermore, there is also a decline in demand at non CAA owned airports which increases the burden on all parties as they seek to maintain their operations already straining under limited financial capacity to fund operations.

PNG's limited road infrastructure results in limited opportunities to substitute away from air travel. Nevertheless, for some smaller airports which support towns with road links to towns with larger airports, it may be more economical for their non financially viable airports to be closed if sufficient funds cannot be generated to maintain these facilities. Difficult policy decisions will need to be made regarding the viability of these airports in the long term. It may not be economically sustainable for the aviation industry to support the continued operation of some smaller airports. This is particularly important where an airport is struggling to fund the necessary maintenance investment in the airport infrastructure let alone any additional new investment in facilities.

The Commission is aware of a number of factors which are limiting the ability of both the CAA and Government to understand fully the financial state of individual airports. The current structure of the CAA, which is discussed in detail later in this report, has lead to an inability to appropriately manage airport infrastructure. The current structure aggregates CAA's costs and does not allow either party to fully understand the financial health of individual airports. The Department of Treasury has stated that it would consider providing extra funding to the CAA but is currently unable to determine where this funding would be targeted and the justification of the funding required on an individual airport basis. In the absence of appropriately disaggregated and allocated financial information, both the CAA and the Department of Treasury are unable to establish the criteria under which they would make additional funds available to airports. The Commission discusses in detail the various structural adjustments which should be made to the CAA later in this Report including improvements which need to be made to the accounting systems of the CAA to increase transparency of the performance of airports. The Commission notes that improving the capture and recording of the costs associated with individual airports will result in an overall improvement in the day to day management of airport infrastructure. Furthermore, this will also result in an increased ability of the CAA and the Department of Treasury to target both the amount of additional funding required and the airports which are most in need, from a public policy perspective, for this funding. The Commission expects that the CAA, as a matter of some priority, will move to a better and more transparent system of accounting which clearly identifies the costs associated with operating each of the airports which are under the CAA's jurisdiction. As noted by the Department of Treasury, this will facilitate the assessment of whether or not the costs incurred in managing these airports are in fact efficient and the shortfall between these efficient costs and the revenue generated by the airports could be used to establish the quantum of any CSO payment required to ensure services are adequately maintained.

The underlying issue which needs to be addressed in terms of the sustainability of airport funding is the ability of airports to be self funding. As noted in earlier sections of the report, there are a number of potential sources of revenues which could be used to support individual airports. As an example, an increase in the demand for airport services through successful marketing to either the business traveller or the tourist traveller by the local communities is one way of maintaining a funding source that will help finance the upkeep of the infrastructure. Essentially a major step which local communities could take to ensure the ongoing viability of their airport is the proactive establishment of a market for these travellers which in turn stimulates demand for air transport and increases airport revenue.

The Commission notes that not all local communities will have the necessary expertise nor the necessary supporting infrastructure to attract additional passengers. Furthermore, if they are in close proximity to another larger airport, it may not be the best use of resources to keep the smaller, less economically viable airport open and operating. These communities need to consider alternative strategies to ensure that there is adequate resourcing of their local airstrip. Some of the alternative strategies which could be pursed to increase the revenue of the local airport could include:

- The leasing of space at the airport for commercial purposes;
- Having large customers partially underwrite services (eg mine operators who want to have the convenience of a nearby commercial airfield);
- The establishment of a market for various services at the airport;
- Providing appropriate security at the airport to ensure that the airport is not vandalised and passengers and operators are not threatened and/or assaulted; and
- Broaden the traditional catchment area for the airport to include neighbouring provinces/communities.

Importantly, it should be the responsibility of local communities to help establish self sustaining airports which do not require additional direct government assistance. The Commission considers that government funding through the introduction of subsidies should be the last option considered in support of airport capital infrastructure and only then to be considered where a cost benefit analysis demonstrates the value of the airport option as the most appropriate transport alternative available.

PNG is a country which has a relatively low density of population across the total country (although high density in certain parts) and topography extremes which limit access to other forms of transport. Hence, there are limited road links between the major centres which results in aviation being one of the only opportunities to interact with the wider economy. The Commission considers that in these circumstances, there may be a requirement on government to support some of the more marginal and isolated airports as there is little alternative to connect them to the rest of PNG. However, as noted above, this should only be contemplated as an avenue of last resort and government should be prudent in its investment. Marginal regional airports should only be funded by government where it can be demonstrated that these airports represent the only link to the remainder of the PNG economy.

The Commission considers that a detailed national strategic airport management plan is required to identify the infrastructure needs of the aviation industry into the future. This plan would help to define the strategic vision of the industry over the next ten years. As part of this plan, airports would be classified as to their individual importance in the overall aviation industry and would be categorised into one of three types, namely:

- International
- Major domestic
- Minor domestic

Further strategies to maximise airport revenue should also be discussed to provide each airport with a blueprint for maximising their ability to be self sufficient in terms of funding requirements. All stakeholders should be included in this planning stage to ensure that the full range of views are expressed. Such a plan would set the overall direction of the industry and include consideration of a number of key planning policies including:

- The zoning of a new international airport, if warranted;
- The identification of airports which provide vital community infrastructure in terms of linkages to the rest of the economy;
- The identification of airports which are potentially competing for the same consumers;
- The identification of capital expenditure plans for major upgrades; and
- Any additional matters which are considered important in terms of the development of aviation infrastructure over a ten year period.

Importantly, all stakeholders would be expected to participate to ensure that the outcomes of the plan were representative of the industry. Active participation will also help to ensure that there is appropriate ownership of the outcome by stakeholders which in turn will help to facilitate the findings from the process. Further, any ten year strategic planning should also consider other developments in related sectors with a particular emphasis on the development/improvement of the road network and projected growth in the tourism sector.

4.5 Safety and security

Within the PNG context safety and security considerations are important across all aspects of the economy. Consumers and aircraft operators alike demand appropriate safety and security measures to ensure personal safety and a protection of their assets.

Submissions

Air Niugini has stated that the lack of adequate and consistent security at major airports and the operation of appropriate landing lighting facilities has ‘severely curtailed’ the ability of Air Niugini to offer more frequent services as well as being able to operate at night. Air Niugini has claimed that the performance of the CAA has been particularly poor, to the point where there have been some examples where Air Niugini has had to take over responsibility for ensuring that certain operational requirements are met which are normally the responsibility of the CAA. As part of its submission, Air Niugini noted that failures by CAA to meet its obligations under the regulatory framework had the potential to ground any PNG registered airline. Furthermore, non compliance with CAA's requirements could potentially lead to the voiding of the insurance of carriers. Air Niugini argued that CAA and its administration of the regulatory, security and safety regimes constituted a barrier to entry into the market. Air Niugini claims that potential new entrants may be discouraged from entering the PNG market by the lack of insurance cover arising from the inability of the CAA to meet minimum service requirements at its airports.

Airlines PNG has stated that it faces significant increased costs in order to maintain security at its airport facilities as law and order issues continue to be a problem in PNG. Further, the issuing of adverse travel advisories by foreign governments result in a constraint on demand as tourists chose alternative destinations in response to these advisories. Airlines PNG also noted that it is unlikely that people will travel at night because of concerns about personal safety. This effectively limits the ability of the airline to maximise the usage of its aircraft. Airlines PNG stated that without adequate investment addressing the issues of law and order, PNG will continue to suffer through the loss of experienced pilots and engineers and foregone tourism revenue because of the safety concerns of both passengers and airline staff.

The CAA has advised a preference to retain responsibility for security and safety at regional airports even though other functions associated with the operation of these airports is potentially handed over to provincial governments. This reflects recognition of the overall obligations the CAA has to meet international standards for airport security

Other submissions to this enquiry also highlighted the safety and law and order issues and the limitations and additional costs that this places on the whole air transport sector.

Discussion

Security and law and order issues are the one common factor that is present in discussion of new business opportunities and future economic growth opportunities across all sectors of the PNG economy. The Commission notes Air Niugini's concerns regarding the dangers of flying after dark in PNG. The lack of landing lights at airports and the general law and order issues jointly contribute to the industry's inability to make the best use of all available hours in the day for travel. This can be a particular problem at main centre airports such as Nadzab which services Lae. Security at the airport (and on the road into Lae) hampers not only the scheduling of flights into and out of the airport, but limits the ability of airlines to keep aircraft at Nadzab over night.

To ensure that there is adequate opportunities to earn a return on investment, airlines around the world generally seek to operate their aircraft over as much of the day as possible. In other markets, this results in roughly 18 hours of operation a day, that is from 6am to 12 midnight. In PNG, with the exception of the Air Niugini international jet service using the Boeing 767, airlines are unable to operate with the same frequency as in other countries owing largely to a lack of infrastructure and well documented law and order concerns. The lack of lighting infrastructure results in significant time pressure being placed on the airlines. There is limited ability to make up time in the event of any delays given the restricted operating hours. This has consequential impacts on the reliability of services and results in lost efficiency from a consumer's perspective as they are potentially unable to fulfil their commitments. From the airline perspective, the inability to operate its aircraft throughout the day also results in lost opportunities to generate a return on assets.

At the same time it is not possible to draw the conclusion that an ability to operate throughout the day will result in an increase in the demand for services from consumers. Other factors will influence consumers travelling requirements including access to interconnecting flights and security travelling to and from the airport after hours and also within the terminal precinct itself. However, the adequacy of airport lighting limits the range of flights options that can be offered to consumers and this lessens the likelihood of air transport as a travel option.

The Commission notes that whilst uniform security measures at all PNG airports would be ideal, it is a high cost option and potentially not warranted when assessed on a risk weighted basis. The Commission also notes that airports in Australia and New Zealand have differing levels of security reflecting the volume of traffic and assessed risk profile. Similarly, in PNG there needs to be consideration given to the cost/benefit trade off of further investment in airport lighting and security arrangements against the likely demand for travel at the later periods in the day that such services would allow.

However, the Commission notes that security and lighting affects not only when flights might be scheduled but also how airline businesses might locate and overnight their aircraft ready for the next days scheduled flights. For the moment, airlines in PNG are limited in terms of which airports can position aircraft overnight and have some degree of assurance regarding the security of those planes. At the same time, the need to get aircraft back to say, Port Moresby, relies on the access to good lighting to get the aircraft away from the other ports and to land safely in Port Moresby. The need to position aircraft at only one or two airports for safety reasons adds to the cost of operating an airline, a cost that must ultimately be recaptured from the travelling public.

When so much of the problem is directly related to security and law and order issues, there are limits to the action that the industry itself can take to address this problem. Certainly the industry can work with the CAA to try to improve and prioritise improvements to security at certain airports across PNG, and also to prioritise the issue of access to good landing light facilities. However, there is a major role for government in addressing the wider law and order issue. As this is an issue that impacts on all sectors of the economy, it is a matter that deserves priority attention from government. While ever this problem remains unresolved, the PNG economy will be limited in its ability to maximise its overall growth potential. Ultimately this will impact upon the wellbeing of all Papua New Guineans. It is not just a matter for the airline industry, but a fundamental failure within the economy as a whole which in turn is severely limiting the growth potential of the PNG economy and the future welfare of the people of PNG.

5. Cost Inputs

5.1 Fuel

International crude oil prices are beyond the control of most countries. Fuel is the main cost driver in the majority of industries. In the airline industry, operators use two types of fuel, namely:

- Aviation Gas ("Avgas")
- Aviation Turbine Fuel ("Jet A1")

In PNG Avgas is mostly used by third level and charter operators who utilize smaller, piston driven aircraft. Meanwhile, the larger airlines typically use jets or turboprops which use Jet A1 as their fuel source.

Industry participants have different cost structure depending on their scale and the magnitude of their respective operations. However, in terms of the price of oil all airlines are currently subject to significant increases in international prices. To some degree airlines are able to manage these movements through the use of hedge agreements which effectively minimise the impact of soaring fuel prices.

However, there is every indication that the higher fuel prices are not as temporary as originally thought, but are a new, longer-term trend. Airlines need to alter their operations to deal with the higher prices and simply applying a fuel surcharge or an increase in fares is not a long term solution if airlines are to maintain demand for services. In addition, the replacement of existing aircraft fleets with more fuel efficient fleets is not something that can be readily achieved quickly.

Submissions

Concerns have been expressed over the availability of supply of fuel in certain parts of the country, with particular reference to Avgas where limited demand and strict safety requirements rule out the use of 'old' stored fuel. Industry claims that there is often not sufficient Avgas available in some of the more remote locations, thereby either adding to the cost of transport into those locations due to the airline having to carry additional fuel loads or requiring the airline concerned to return more frequently to a suitable airport which has adequate fuel supply.

Airlines PNG has proposed that a government funded subsidy be introduced to ensure that some system of freight cost support or penalty/reward system for aviation fuel suppliers apply that will ensure that reliable and affordable supplies of aviation fuel are available at airports across the country. Airlines PNG noted that the potential impact of continued problems with the reliable supply of Avgas is a reduction in the number of smaller operators servicing PNG airports and in particular the more remote airports. Airlines PNG has suggested that if this situation continued, operators such as Airlink, Missionary Aviation Fellowship, and North Coast Aviation will become increasingly marginal and may cease operations, leaving some remote populations without critical air services. Further Airlines PNG, noted that there would be a continued rationalisation of piston driven aircraft within the industry, including its own Twin Otter services.

Discussions with third level operators have tended to confirm this more dire outlook for smaller rural airstrips. These operators are finding it increasingly difficult and costly to ensure the delivery of fuel into their more remote locations, and as a consequence they are required to limit the loads that they can carry so that they can carry additional fuel, or they are ferrying in of fuel on extra 'fuel only' needed at the time of later visits.

Air Niugini, which does not operate any piston driven aircraft, noted that the price of Jet A1, as used by its fleet of turbine engine aircraft, has increased by 10% simply as a consequence of the move to supply fuel products from the Napa Napa refinery. Air Niugini has claimed that this cost increase has been borne by the industry as there has been no corresponding fare increase. Furthermore, Air Niugini stated that there is a significant level of 'overhead costs' which are added to the Napa Napa refinery fuel price in arriving at the price charged for delivery of fuel at airports. Air Niugini has sought to demonstrate, in a confidential submission, that these overheads represent a significant price increase over the internationally traded price for a barrel of Jet A1 fuel.

Air Niugini supported Airlines PNG's view that some form of subsidy is required to buffer fuel price costs outruns:

> *'Fuel cost accounts for significant percentage of airline's direct cost (sic). You will note from the above to provide a cost effective domestic service by the airlines, it is essential that fuel costs in the domestic ports are brought down by way of a subsidy by the Government'.*[8]

Air Niugini noted that given a lack of adequate storage and refuelling facilities at airports outside of Port Moresby, it was required to carry additional fuel on all services. Air Niugini noted that this is an additional cost which it has been required to absorb. Air Niugini further claimed that in line with all other airlines in the world. Air Niugini has been applying a fuel surcharge to mitigate the escalating costs of fuel. However, the introduction of a fuel surcharge for domestic sectors was initially delayed due to its likely impact on domestic passenger patronage. Furthermore, Air Niugini noted that the fuel surcharge covers only 60% of the increased fuel costs. Air Niugini claimed that it is unable to hedge economically against the increasing fuel price due to the limited volume of fuel it purchases compared to major airlines in the market. In the international sectors, Air Niugini is now adopting the fuel surcharge rates applied by Qantas to be consistent and avoid any price differential between the two entities, particularly given the code share arrangement between the two airlines. .

Discussion

Napa Napa

There has been a significant number of comments made in submissions to this inquiry relating to the perceived higher costs of fuel resulting from the commencement of the Napa Napa oil refinery. The Commission notes that the fuel prices applicable in PNG are subject to the Commission's determination on fuel pricing which sets a price path for fuel costs until 2009. At the conclusion of this period the Commission will consider techniques to regulate prices for a further five years. The Commission sets the distribution and retail margins on fuel and considers that the returns generated via this

[8] Air Niugini submission page 14.

regulated price path are appropriate given the amount of capital invested and the costs associated with the distribution of fuel throughout the country.

In submissions received by the Commission all airlines noted that the impact of rises in the crude oil price has been significant for their businesses. Further, airlines have argued that the supply of product from the Napa Napa oil refinery has resulted in an increase in the cost of Jet A1 fuel of approximately 10% above the prices that applied under the previous arrangements whereby all fuel was fully imported into PNG in its final form. The Commission has had to examine this claim closely as it was the Commission that determined the prices to apply both prior to and subsequent to the commencement of supply from the Napa Napa refinery.

At the time of the introduction of the Napa Napa refinery as the source of supply of fuel in PNG, the Commission introduced a new pricing model for petroleum products which for dual use Kerosene/Jet A1 reduced the wholesale and retail margin in the main centres of Port Moresby and Lae by up to 22%. However, at the same time there was an increase in the world price of oil which ultimately flowed through to PNG resulting in increases in the price for dual purpose kerosene /Jet A1 by up to 5% in the main centres. Therefore, any increases in prices in the PNG market at that time were more a reflection of the increasing international world prices which coincided with the changeover of supply from Singapore and Australia to direct supply from Napa Napa.

Under the previous arrangements fuel prices in PNG were based on the price of fuel ex Singapore, plus the normal transport related costs, on the day the fuel was shipped to PNG. As noted above, there were a number of changes as a result of the introduction of the Napa Napa refinery to the manner in which fuel prices were set. In addition to the changes to the retail and wholesale margins the price for fuel went from being based on a spot price to an average price. The Commission notes that for the last month of old regime prices were 8% on average lower than the first month of the new regime. It is possible that this price increase is somewhat responsible for the comments relating to a 10% price increase once the price of fuel was determined under the Napa Napa project agreement. Further, there were some changes to the manner in which freight was calculated on the overall price which may have resulted in relatively higher prices in the more remote areas of PNG. However, the Commission has found that there was not an increase in the price of fuel as a result of the Napa Napa refinery. There was however an increase in the worldwide price, which was irrespective to the Napa Napa refinery, between these two months which no doubt had an impact on consumers.

In addition, Avgas, while initially being part of the project agreement for supply of fuel from Napa Napa, is not produced in PNG. It is argued by the airlines industry that this results in significant transportation and storage costs to the industry. Importation using 200 litre drums allows for longer storage provided the drums are not opened and the fuel is used in a reasonable period of time, and avoids costly wastage of fuel (a cost that consumers ultimately pay for in high ticket prices to recover the increased fuel costs). However, supply in this form is more costly for transport purposes and the Commission is aware of instances where supplies have not been as reliable as previously when there was a much greater demand for this type of fuel.

The supply of Avgas from Napa Napa would potentially have addressed issues such as the availability of product. However, the decision taken by InterOil not to produce the product in part reflects the declining demand for this form of fuel. As to whether the Napa Napa refinery could have produced product at a lower cost than can be obtained from overseas is debatable. However, ultimately the problem facing users of Avgas is the declining demand and the move away from the supply of this product both in PNG and overseas.

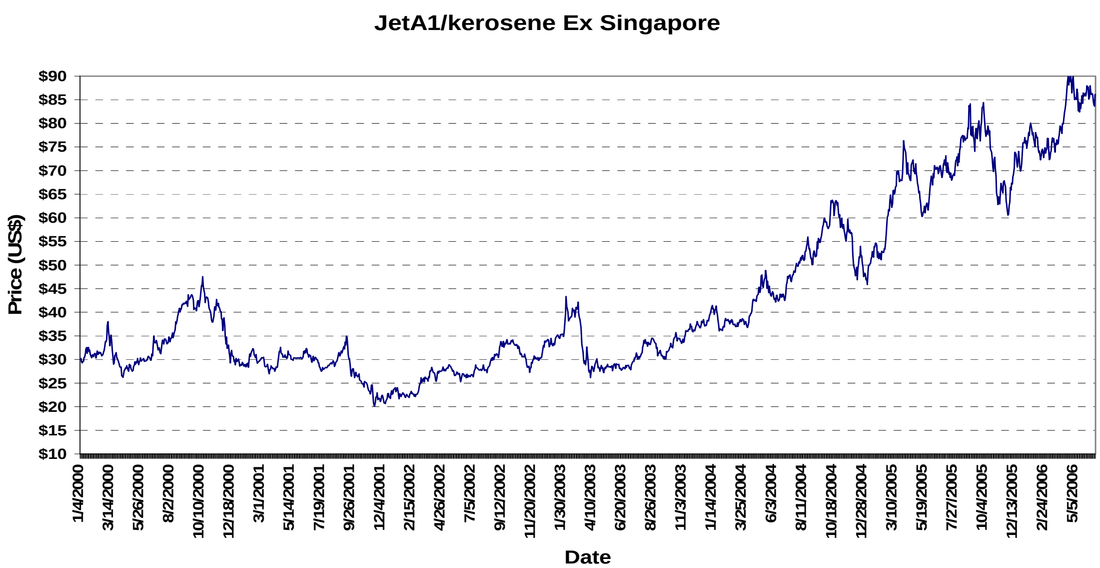
In summary, the establishment of a refinery in PNG has changed the way individual prices are determined and the sourcing of supply of petroleum products. The commissioning of supply from Napa Napa coincided with the Commission's own review of pricing of petroleum products in PNG. This review effectively reduced the price of petroleum and dual purpose kerosene in PNG. However, these changes also occurred at a time of significant upheaval in the international oil market and cost impacts on industry, including the airline industry, need to be assessed in the context of these changes.

Fuel price

Airline profitability is directly linked to the price of oil. Oil price hedging and use of fuel levies can moderate the impact of fuel rises on profit. In terms of the historical experience with very high oil prices, the early 1970s provides an interesting case study for today's environment. In this period an oil shock was created by oil producing nations restricting supply. This had the effect of increasing oil prices world wide, and was particularly pronounced in the four months between September 1973 and January 1974 during which time the price of oil doubled before continuing to rise until 1975 when oil prices were three times what they were two years earlier. The impact on the aviation industry was significant with higher prices resulting in lower load factors and higher costs. The fuel price environment in the 1970's is somewhat similar to the environment found in the early part of the 21st Century with the exception to date of the impact of rising prices on worldwide inflation However, uncertainty in key oil producing regions has created an environment where prolonged periods of price instability can result in increasing world inflation with adverse impacts on the airline industry internationally as well as in PNG.

Figure 5.1 displays the movement in the price of crude oil, ex Singapore, since 2000.

Figure 5.1 Fuel prices since 2000



As can be seen in figure 5.1, the price of Jet A1 has increased from $US20 (K60) per barrel in early 2000 to an average price of approximately $US85 (K254) per barrel over the first four months of 2006. There has been significant increase over the last two years in particular (an increase of 323%), and this ultimately is reflected in airline fares. However, dual purpose kerosene in PNG over the same period increased by 170%, somewhat less than the increase in the international prices. As fuel is a significant component in the overall cost structure of an airline, increasing fuel prices results in increased costs for airlines which must either be absorbed by the airlines through an erosion of margins, which results in a lower rate of return on invested capital, or passed on to consumers through higher fares. However, the increase in fuel cost in PNG, while significant, do not appear to be as significant as that reflected in the Singapore rate, reflecting to some extent the cost savings that the Commission was able to achieve at the time of the completion of its review into petroleum pricing in 2004.The Commission has noted the views of Air Niugini in which it is argued that additional overhead costs have been applied to fuel delivered in PNG which are over and above those allowed by the Commission's decision on fuel prices.

The Commission notes that the margin on kerosene fuel including transportation costs (which is equivalent to Jet A1), are regulated under its 2004 fuel price decision. Air Niugini has various contractual arrangements in place with InterOil and Shell for the supply of fuel to the various airports around the country. Based on confidential information provided to the Commission, the price which Air Niugini pays for the Jet A1 fuel in the main centres is actually lower than the allowable price under the Commission's fuel price decision for kerosene which is essentially the same product. This is not unexpected and is a reflection of the countervailing market power which Air Niugini is able to exercise over the fuel companies due to the volume of fuel it consumes. The Commission reviewed the overheads incurred by fuel companies as part of its fuel price decision and found that the overheads were consistent with the costs associated with fuel supply. As Air Niugini actually pays less for fuel than the Commission's regulated price, it is difficult for the Commission to accept that overheads charge to the airlines are not reflective of these costs.

Increases in world oil prices ultimately feed into transport costs and in particular airfares. The increases in fuel costs over the last two years have added a significantly additional cost to air travel in PNG. These cost increases have occurred at the same time as there has been a significant change in the way aviation fuel, both Jet A1 and Avgas, is sourced in PNG. This has resulted in some confusion regarding the "cause and effect" outcomes from these changes. The Commission has been particularly concerned to ensure that prices charged for aviation fuel in PNG are efficient, costs reflective, and do not put PNG travellers at a disadvantage. The Commission has not been convinced by the evidence made available to this time that there is a systemic problem in the setting of prices for aviation fuel which might require further direct regulatory intervention.

However, it does acknowledge that because Air Niugini was able to negotiate lower margins on its Jet A1 purchases than the margins set by the Commission for general users of kerosene, Air Niugini did not benefit from the cost savings that the Commission was able to achieve when it introduced the new pricing regime in September 2004. As a consequence, the additional costs associated with the transfer of product from the Napa Napa refinery to locations around the country were passed directly on to Air Niugini without any of the savings achieved in the wholesale and retail margins.

Having now made the change to supply of product from the Napa Napa refinery under an agreement entered into by the Government to attract the refinery to PNG, the movement in prices for fuel in PNG follows closely the movement in prices ex Singapore. To the extent that there are additional costs not applying to the supply of fuel in PNG to that which existed prior to the Napa Napa refinery, these reflect the cost of shipping product from Napa Napa to the various locations around PNG. Whereas previously an average transport charge was applied to the delivery of product ex Singapore to all main ports in PNG, the current arrangement applies a more direct cost reflective approach to recovering these shipping costs from Napa Napa to various locations within PNG. Notwithstanding these changes, the international price increases, which have occurred, have far exceed the domestic transport charges to most locations within PNG.

Avgas

The Commission notes that availability of Avgas is a significant issue facing sections of the PNG airline industry. Despite the fact that InterOil agreed to produce Avgas from the refinery, all Avgas fuel requirements are imported primarily from Australia. An extract form the original project agreement between InterOil and the PNG Government which refers to the production of Avgas is found in Appendix C.

As noted by the Commission in its review of fuel pricing, the demand for Avgas has significantly declined over the last twenty years with many carriers substituting Avgas for Jet A1 due in large part to a movement away from piston engines to turbine engines. As a result of this substitution, it has become uneconomic to import Avgas in bulk quantities which has lead to the importation of Avgas in 200 litre drums. This has significantly increased the transportation cost of the fuel. This decrease in the demand of Avgas may be one reason why InterOil has chosen not to produce it in PNG. In fact it may be more efficient to import Avgas from a larger producer which has advantages in terms of economies of scale, than to produce a relatively small quantity in PNG. The Commission is not necessarily convinced that the supply of Avgas from Napa Napa would have been at cheaper prices than those which currently apply. Given that the price of Avgas produced by InterOil will be equal to the import parity price, the question of where Avgas is produced or at what price is somewhat secondary to the problem at hand in the PNG context.

Further, the Commission notes that Avgas is becoming an increasingly rare product. Increased fuel efficiency and environmental standards have resulted in a worldwide reduction in the supply of Avgas. As supplies have become increasingly limited, prices have also increased. This structural adjustment in the aviation industry is difficult for the Commission to address in terms of providing a workable solution to the industry. The Commission notes that there are number of conversion technologies available to owners of piston engines which enables them to substitute avgas with more readily available fuels. Discussions with some of the third level air service providers indicates that they are examining this option. However, the Commission further notes that the cost of these conversion technologies may be prohibitive to smaller carriers or where aircraft are approaching the end of their economic life.

The Commission notes that piston driven engines are primarily used by carriers servicing the more remote areas within PNG. The absence of the appropriate fuel mix to service these airports presents an important consideration in PNG's policy settings regarding these airports. The government needs to clearly articulate strategies to ensure services to these airports, if indeed this is the aim of the government's transport and regional development policies. Assuming that the government is committed to ensuring that these airports are serviced there are a number of options available to support this, including:

- The upgrading of air strips to accommodate larger aircraft which use the more readily available Jet A1;
- The subsidisation of Avgas for aircraft used to service these areas;
- The subsidisation of the conversion process from piston driven to engines capable of using fuels more readily available in PNG; or
- Mandating the production of Avgas in PNG.

The upgrade of rural airstrips to accommodate larger aircraft would need to be considered as part of a cost benefit evaluation of the options to maintain and enhance the capability of airfields across PNG. Such a review needs to consider the demand for services into and out of smaller airports and the alternative transport methods. It is highly unlikely that such analysis would support the upgrading of these regional airports given in many instances the low demand associated with these airports.

The subsidisation of fuel used to service flights into remote areas may help services to be maintained in these areas in the short term, although again such a reaction would need to be subjected to a cost benefit analysis. The subsidisation of fuel is potentially very expensive and does not address the issues associated with a general contraction in the demand and supply of Avgas. The ability of the government to maintain such a program over the longer term is problematic, and it does not encourage the operators themselves to look for longer-term solutions in terms of the types of aircraft that are used in PNG.

The engine conversion process is also potentially very expensive and would require a significant upfront investment from the government. This provides an option which, should it prove to be useful after a cost benefit assessment, has the potential to benefit smaller more remote airstrips. It is also an option that is being seriously considered by some of the third level operators as they seek to find longer-term workable solutions to the need to provide services into these remote locations.

The mandating of Avgas production in PNG could have a superficial degree of appeal. However, it must be asked why, if it has already been given commercially protection and a mandate to produce petroleum products in PNG, has InterOil not produced this particular product. The Commission can only assume that the refinery is not readily able to produce this product in quantities that are cost effective and commercial, and to force the aviation industry to purchase a locally produced product under these circumstances may only serve to force the industry to pay even higher prices than is currently the case.

The Commission observes that the problem being faced by the industry in the sourcing and storing of Avgas is in part a product of the industry own moving away from the piston driven aircraft to turbine aircrafts. Direct subsidy payments by Government to help reduce the cost of Avgas will do little to encourage the industry to address the fundamental problem of either re-equipping or the conversion of engines given the types of aircrafts involved and their owners (e.g. Mission Aviation Fellowship). There may be an argument in favour of some form of support from Government for a conversion program. Certainly the loss of services provided by these operators would not necessarily be in the best interest of the economy. In the 2006 coffee year for example, there was considerable consternation over the limited ability of the commercial third level air service providers to be able to meet the demand for transport from remote rural airstrips to carry coffee to the larger towns and export ports. As a consequence, coffee in some areas was allowed to rot, resulting in a loss to the communities concerned and to the nation as a whole.

In terms of the broader issues of cost of fuel delivered to airports across the country, the Commission acknowledges that the increase in the cost has had a negative impact on the affordability of air travel within PNG. However, fundamentally these costs are outside of the control of the PNG aviation industry and as such there is relatively little that can be done about the increase in world oil prices. The government does not have an excise tax on Jet A1 fuel or Avgas, so there is no opportunity here for the government to remove tax imposts. The cost of actually delivering the fuel within PNG does require some transport costs, but the main fuel used for this purpose, diesel, has a very small (3 toea per litre) excise charge, and in the context of the current prices, this represents only 1% of the cost of this fuel.

While there is little that government can do to influence fuel prices for the industry, there is the potential for government to help the industry address the continuing issue of the availability of Avgas in PNG. The Commission does not consider that there is a long term solution in the subsidisation of Avgas prices, as the industry as a whole has already moved away from this form of fuel, and eventually there will be very few if any aircraft that will be manufactured that use this type of fuel. The Government, if it is to do anything in this area, needs to examine the cost/benefit equation for some form of limited subsidisation of the conversion of existing Avgas dependent piston driven engines to some other more readily available fuel. The technologies exist, and the industry is already examining the options available. The extent of the need for any form of subsidisation will only become apparent once the industry completes its assessment of the options available. The Government would only provide a subsidy for the conversion of aircraft if it could be demonstrated that there were strong net benefits and that these net benefits were not likely to be simply captured by the industry itself, but were to be captured by the remote rural dwellers and business activities which will suffer to the extent that air services into remote rural landing strips may have to be withdrawn because of the lack of reliable supplies of Avgas.

5.2 Taxation

Whilst this Review is not focused on taxation per se, taxation is a cost which airlines and other businesses must consider when assessing investment decisions and potential entry into any market. To the extent that taxation arrangements differ between countries they can distort the flow of new investment to particular locations and can in effect become a barrier to new business investment opportunities. Usually broad based taxes such as goods and services taxes are preferred over more narrowly based taxes such as taxes on specific goods and services or specific inputs into an industry. Whatever taxation structure is adopted, particular care needs to be taken when considering the impact on industries that can readily move their operations from one country to another and the impact on prices for goods and services which effectively compete internationally.

Submissions

Airlines PNG has argued that personal taxation rates in countries which are directly competing with PNG for skilled personnel in the aviation industry, notably Australia and New Zealand, are now significantly lower than PNG. Airlines PNG noted that this applies across all categories of skilled workers irrespective of the industry. Further, it was noted that this has resulted in a need for higher wages to be paid in PNG to ensure parity with the wages offered in these countries. Airlines PNG noted:

> *Until that imbalance is corrected, PNG will continue to find it difficult to attract and retain skilled personnel and/or PNG-based enterprises will be forced to pay higher professional salaries to compensate – thereby weakening their cost competitiveness.*

The Tourism Promotion Authority has identified as one of the reasons for high ticket prices in PNG is the 'tax' component often separately identified and added on to ticket prices. However, the Department of Treasury has noted that the only 'tax' levied on ticket prices in PNG (other than the GST) is the departure tax which amounts to around K100 on a return ticket from Australia. Further, Treasury has presented information to the Commission which suggests that the departure tax charged by the Australian authorities on a flight from Cairns to PNG is in fact 300% higher than the departure tax levied by the PNG government. Treasury has also noted the vast majority of "taxes" levied on a ticket are in fact related to the charges levied by the airlines themselves in the form of various surcharges.

Discussion

Personal Income Taxes

The Commission notes that the current personal tax arrangements in PNG are different to those of its neighbour Australia. These differences cannot be viewed in isolation from the other differences between the economies of the two countries. Indeed the economic conditions and subsequent policy settings between the two countries reflect a number of factors, including the relative size of the economies, structural differences between the economies, and the economic performance of the two countries over the past 15 years.

The structural differences between the PNG economy and the Australian economy should also be seen as contributing factors to why Australian taxation rates are considerably different to those in PNG. Approximately 60 to 65% of Australians are employed in the formal economy compared to only to 2% of Papua New Guineans. This results in a much broader tax base than in PNG which in turn leads to significant scope for lower personal tax rates in Australia.

There are three forms of tax generally used in all countries, namely:

- Personal income taxes
- Consumption taxes
- Company taxes

When an economy is growing, all three sources of tax revenue are stronger than they would be if the economy is contracting. While Australia has been growing over the past 15 years, the PNG economy has faced significant adjustment over the same period. This adjustment has resulted in periods of contraction in economic activity over this period and as a consequence lowers tax receipts. This has in turn minimised the scope to which tax rates are able to be lowered in PNG, whereas in Australia there have been a number of tax cuts, particular in the personal income tax rates.

As Airlines PNG has highlighted, there is an international market for skilled engineers. PNG based airlines therefore face competition in the market for services of such skilled workers. The tax structure in PNG may contribute to the need to pay higher levels of wages to match the after tax income of these workers in other countries=. In addition, there are also additional costs in the form of staff security and accommodation in PNG which further contribute to higher costs. This point has been highlighted by Air Niugini when discussing the differences in average fare levels it charges by comparison to airlines in other countries.

At the time of independence, the personal tax rate in Australia was generally higher than that in PNG. However, over time there has been a shift and the Australian tax rate is now considerably lower than the PNG rate. Table 5.1 sets out a comparison of Australian and PNG tax rates.

Table 5.1 Comparative tax rates in Australia and PNG

Papua New Guinea			Australia		
Resident(Kina)	**Non-Resident(Kina)**	**Marginal Tax Rate**	Australia (AUD)	Australian rate (Kina)	**Marginal Tax Rate**
K0-5,500		0%	0-$6000	K0- 13128	0%
K5,000-16,000	0-16,000	25%	$6001 - $25000	K13129-54702	15%
K16,000-70,000	16,000-70,000	35%	$25001 - $75000	K52703-164106	30%
K70,000-95,000	70,000-95,000	40%	$75001-$150000	K164107-328212	40%
K95,000 and over	95,000 and over	47%	$150000 and over	K328213 and Over	45%

As can be seen, the tax rates in Australia are significantly lower than the PNG rates. Thus a resident of PNG earning K70,000, would pay 31% in tax in PNG while a non resident would pay 33% tax. In Australia the effective tax rate for a person earning this amount would be 16%. Table 5.2 sets out a comparison of the effective tax rates paid in Australia and PNG on three typical salaries. This table demonstrates the magnitude of the difference in tax paid in PNG by comparison with Australia. Thus, a skilled employee in Australia on AUD75,000/PGK164,000 gross (AUD57,000 net) would need to be paid K211,000 in order to have the equivalent after tax income in PNG.

Table 5.2 Effective tax rates in PNG and Australia

Income in Kina	Income in AUD	Resident (PNG) Effective tax rate	Non Resident (PNG) Effective tax rate	Australian Effective tax rate
70,000	$32,000	31%	33%	16%
109,268	$50,000	35%	36%	21%
164,106	$75,000	39%	40%	24%

In terms of the domestic market, assuming that all airlines have their planes serviced in PNG, the additional cost to attract skilled expatriate workers to PNG should not give one airline a competitive advantage over another. All operators will pay the same rate, and those that can train up and equip Papua New Guineans to undertake this skilled work, would potentially have a competitive advantage in the domestic market. While government policies to encourage investment in the development of locally skilled workers would facilitate such training, there would be no competitive barriers as long as there is equal access by all to the incentives provided by these policies.

From an airline fare perspective, clearly the additional costs associated with attracting and retaining skilled employees from overseas would add to the costs that has to be recovered from travellers from PNG. The cost burden would be transferred to the airline user, which in the current circumstances in PNG in terms of demand for air travel, may not be a satisfactory outcome. However, the air fare would reflect the costs involved and no competitive advantage would necessarily be given to one airline over another.

However, in the international market, a carrier from a country with a lower tax structure will have a cost advantage over a PNG carrier. To address this problem there are a number of steps which the PNG carrier can take to ensure that costs, including taxation costs, are minimised, including:

- Development of longer stage lengths, and therefore minimising the average cost per revenue passenger kilometre;
- Working in partnership with other airlines to ensure that there is an optimisation of network type, e.g. develop a more economic hub & spoke network and thereby gaining a competitive edge;
- Seeking to decrease these higher costs through judicious purchasing policies, network design and careful matching of aircraft with load demand; and
- Outsourcing of more expensive labour requirements where appropriate, particularly to locations with lower costs;

Not all of these options would necessarily resolve the tax problem identified by Airlines PNG. However, an international carrier has the advantage of being able to shift some of its costs to a cheaper location as a way of avoiding higher domestic costs, be they taxation or other costs (for example, accommodation and associated staffing costs).

The Commission considers that the differential between the effective tax rates of countries does have the potential to impact on the costs of the industry. As demonstrated above, difference in tax rates can have an influential impact on the ability of the PNG Industry to attract needed technical skills and expertise. A competitive advantage can be given to these operators who have their planes serviced offshore and this is not conducive to new entry into the industry or affordable fares for PNG travellers. The Commission notes that this is an issue that is not unique to the airline industry but impacts on other industries which face international competition for skilled workers, including the mining industry. There is no simple solution to this issue, although governments may be tempted to give certain industries ‘special’ tax treatment to address these types of problems. Although this approach may have its place as a way of compensating for other ‘costs’ or market failures in the domestic economy as a way of attracting new investment, the question of internationally competitive taxation rates and policies will be a continuing problem for PNG. Furthermore, it highlights the need for economic reform and reduced waste and corruption in government more generally as a way of reducing the need to raise tax revenue from the domestic economy and thus having tax rates out of line with those existing in other countries with whom PNG competes for resources and expertise.

Taxes on Tickets

There have been several studies into the issue of taxes on tickets. These studies have found that the price of tickets in PNG include a considerable tax component which has an impact on the price paid by consumers. In Australia, taxes and levies have also become a large part of the fare and the competition regulator (the ACCC) has required all airline price advertising to quote the total cost including all taxes, levies and similar on-costs. This is to avoid misleading consumers on the prices that are being charged for services provided. In PNG the Commission has also required airlines to provide full description of prices for tickets rather than quote individual components separately.

The extent of additional 'taxes' or 'surcharges' on air travel in PNG has long been recognised as an issue in the industry. However, as noted by Treasury, the actual amount of 'tax' levied by the PNG government on an international airfare is relatively low. Table 5.3 identifies all the additional charges which are levied on top of the underlying advertised fares for an international flight.

Table 5.3 Taxes and charges levied on tickets (on the basis of a return trip)[(a)]

Origin Destination	Port Moresby Cairns	Port Moresby Sydney	Port Moresby Brisbane	Port Moresby Manila	Port Moresby Singapore
Airline imposed charges					
Fuel Surcharge (code:YR)	475.4	475.4	475.4	138.2	475.4
Insurance Levy (code:YQ)	16.4	16.4	16.4	16.4	16.4
PNG Govt Tax					
PNG Departure tax (code:PG)	30	30	30	30	30
Australian Taxes and charges					
Passenger movement tax (code:AU)	85	85	85		
Intl service charge (WY)	80	94.4	45.2		
CAA charges					
Screening charge (codes:WG/QK)	16.9	7.6	18.4		41.1
Terminal Facility charge (code:GC)	60	60	60	60	60
Total	763.7	768.8	730.4	244.6	622.9

[(a)]source: Air Niugini Charges, breakdown presented by Dept of Treasury

As can be seen, PNG government taxes represent around 4% of the total additional charges levied on tickets to Australia. This compares to the fuel surcharge levied by Air Niugini which is between 57% and 76% of the total charges levied on tickets.

The Commission notes that as prices are unregulated the levying of surcharges is permitted in the industry. However, the Commission considers that labelling these charges as taxes and not clearly differentiating between taxes and surcharges is inappropriate. Further consideration will be given to the quantum of the CAA charges below.

5.3 Maintenance costs

Current facilities in PNG allow a number of aircraft to be serviced in PNG while some aircraft, however are serviced either in Australia or New Zealand depending on the different commercial arrangements[9].

Submissions

Airlines PNG has argued that off-shore servicing of aircraft is occurring unnecessarily given that the capacity to service these aircrafts exists in PNG. Furthermore, Airlines PNG has stated that a surcharge should be introduced on any PNG owned and registered aircraft being sent off shore for servicing. Any funds raised via the surcharge would then be used to fund an aviation training centre based in PNG.

In addition, Airlines PNG has also called for taxation credits for any expenditure incurred by employers in the aviation industry to train employees in PNG in aviation related disciplines.

Airlines PNG has claimed that provided there are appropriate incentives for airlines to use PNG based aircraft service facilities, namely tax free status, a servicing and maintenance industry could be developed in PNG.

Discussion

The proposal by Airlines PNG in effect represents a 'tariff' on operators seeking to source skills and expenditure from off-shore while a formal subsidy would be provided to operators who undertook training and servicing of aircraft in PNG. These issues need to be considered in the context of the potential benefits and costs for the economy and the productivity improvements possible with the introduction of a domestic training centre.

In 1999 PNG was encouraged by the WTO to adopt a program of continued economic reform - including further efforts to liberalize trade and investment regimes - to increase its economic flexibility and improve its prospects of achieving sustainable growth. The WTO noted that although a reliance on tariffs as the main trade instrument had made the trade regime of PNG more predictable and transparent; the economy remained relatively weak and vulnerable to external shocks. Both the WTO and the PNG Government of the day recognised that the removal of trade barriers would in fact result in a more flexible economy better able to react to the economic shocks present in the global market. Accordingly, PNG has adopted a process of gradual reform and removals of tariff on products competing with domestic production.

The reform of the tariff protection policy has been one of the structural adjustments made over the past few years which has allowed PNG to enjoy a relatively strong period of growth. The reintroduction of tariff or protectionist policies would not be conducive to maintaining growth objectives and would be counter-productive at a time when PNG is enjoying strong growth in its minerals and gas/oil exports. The ability to access aircraft

[9] It is understood that as part of the reopening of the Air Niugini link through to Hong Kong, some of the servicing of the Air Niugini 767 jet will be undertaken in Hong Kong in future

servicing facilities at prices as cost-effective as possible should ultimately flow through to air travellers in PNG in terms of reduced air transport costs. However, this assumes that there is sufficient competition in the market for these cost savings to be passed through to consumers. In the PNG context, the gradual emergence of greater levels of competition on the international routes plus the transition to systems which will allow greater use of ticket sale arrangements which permit late purchase of tickets at discount prices, should start to build the right environment to ensure these cost savings are passed through to consumers.

The proposal by Airlines PNG for the establishment of an aviation training centre in PNG which would help to increase the skills base available to the local aviation industry raises some interesting issues. Primarily these issues surround the funding mechanism for the centre. Funding arrangements would need to be carefully examined, particularly the adequacy of the funding source. The use of some form of tariff barrier or cost impost on those operators who can access overseas servicing facilities would be completely inappropriate for the provision of such funding as it would simply tax one part of the industry as a means of subsidising another. It should also be questioned as to whether such a scheme would raise sufficient revenue to fund the facilities in the longer term. It seems highly doubtful that this would be the case, as presumably that part of the industry being 'taxed' would alter its maintenance activities to avoid paying the tax. Thus, the revenue stream to fund the training facility would have a short and uncertain life, hardly a satisfactory base upon which to build a long term investment in a training facility.

Nevertheless, there are legitimate arguments in favour of improving the skill sets within PNG which would in turn allow aircraft to be serviced at domestic airports rather than overseas. PNG has not been devoid of such skilled technicians although the issues is whether there is sufficiently skilled and accredited facilities to meet the domestic demand, or whether the additional costs of bringing expatriates into PNG to meet the skills demanded effectively increase the cost for domestically servicing the aircraft. PNG has had a history of providing high level of training for specialist technicians and engineers, particularly in the mining industry. Many of these PNG trained engineers are currently working outside PNG, which reflects the high level of training received. This training has proceeded and been funded in the context of significant new investment and activity in establishing new mines with training being provided 'in house' by the mining companies in collaboration with joint industry/tertiary education facilities. However, the questions remains under what circumstances might such valuable activities occur in the air transport sector and whether and to what extent might this require some form of subsidisation.

There are some alternative funding models which could be applied, and the Commission would prefer to see used if indeed the centre was to be built, including:

- Industry funding
- Government funding
- Student funding.

The aviation industry is a highly technical industry which requires significant investment from industry participants in the development of their staff. This investment could potentially be provided by industry itself via an on-the-job training scheme similar to an apprenticeship. Staff training is an eligible deductible expenditure item for tax purposes and if any form of government assistance needs to be provided it might be provided by way of a tax concession on this expenditure or more possibly a direct subsidy. If direct subsidies by government in support of such training are provided, it should ideally be directed at capital costs (e.g. the construction of the facilities or the equipping of the facility). As much of the benefit will accrue to the industry, desirably there should be sufficient incentive in the standard tax allowances to encourage industry to undertake such training. But there may be a case for government funding intervention where there is a barrier to the industry starting such a facility perhaps as a result of one airline having to bear all the costs while others simply gain most of the benefits.

Options for student funding of such training facilities and the training itself are almost non-existent in the PNG context. However, students could effectively contribute to their own education and skill enhancement by being "bonded" in some way to remain with an employer after the formal training has been completed. As has been demonstrated by the experience with engineers trained by the mining companies, people with these skills have wide employment opportunities and if they were to leave as soon as the training was completed, there would be little incentive for industry to fund the training facility.

The development of an industry training arrangement also needs to consider other commercial undertakings applying in the industry, for example, under the current aircraft leasing arrangements on some of the aircraft in the PNG fleet, there is a requirement for servicing to be completed in a foreign country due to owner concerns about the quality of PNG maintenance capabilities. This is largely reflects the risk mitigation policies applied by the aircraft owners to protect their investment. In these circumstances, a levy or tax on any servicing of aircraft outside of PNG could not be avoided by the airline and would simply add to the costs of operating the aircraft which would be borne by consumers. Thus, the Commission does not favour the introduction of taxes or levies on out of country maintenance arrangements, but acknowledges the need to strength the skills base in PNG and the benefits this can generate.

5.4 CAA charges

The CAA under the CAA Act is empowered to impose charges on the industry to fund its operations. In particular, the CAA Act enables the CAA to levy charges for the following services:

- Air route and airways facilities,
- Meteorological services,
- Safety regulatory services,
- Search and rescue services maintained, operated or provided by the CAA,
- Terminal navigation,
- Airport operations,
- Rescue and fire fighting services,
- Security,
- Surveillance,
- Terminal facilities, and
- Air navigational facilities.

The Commission has invited comments and submissions on the current pricing structure of the services provided by the CAA.

Submissions

Generally there has been concern expressed about the level of charges levied by the CAA and the quality of service provided. In its submission, Airlines PNG stated that the recently introduced/revised CAA fees and charges impose cost pressure on the industry which are passed directly onto the travelling public. Airlines PNG argued that a legislated review process under the CAA Act has not been fully complied with in setting the new charges and that there is little justification to increase charges in light of CAA's recently announced profit of K17 million for 2005.

Air Niugini also stressed in its submission that the level and quality of services provided by the CAA is not satisfactory. This brings into question the basis of the fees imposed by the CAA and whether these charges are justified on both cost recovery and service quality grounds.

The CAA contends in its submission that it does not overcharge for facility leases and other services that it provides to the industry. CAA further argues that it currently fails to recoup the total costs of providing the services it provides and that the charges levied are less than charges made by similar organisations in other jurisdictions.

Discussion

The Commission has considered all the comments and submissions received with respect to this issue. Consistent with the official terms of reference for this inquiry, the Commission is interested in identifying costs that are borne by the industry which might be inefficient in nature and subsequently passed on to the travelling public in the form of unnecessary higher airfares.

The Commission notes that CAA as a statutory authority established under relevant legislation, is required to levy charges on the industry to fund its operations on a "user pay" basis. It is usual practice around the world for such levies to be imposed on the airline industry in order to fund the maintenance and upkeep of the infrastructure and facilities used by the industry.

Nevertheless, the Commission is of the view that there should be a closer interaction and meaningful dialogue between the CAA and the industry on the issue of the charges imposed by the CAA. More particularly, the CAA needs to be prepared to disclose to the industry its efficient costs incurred in the provision of those services and its long term capital expenditure plan. There is also a need for transparency in the derivation of the fees and charges made by the CAA. Desirably this should also include some form of forward fee projections so as to allow the industry to forward plan its on-going activities.

The Commission notes that the recent increase in charges announced by the CAA may not have occurred in accordance with the normal process allowed under the CAA Act. However, the Commission notes from CAA's submission that *"the current management and Board of CAA are committed to following the processes outlines in the Aircraft Charges Regulation in the setting of new fees and charges"*[10] going forward.

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[10] CAA's Submission on the Issues Paper

The industry has argued that the CAA's charges are too high and cites the profit of K17 million recently announced by the CAA. The Commission notes that under the CAA legislation, the CAA is responsible for the maintenance and upkeep of infrastructure and investment in new infrastructure. Maintenance and upkeep requires a continual flow of revenue to meet annual costs. Capital investment however will require periodic injections of funds either from loans (against which borrowing costs will have to be recovered) or from equity injections (on which some form of return would normally be expected). Profit is effectively recovery of the costs of the indirect expenses incurred in borrowing funds and a return on the equity invested. These are a legitimate cost to be recovered, the same as other direct charges such as operating and maintenance costs. However, as such investment is typically for assets and facilities that have a long operating life, this investment is expensed annually over the life of the asset rather than in the year the expenditure is incurred.

In terms of the quantum of the profit made, the legitimate question that may be asked is whether this is appropriate given the level of investment in infrastructure made by the CAA, assuming that the investment was reasonable in the first instance. This is part of the transparency issue that needs to be addressed when setting the CAA fees and charges.

The current legislative arrangements provide two possible avenues by which the CAA's charges could be independently assessed and a level of transparency applied to the fee setting process. The ICCC Act gives the Commission the power to undertake public inquiries into the setting of prices for goods or services which are declared for price regulation purposes. The charges made by the CAA could be declared for purposes of the ICCC legislation, and then a public process would be held each time that the CAA needed to adjust its fees and charges. This would address the issues raised by the industry while at the same time ensuring that the CAA is able to recover its efficient costs including an appropriate return on its investments in essential infrastructure. However, a disadvantage of the Commission using its power to undertake a public inquiry is the cost associated with the process. The public process required under the relevant legislation will involve costs to the industry, although these are no more than those that apply to other regulated monopoly utilities such as PNG Power Limited, Telikom PNG Limited, and PNG Harbours Limited.

Part VII of the CAA Act allows service users to appeal a charge made by the CAA on application to the Departmental Head on one or more of the grounds set out in the Act. Essentially these grounds of appeal relate to the failure to abide by one of the charging principles enunciated in the Act. The Departmental Head has 60 days to decide the appeal after it is made or 90 days in special circumstances. At the conclusion of an appeal, the Departmental Head is to provide the parties to the appeal with written reasons for the decision.

The concerns expressed in submissions to this inquiry about the CAA's charges indicate that the current regime may not be delivering reasonable outcomes. There seems to be a level of debate and uncertainty within the industry regarding the legitimacy of the level of fees charged which may warrant the involvement of the ICCC as an independent regulator and/or arbitrator in the setting of these fees. For example, the Civil Aviation (Aircraft Charges) Regulation could be amended to provide for some type of arbitration or negotiation process. The Regulations could prescribe a negotiation period for cases where the service user is not satisfied that the new charges applied by the CAA have been set in accordance with Part VII of the CAA Act. If unable to reach agreement within the negotiation period, the service user could refer the dispute to the ICCC for arbitration. The arbitration decision would be binding on both parties. The Commission considers that this process of negotiation and arbitration is more appropriate given:

- That it is more likely to result in the speedy resolution of disputes;
- It is less adversarial between the parties as it requires a full negotiation process to be followed by the parties before the matter is escalated to an independent referee; and
- It provides an appropriate independent arbiter than the appeals process under the CAA Act.

As a wholly Government owned entity, the Government could also elect to 'subsidise' the CAA by taking a return on its equity in the CAA at rates below market levels (or even no return at all). Providing a subsidy to the CAA in this way, if properly factored into the setting of the fees charged, would act to reduce the CAA charges that are ultimately passed through to the travelling consumer or freight operator. However, it may have implications for the CAA to fund its longer term capital projects, an outcome that would not be in the interests of the air transport industry.

Ultimately the quantum of the fees that is passed through to the travellers and freight forwarders is determined by two factors:

- The efficient costs of the CAA (including a return on its investments); and
- The number of passengers (and/or volume of freight) carried

A decision by the Government to subsidise the operations of the CAA by reducing its requirement for a return on equity[11] would have an impact on the charges passed through to passengers and freight forwarders. Equally an increase in the number of passengers travelling or volume of freight carried would have the affect of reducing the cost per passenger or shipper. As discussed elsewhere in this Report, the decline in passenger numbers in recent years has escalated the problem of the recovery of the high fixed costs which are an integral part of this industry, and has thus resulted in increasing passenger fares which have further discouraged passenger use of airlines.

Should Government decide to 'subsidise' in some way the operation of the CAA, this should only be done for a limited period as a way to decrease costs and stimulate demand to increase passenger numbers and freight carried. Ultimately a user pays principle should continue to apply, but short term action to encourage a return of passengers and freight to air travel would assist in addressing the present problem of declining passenger numbers (with consequential impact on the ability to carry freight). This potentially could result in an increase in the number of passengers which would mean that the CAA's fixed costs would be spread over more airline passenger seats sold. The magnitude of any increase in passenger numbers would of course depend on the overall size of the impact on fares and the elasticity of demand for travel. This would need to be carefully considered before agreeing to any form of subsidisation of CAA charges. An acceptable approach to the industry may be to appoint the Commission as

[11] The Commission would support a subsidy on loan costs by the Government, although supports access to cheaper loans funded by international and development agencies.

the regulator of CAA charges which would help to restore industry confidence in the fee setting process. This may also address a fundamental problem with the CAA, that being the appropriate accounting treatment of costs for all its various functions, and the accounting (and physical) separation of its various roles and responsibilities (see further discussion below).

5.5 Insurance costs

Under the current regulations, PNG carriers are required to use local underwriters for the purposes of acquiring the various forms of insurance required to be held by operators in this industry.

Submission

Airlines PNG has argued that the market for insurance should be de-regulated as the current arrangements require the airline operators to use local underwriters exclusively. As a consequence, Airlines PNG argue that insurance costs are higher than they would otherwise be in a normal business environment. Airlines PNG has argued that if government policy sought to provide some protection to local underwriters, this could be achieved through the imposition of a foreign underwriting margin rather than forcing the industry to write insurance exclusively through local underwriters.

Discussion

The PNG *Insurance Act 1995* requires that all risks situated in Papua New Guinea must be insured with licensed PNG insurers. There is a provision within the *Insurance Act* for an exemption to this requirement. However, this exemption is only applicable where the licensed PNG insurers are fully utilized. The PNG insurance market comprises 11 licensed insurers, of which five write general business only and four are composites, writing mainly life insurance together with some general business. There is also a reinsurance company and a monopoly, government owned compulsory third party motor insurer (MVIL). The general insurers are predominately subsidiaries or branches of foreign owned insurance companies, including QBE, AIG, Tower, and Mitsui Sumitomo Insurance Company Ltd. Allianz also operates a joint venture with Finance Pacific Group, a PNG government owned financial institution. The predominant business insurance lines written are property, motor vehicle, marine, and employer liability insurance. Broking services are provided by the international groups Aon, Marsh & McLennan, and Heath Lambert and other local brokers.

The Commission is uncertain as to how the de-regulation of the market is likely to increase competition from international brokers given that all companies noted above are already international companies. However, the presence of international insurance agents in the market would suggest that the requirement to use local underwriters is superfluous and unwarranted as effectively overseas owned insurance companies are operating in PNG. Also, the Commission is uncertain that the introduction of a requirement for a mandatory foreign underwriting margin in business written by overseas insurance companies as proposed by Airlines PNG would in fact help to lower domestic prices for insurance.

The Commission considers that on balance the requirement to use local underwriters for insurance presents an artificial barrier to airlines and other businesses who might also be required to use a domestic insurance provider in terms of their ability to source competitive insurance bids from the market.

The Commission's draft position was that any restriction on access to the fully competitive global market should be lifted as it is inconsistent with the government's own policies which are designed to encourage greater competition in the PNG market and remove artificial barriers to competition such as tariff barriers and the like. The Commission has not received any further submissions on this matter and as such considers that the position outlined in the draft report is the most appropriate course of action. As such the Commission recommends the Department of Treasury investigate the relaxation of the requirement to use local underwriters for insurance.

6. Competition Issues

6.1 Code share

Code sharing arrangements are where two or more airlines enter into an agreement whereby they share aircraft or other facilities for the purpose of providing air travel or freight services to consumers. The current code share arrangement between Air Niugini and Qantas has been operating since 2002. Having originally applied to the Cairns/Port Moresby route, it was extended to cover all routes between Australia and PNG. Under the terms of the agreement, Qantas code share on a "hard block" basis on each ANL B767-300 service. The block involves the purchase of 12 business class and 70 economy seats on each ANL flight. Qantas also has an option to purchase up to a further 4 business and 30 economy seats ("soft block")[12]. Furthermore, Qantas is also required to purchase cargo space on each flight on a similar basis.

Airlines PNG has stated that the code share arrangement with Qantas effectively provides a duopoly on the international routes between the Australian airports of Sydney, Brisbane and Cairns and Port Moresby. This view was echoed by the International Air Services Commission (IASC) at the time the code share was approved. In its consideration of the potential impact of the code share, the IASC noted:

> *At first glance, the proposed arrangement between Qantas and Air Niugini appears likely to operate to the detriment of public benefit in certain ways. The new arrangement involves a significant expansion in the scope of the code share arrangements in conjunction with Qantas ceasing to provide services in its own right.*
>
> *The already limited degree of competitive pressure on air fares on this route is likely to be lessened further under the new arrangements which would cover all sectors on the route, rather than just Cairns – Port Moresby as now…….. The hard block code share arrangement does provide at least some incentive for competitive pricing by the two partners, but the absence of any third country competition places them under little pressure. Neither party is likely to price aggressively.*[13]

However, the IASC also noted that without the code share arrangement Air Niugini was in a particularly precarious financial position. The IASC was faced with the situation that without the code share agreement Air Niugini would have gone into liquidation and Qantas would have been the only airline able to provide services into PNG. This was seen as unsatisfactory for a number of reasons including the argued inability of Air Niugini to service many of the non Australian routes offered by Air Niugini as well as a report that Qantas staff were largely uncomfortable operating in PNG due to law and order issues. It was argued at the time that the code share arrangement would enable Air Niugini to regain its financial footing and eventually be able to compete against Qantas some time in the future. This was deemed by IASC to be a better situation than Air Niugini going out of business and Qantas providing a reduced or minimal service schedule to PNG.

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[12] International Air Services Commission, Decision [2002] IASC 219,

[13] Ibid.

Submissions

Airlines PNG has noted that the code share arrangements will expire in mid 2007 and that its position on the continuation of the code share is dependent on the competitive behaviour of Air Niugini and Qantas, services standards, and any price controls placed on the code share partners. Airlines PNG has argued that the current market dominance of Air Niugini on international routes should not continue. Rather, Airlines PNG has suggested an alternative system whereby seating capacity on international services should be opened to tender. Under the system proposed, some or all of the seating capacity would be available for individual parties to bid competitively for parcels of capacity and then companies with this capacity would compete for customers on the basis of service and price differentials. If one service provider had oversold their capacity on an international flight they would be able to actively trade with another less successful service provide for excess capacity.

Airlines PNG has stated that this would facilitate competition for seats and avoid artificially inflated seat prices which otherwise occur on a monopoly route. In addition, this approach would also ensure that the aircraft's capacity would be better utilised and overall costs would be lower as a result of the improved utilisation.

Air Niugini has stated that the code share with Qantas is 'fundamental' to maintaining the airline's profitability. Air Niugini has argued that without the code share, neither it or any other PNG operator would be able to sustain wide body aircraft operations due to insufficient passenger demand. Air Niugini has also argued that this would have serious implications for the carriage of freight to and from PNG because the use of narrow-bodied aircraft could reduce freight carrying capacity by up to 95 per cent compared to wide-bodied aircraft. Further, Air Niugini has stated that the code share allows it to plan with a degree of confidence as it has provided for a stabilisation of revenues and enabled Air Niugini to have access to wide body aircraft which are currently in demand due to problems associated with the production of newer types of wide bodied aircraft. Air Niugini has also expressed a desire to have the matter of code share on the Australia/PNG route resolved so that it can agree to terms on a new lease for aircraft post mid 2007 when the current arrangements conclude.

In its submission to the Draft Report, the Department of Treasury observed that the code-sharing arrangement between Air Niugini and Qantas does not appear to have been reviewed either by the Commission or by the competition authority in Australia in respect of the authorisation provisions of the respective competition laws of the two countries. The Department strongly supported a review of the code-sharing arrangement when it expires in mid 2007.

Discussion

The use of code sharing raises fundamental competition policy issues. As noted by the IASC, there is a danger that code sharing may actually be little more than a duopoly arrangement which operates to the detriment of consumers.

At the same time code sharing has the potential to promote competition among carriers on 'thin' routes where it may not be commercially sustainable for multiple carriers to operate services. This may potentially be an option for some routes within PNG as well as some of the international sectors. This could be relevant where the particular route is marginal should two carriers compete directly for the service as the demand is split and therefore results in a significant increase in average costs for individual passengers. In these circumstances, code share arrangement may actually result in the efficient allocation of services at the cost of limiting competition.

Thus, before code sharing arrangements are either embraced or rejected, an appropriate public process of review and consideration of the sharing arrangement is desirable. Under the current legislative arrangements this is facilitated through the Commission's powers under the ICCC Act. Section 70 of the ICCC Act provides the Commission with the ability to make authorisations approving contractual arrangements which limit competition where a clear public benefit can be established. In the case of code sharing on international routes into and out of PNG, this process would allow the argument of potential financial disaster for Air Niugini to be tested.

The Department of Treasury has stated that it was unaware of any review of the code share arrangement which has shown that the detrimental impact, often associated with code share arrangements, is outweighed by the net public benefits which accrue to the general public. While the Commission agrees that there has not been an assessment of the benefits of code share from a Papua New Guinean perspective, the ISAC has reviewed the code share agreement from an Australian point of view. The ISAC is Australia's international air competition policy advisory body. It forms part of the Department of Transport and Regional Services and has a memorandum of understanding with the primary competition watchdog in Australia, the Australian Competition and Consumer Commission (ACCC). This memorandum of understanding is further supported by the presence of Commissioners who service on both the ACCC and the IASC.

In the Draft Report the Commission noted that it was keen to address the matter of the code share agreement under the provisions of the ICCC Act. Under the ICCC Act, Section 50, a person may not enter into any arrangement that has or is likely to have the effect of "substantially lessening competition" in a market. Furthermore, Section 50 (2) states that a person may not give effect to a provision of a contract or arrangement that has or is likely to have the effect of substantially lessening competition. The code sharing arrangement may in certain instances, be argued to result in a substantial lessening of competition and may therefore contravene Part VI of the ICCC Act. Under the Act there are provisions whereby the Commission may grant authorisation on the grounds that such arrangements have significant public benefits despite the arrangements having the impact of substantially lessening competition. In considering such an authorisation, the Commission is required to consider whether there are public benefits which outweigh the loss of competition in the market which results in a negative impact in terms of pricing and other dynamic impacts associated with a fully functioning competitive market. In authorising such arrangements under the ICCC Act the Commission would be effectively providing the parties with protection from litigation under the provisions of Section 50 of the Act.

In the context of the current arrangement between Qantas and Air Niugini, the Commission has brought to the attention of Air Niugini, Qantas and the general public the existence of the requirements under Section 50 of the ICCC Act and the potential exposure that this creates for the two parties involved. In submissions from Air Niugini and Qantas to the Commission, they have argued that there are net benefits from the code share arrangement. They have also noted that they are proposing to extend their code share arrangement for a further period. The Commission notes that as part of this extension it would be prudent for the parties to make an application to the Commission for an exemption under the Act. Without pre-judging the application or pre-empting the final decision the Commission would as part of any authorisation process, consider a number of factors including the form of operation of the code share arrangement, evidence of competitive behaviour between the parties engaged in the code share, and evidence and quantification of the net public benefit which arise from the arrangement.

The impact of code sharing on competition will depend on the extent to which the carriers operating on a code share basis compete with each other on the same route, or use code sharing to connect their services. Where carriers are already operating on the same route, and individually have relatively high market presence, code sharing is likely to reduce competition. However, where this route is marginal with two competitors, it may be possible to demonstrate net public benefits. These benefits would need to go beyond simply the benefit that would be captured by the two companies. To assess the benefits that are more widely available, the Commission's process would allow Air Niugini's claim that failure to enter into this arrangement would help in its financial attempt to be tested.

As noted by the ACCC, code sharing arrangements have the potential to lead to a reduction in the price competition between parties. However, the Australian Productivity Commission has noted that there are a number of benefits to code share arrangements, including:

- While the operating carrier may be in a dominant position for pricing seats, the two carriers may still compete in marketing and selling tickets, and in providing connecting services.

- Code sharing may also provide a means for carriers to start up services and test new routes. Thus, it can be an important precursor to the development of more vigorous competition when carriers operate services in their own right.

- Code sharing may also enable carriers to operate with greater frequencies and to connect with other carriers' services through a hub.

- Code sharing may result in increased flexibility to operators to ensure that participants may enter into a market without incurring major sunk costs.

The Productivity Commission concluded that code sharing has the potential to generate greater competition and to minimise the costs of operating on certain routes and the overall network. Further, code sharing provides a means of minimising the cost of operating services by direct cost savings achieved through rationalising services or establishing market presence on a route without actually operating on it.

The Commission notes both the ACCC and the Productivity Commission positions on code sharing and notes that there is significant merit in both. On the one hand the presence of code sharing arrangements has the potential to significantly reduce competitive pricing as a result of potentially a complete withdrawal of competitive pressure. On the other hand code sharing arrangements could potentially play an important part in the continued operation of the domestic aviation market particularly on thin routes, although, as the Productivity Commission has noted, many of these benefits arise from special circumstances such as start up prices (hardly applicable to Air Niugini and Qantas on the PNG/Australia route).

The use of code share arrangements on some domestic routes within PNG could potentially be an avenue for ensuring continuity on more marginal routes while at the same time retaining competitive pressures on the incumbent carrier on that route. The economies of scale available under a mutually agreed code share arrangement could ensure the optimisation of demand to ensure that service providers have the opportunity to earn reasonable returns on their investments while at the same time ensuring service on these potentially marginal routes. The opportunity to provide greater frequency of services whilst still retaining competitive pricing of services is attractive on PNG domestic routes. However, these benefits would need to be independently assessed to ensure that benefits apply to the wider public rather than simply being retained by the operators.

The Commission is aware of concern within Air Niugini that any assessment of the code share arrangement from a PNG perspective might results in a contrary view to that of the relevant Australian authorities (in this instance the ISAC). While the Commission can give no guarantees on this matter, the Commission does recognise the importance of having a clear regulatory position on this matter, and would as a matter of course discuss any authorisation application with the relevant Australian authorities while retaining the right of the Commission to form its own independent position in response to the authorisation application.

6.2 Monopoly service provision on some domestic routes

There are a number of domestic routes in PNG which are marginal in terms of profitability even with one airline whilst others with greater volume have two carriers but still have modest margins. The longer term outlook for many of these lower volume routes suggests that they will remain unprofitable. This situation has been largely driven by low demand which is a function of the cost of air travel relative to the earning ability of Papua New Guineans. In addition to the problems associated with low affordability of airfares, there have been capacity constraints in terms of ability to carry cargo. Air freight is largely a secondary activity to passenger carriage, with passenger fares largely cross subsidising freight costs. Without adequate demand for passenger services, freight services are largely discontinued. Again in the PNG context there are some periods of high demand for freight services (particularly during the coffee harvest) but insufficient steady demand to ensure the provision of appropriate dedicated freight carrying aircraft. As a consequence of this unreliability of access to air freight capacity, cash cropping farmers in locations away from other forms of transport have had to return to subsistence farming rather than growing crops for export. If there is a capacity constraint in getting surplus produce to market there is no incentive for farmers to participate in the formal economy.

Submissions

Airlines PNG has submitted that a number of routes in PNG are only in operation because of the ability of operators to cross subsidise from more profitable routes. Airlines PNG states that this can only continue while other operators are not able to "cherry pick" the profitable routes while bypassing the less profitable sectors. This issue is the same across all operators in PNG. Indeed, Air Niugini has stated that it also operates a number of international and domestic routes which are cross-subsidised by more profitable domestic routes. Airlines PNG stated:

> *In the absence of any such 'bundling process' the Government may need to provide subsidies to operators that will cover operating costs and provides a contribution to their overheads plus a reasonable margin that compensates for the inherent physical and commercial risks associated with flying in challenging terrain and conditions. If nothing is done, more remote services will be discontinued.*

Air Niugini has identified freight carriage as another example of a thin market which may require a degree of competitive protection to ensure the service is maintained. For example, it notes that insufficient passenger demand on its international flights means that additional competition may endanger its wide-bodied aircraft service on certain routes to and from PNG and thereby have implications for the carriage of freight on those routes. This could have significant implications for products such as tuna exports to Japan.

Discussion

The economics of operating a successful airline network depends upon being able to access commercial numbers of passengers and volume of freight in a single area for transfer to another location. This process is often built around a network design known as a 'hub and spoke' system, where the spokes represent routes leading into the hub and the transfer between hubs represents the backbone of the network.

It is important to recognise the importance of all routes in the hub and spoke system, including the profitable, less profitable, and unprofitable routes. Airline economics are dependent on routes feeding into the hub and spoke system. This is driven by the economies of traffic density. The economies of traffic density occur when increasing the amount of traffic on an existing route leads to lower unit costs. Unit costs decrease when the size of the aircraft used increases, the number of seats filled on an aircraft rises and fixed indirect costs are spread over more passengers and freight volume. These unit costs include route-specific costs such as ticketing, sales, promotion and terminal lease or ownership costs plus fixed costs such as back office costs and corporate administration costs. An airline may be able to operate a hub and spoke system better as it grows and develops a larger network. By channelling traffic through hubs, economies of traffic density may be achieved. Under this model, there may be economic benefit to be gained from operating a service irrespective of the particular route profitability as it may contribute to the wider profitability of the total network.

The concept of a hub and spoke design becomes even more important when the flights are made to shift freight without using 'freight only' aircraft. Airline companies depend upon the use of space on passenger aircraft to transfer freight, especially when the demand for freight space is seasonal such as during the coffee flush. The loss of the passenger service will inevitably mean loss of the freight service.

Currently, a number of low volume airports across PNG receive regular schedule passenger flights. These low volume destinations are at some degree of risk of service cessation or continuity disruption. This reflects the problem with a heavily cross subsidised hub and spoke model where competitors may cherry pick the more profitable routes and leave the unprofitable routes for the incumbent to try to maintain. This problem is further compounded for the third level operators who fly into the rural airstrips, often community owned and operated, and have only limited commercially viable routes (often associated with some charter arrangements servicing a mine or similar commercial activity located in remote parts of the country) from which to cross subsidise the non commercial routes.

Several options exist for trying to secure regular services to low volume PNG airports such as Tari, Vanimo and Buka. These options are outline in Table 6.1 below.

Table 6.1 Options for maintaining services on marginal routes

Options	Pros	Cons
1. Status Quo/Open Skies**:** operators compete in free and open market making scheduling decisions based on volumes and ability to price to earn an adequate margin	o Outcomes determined by market supply and demand o No Govt subsidy required o Operators able to freely innovate to improve service viability (eg establish a take-or pay contract with key end customers such as mines for a % of seats)	o Risk of disruptions to service continuity or the cessation of services to low volume destinations
2. Require within operating licences The three Tier 1 airlines to be involved in a 3-way Code Share to smallest airports (say <30,000 pax journeys pa) & to ensure ongoing regular services	o Any loss on a service should be moderated and then shared equitably between the three Tier 1 operators o Tier 1 operators are free to outsource service provision to a Tier 2/3 operator o No Government subsidy required	o Difficult for Govt to coerce three parties into a Code Share agreement. If such an agreement had merit it is likely to develop commercially. More typically Governments are presented with a proposed Code Share which they either reject or accept o If serviced by two or more operators, the carrier choice reduces to one o Price competition less likely under code sharing o May not be warranted in PNG as most smaller towns receiving some services without imposing a licence condition o May create a cross-subsidy from pax travelling between larger cities to smaller cities
3. Staple non-exclusive rights to operate strong volume routes to obligation to service a weaker route possibly via triangulation	o Larger cities (eg Lae) keep choice of carrier o No Government subsidy required	o Triangulation results in some longer journey times o May creates a cross-subsidy from passengers travelling between larger cities to smaller cities o Triangulations where efficient are already happening. Imposing further triangulations may not be equitable and efficient
4. Government pays a subsidy per passenger for journeys to smallest airports where in public interest and ability to access to other airports is non-existent or highly constrained	o A transparent and direct intervention to correct market failure and ensure service continuity by covering gap between efficient costs and fares	o Requires accurate subsidy settings to prevent market distortions o Creates precedents whereby other transport services may seek subsidies o Potential substantial subsidy cost to Government

Options	Pros	Cons
5. Grant an exclusive five year licence for lower volume routes or triangulations (as used in Western Australia). This may in turn require setting of a capped maximum fare to prevent the abuse of market power by the operator.	o A transparent and direct intervention to improve certainty for operator and reduce risk of disruptions to service continuity o Approach can ensure service continuity whilst protecting holder from seasonal cherry picking and provide great confidence to invest in new planes.	o Operator still may cease services especially if routes genuinely lack viable levels of pax o Precludes future new entries eliminating any prospect of choice o Risk fares can rise and may need max price regulation
6. Hybrid approach (as used in Queensland): for example, Open Skies where >40,000 passenger journeys pa, 10,000-40,000 exclusive franchises and <10,000 exclusive franchise with a subsidy (where in public interest and ability to access other airports is non-existent or highly constrained)	o A transparent and direct intervention to improve certainty for operator to reinvest o Reduced risk of disruptions to service continuity	o Precludes future new entries eliminating any prospect of choice o Risk fares can rise and may need max price regulation o Creates precedents whereby other transport services may seek subsidies o Potential substantial subsidy cost to PNG Government

As noted, each option has pros and cons in terms of their applicability in the PNG context. In deciding between these options some key determining factors are:

- Option 1, the Status Quo, has a number of obvious disadvantages in terms of ensuring continuity of servicing of remote locations. This problem is particularly exacerbated at a time when demand has fallen across the networks for other reasons. In the PNG context this reflects the reduction in demand caused by the level of affordability declining as increases in fares have outstripped income growth.

- Option 2 would be difficult to implement as, in the absence of goodwill, it is difficult for government to coerce three parties into a Code Share agreement. If such an agreement had merit of itself, it would be likely to occur commercially without direct government intervention. More typically governments are presented with a proposed Code Share Agreement by the industry which they review, appraise the public interest and then decide to either reject or authorise under relevant legislation.

- Option 3 may have some merit. However, triangulations where efficient are already happening. Imposing further triangulations may not be equitable and efficient. Furthermore it assumes that government agencies can advise better arrangements than the industry can itself derive, hardly likely in the PNG context or indeed in any other country.

- Options 4 and 6 involving a potential substantial subsidy cost to the PNG Government, are not attractive or fundable given the fiscal deficit planned for the 2006/07 budget.

- Option 5 may have merit but submissions to this review have not identified situations where a service has ceased or is provided with inadequate frequency and a public interest case has been mounted for Government intervention to support more regular services particularly where access to other airports is non-existent or highly constrained.

- The hybrid option 6 contains a mixture of potential concerns and deficiencies present within Option 2-5.

The relevance of some of these options also depends on the fleet composition of the various airlines. For example, Air Niugini has largely withdrawn from a fleet configuration that can service anything other that the main routes in PNG. Airlines PNG has a fleet configuration that is able to handle smaller locations and airfields, but relies on the economies of a hub and spoke model to cross subsidise some of the minor routes. Air Niugini has claimed that it operates its domestic network along the 'hub and spoke' model with Port Moresby the primary hub used. Air Niugini's current fleet configuration appears to support its focus on the servicing of the higher demand routes into and out of Port Moresby. Air Niugini's decision to concentrate on the higher volume routes may ultimately result in the need for further rationalisation of the industry as other parties are unable to compete on these routes due to the relatively low number of passengers travelling on these sectors. In this case one operator using a relatively large aircraft may be more efficient than multiple operators using smaller planes. As such the type of services being offered by other carriers may struggle to compete on these routes. This may in fact result in the parties agreeing to enter into some form of code share arrangement which results in routes being serviced by an individual operator who is able to maximise a return on assets and allow the other operators to have 'code share' seating on their aircraft.

Air Niugini's business model may result in it servicing the large airports only. Any movement to force Air Niugini to service the smaller airports may place financial pressure on the airline by reducing its overall cost efficiency. However, any desire by government to ensure services are maintained in the more remote areas may mean that it is necessary for Air Niugini and/or other operators to enter into some form of code sharing arrangements to ensure that the overall fleet is optimised and costs to the final consumer are more appropriate given the structure of the industry and the underlying economics of the various airlines.

As previously discussed, any arrangement which looks to implement the options canvassed in Table 6.1 will need to be authorised by the Commission under section 70 of the ICCC Act. Following an application for authorisation, the Commission will need to be satisfied that the arrangements do not substantially reduce competition without there being net benefits to the economy. The Commission will carefully assess the claimed net benefits, and this will be undertaken in a public and transparent manner so that all parties can contribute to the Commission's consideration of these matters.

6.3 Distribution network

Traditionally travel agents have used a centralised ticketing network which enables them to book a ticket on a number of airlines depending on the demands of consumers. These distribution networks are typically hosted by the dominant carrier within a particular market. In the case of PNG the dominant carrier is Air Niugini. The position of host carrier includes the responsibility to train operators and to ensure that the system is continually upgraded. Given that the majority of travel booked using these systems is for travel on the dominant carrier, it has been suggested that the system is biased to advantage that carrier and this acts as a barrier to entry for new carriers.

Submissions

Airlines PNG have recommended that a not-for-profit ("NFP") organisation be set up to facilitate a coordinated approach to the travel, accommodation and tour booking needs of the tourism industry. The charter of the group would be to ensure equal access by all parties wishing to undertake tourism related activities, including the provision of air services. The aim of the NFP would be to provide a one-stop-shop for all tourism bookings throughout PNG. This would mean that an international or national tourist would be able to contact the NFP entity and coordinate air travel, transfers, accommodation bookings and tour activities. The NFP entity would in effect provide a common platform for all tourism operators, including airlines, for e-commerce requirements, namely customer relationships systems and booking systems.

In a submission from Travelport Galileo Asia (Travelport) who operates the Galileo global distribution system which is used by Air Niugini and travel agents throughout PNG to book air and non airline travel content in PNG, Travelport has noted that Air Niugini is the distributor of the Galileo system in PNG and as such is responsible for the training of Galileo agents. However, Travelport has stated that the skills learnt by agents are not airline specific and the system actually provides access to over 400 carriers worldwide. Internationally, one of the ways for global travel services to be distributed is through the use of one of the four main distribution systems used world wide. Travelport notes that the decision to use the Galileo global distribution system or any rival system is ultimately made by individual carriers. At this stage Airlines of PNG has decided that its current distribution strategy does not involve the use of a global distribution system and as such has opted not to distribute its tickets through this system.

Discussion

The development and use of computer reservation systems hosted by the dominant carrier has the potential to cause distortion in the allocation of resources should it be demonstrated that the reservation system was favouring one airline over another. However, internationally the issue of the choice of a distribution system is becoming less relevant as the purchasing behaviour of consumers is changing. This is largely driven by the contraction in the travel agent market in preference to dealing directly with the airline. Consumers now interact directly with service providers through the use of either the internet or via the telephone. Potential passengers in remote areas in PNG however, do not necessarily have the same level of access to these new methods of booking and purchasing tickets, nor do they necessarily have access to a travel agent. The limited access to internet services across PNG as a whole will also limit the extent to which this new form of travel booking will apply in PNG at least in the short term until internet services are more readily available and the service quality improved.

The Commission notes that in the PNG context, Air Niugini and Airlines PNG use competing distribution systems to sell their products. While Airlines PNG has cited that a one-stop shop would enhance access to a uniform distribution channel, the Commission actually views the competition between distribution channels as beneficial to the travelling public. Both Air Niugini and Airlines PNG are forced to compete for passenger fares as are travel agents who will have to use both distribution channels to cater for the demands of the travelling public.

In terms of marketing in the PNG context, access to direct internet based systems which allow consumers to make informed decisions is limited. For example, the Commission notes that currently Air Niugini does not offer a web based platform for the public to purchase tickets. This is a deficiency in today's increasingly web based community and can potentially have a major impact on the access international tourists have to the PNG market. However, the Commission notes that Air Niugini has now advised that it expects to have an internet booking capability operational before the end of the year.

The proposal for the introduction of a 'one stop' distribution network with a common platform for operators involved in the tourist value chain in PNG has attracted a number of comments in submissions received on the Draft Report The Commission agrees with comments made by the Department of Treasury regarding the operation of such a body in that it is not clear who would bear the costs of setting up such an organisation, how it would be managed, and what commercial incentive would drive its efficiency. The Commission notes that in the absence of any market failure whereby a viable distribution system of itself would not emerge, it is difficult to justify the establishment of a government imposed distribution network. The Commission notes that there are already commercial operations providing these services in PNG, and the establishment of a new body funded by Government would raise significant concerns regarding competitive neutrality in that it would be in direct competition with a private operation.

The Commission notes that at least one commercial distribution network has already stated that it would be happy for Airlines PNG to distribute its fares on its global distribution network, thus suggesting that these current distribution networks do not pose a barrier to market entry by competing airline operators. While the Commission notes that Airlines PNG's decision to not distribute its fares on one of the current distribution systems is entirely at the discretion of the management of Airlines PNG, the Commission is not convinced that the establishment of a single central distribution service would be an economically efficient, equitable or competitively neutral method of booking air travel in PNG.

The Commission's first preference is always for the establishment of market driven outcomes. It is only after a clear market failure is demonstrated that the Commission would consider the establishment of an alternative body to the existing distribution networks. At this time the Commission has not been convinced that there is a market failure in the provision of these services and as such does not consider the idea of a one stop not for profit distribution network as appropriate.

6.4 Structure of the CAA

Currently the CAA has a mix of regulatory, airport operational, air navigational and safety roles. There is some potential for conflict between the operational and regulatory roles performed by the CAA. Ideally in better practice organisational structures for monopoly businesses there is a distinct separation of operational and regulatory roles into different entities. For example, one aspect of the CAA's relationship with an airline may see the CAA encouraging the carrier to increase frequencies to generate more landing fees whilst another CAA officer may be sanctioning the same carrier for not meeting minimum maintenance requirements and thereby potentially reducing the number of flights that can occur.

In OECD countries the more common structure of the aviation sector features the following separate entities:

- **An Aviation Safety Authority/Regulator**: the Government regulator who licenses maintenance staff, airports and airlines.
- **An Air Navigation Services Corporation**: provides en-route or upper level (above 30,000 ft) air traffic control management and lower–level airport based airspace control as well as related airside services to the aviation industry (eg fire fighting).
- **Independent Transport Safety / Accident Investigative Bureau:** ideally this should be entirely separate from transport regulators and service providers to ensure independent investigation of transport accidents and other safety occurrences. It is separated from both the Air Navigation Corporation and the Aviation Safety Authority so that these two entities can be investigated where required without conflict of interest. This role is often also extended to promotion of safe transport. Usually such bureau are multi-modal covering aviation, marine and rail safety investigation (eg the Safety / Accident Investigative components of the CAA could be merged into the PNG National Maritime Safety Authority to establish a PNG Transport Safety Authority).
- **Airport corporations:** single focus commercial entities managing either an airport or a portfolio of airports.
- **Airlines:** either privately owned or government owned ranging from small regionally focused domestic operators, to low cost carriers (usually with both a domestic and international focus) to full service international airlines.
- **Economic Regulators**: there may also be involvement from Economic Regulators who in some countries set landing fees or navigation charges. However the extent of regulator price setting is reducing and prices are often negotiated with light handed regulatory oversight.

The broad mix of activities undertaken by the CAA coupled with the PNG Government Authority structure provides further challenges to the CAA being effective. Specifically, the CAA can find that it is more difficult to:

- Achieve effective management focus across each of the three diverse key functional areas (airport, safety licensing/regulation and air navigation). The CAA aviation conglomerate approach within an Authority structure is arguably not the best structure to generate responsive commercial outcomes. Performance could be improved through use of more singular focused entities and appointing specialised leadership and management teams to implement the strategy.
- Attract, adequately remunerate and retain the specialised / highly skilled staff which are necessary to manage some of the commercial functions effectively, e.g. negotiating landing and terminal charges with global airlines, managing the retail concessions within airports, developing industrial and commercial property opportunities within the airport precinct.

The Commission noted in its Draft Report that it considers that there would be significant benefits to the industry of a movement towards some form of separation of the various roles and responsibilities of the CAA. The Commission notes that there are a number of constraints which may also inhibit the success of any separation including availability of appropriate expertise to staff for a fully disaggregated CAA into its various businesses and regulatory activities as identified above.

Submissions

The CAA, Treasury and Air Niugini have each provided comments on the merits of a possible separation of the activities within the CAA. The Commission's view was generally supported by submissions to the Draft Report.

The CAA noted that there are clear conflicts of interest between the regulatory aspect of the CAA and the other two entities, in that the regulatory entity regulates both the airports and air navigation functions of the CAA. The CAA stated that:

> *The CEO of the CAA is also the Director of Aviation Safety and Security. Put simply, legally the CEO regulates his own business, a clear conflict of interest.*

While the CAA management has established an agreement with the Deputy Director of Aviation Safety that he can regulate the CEO of the CAA without fear or favour, it notes that this arrangement cannot continue indefinitely. The CAA is therefore in the process of preparing an amendment to the Civil Aviation Act that will remove the safety and security regulatory delegations held by the CEO of the CAA, and instead allocate them to a separate regulatory position. It is intended to complete this amendment to the Act in time for approval in the March 2007 session of Parliamentary sittings.

The CAA recommend the cost of the regulator be funded by the Government of PNG in the annual budget process each year, noting that the cost of the regulator should not be part of the revenue raised by the CAA from aeronautical charges levied on the industry.

In addition, the CAA plans to form a separate company, PNG Air Traffic Services Ltd that will be an entirely self funding Air Navigation Services Provider. The CAA's Corporate Plan for the period 2006 to 2008 and beyond envisages that the CAA will form two subsidiary companies under the Companies Act. One company will be PNG Air Traffic Services Ltd, and will be the Air Navigation Services Provider, entirely self funding without the need for a Government of PNG salaries subsidy.

The CAA envisages that by 2009 Airports Corporation will be formed (also under the Companies Act). Airports Corporation will also be financially self sufficient in terms of funding salaries. By moving away from the public services employment model in forming two corporate entities, the CAA anticipates that it will be able to deliver services more efficiently and effectively with fewer staff.

Treasury also supports the Commission's view that separation of the CAA is needed. The Department observed that there is a lack of transparency of individual airport performance which affects the efficiency and effectiveness of the CAA in the following ways:

- Accounts prepared do not give accurate picture of operations and financial performance of airport commercial activity
- It is difficult to make informed assessment of individual airports efficiency
- Information asymmetry leads to inability to recognise market pressure applied by airport users

- Gap in performance data reduces airport managers' incentive to improve.

The Department recommends that the CAA implements a 'Horizontal Accounting Separation' and publish disaggregated financial information on commercial operations of individual airports.

Treasury also recommended that the Commission should convey to the CAA the need for early implementation of separated accounts and upgrade their accounting systems.

Air Niugini generally agrees with the ICCC's observations about the CAA. It noted its concerns about:

- The lack of investment in airports and associated services and the consistently poor management of the CAA.
- The inability or unwillingness of the CAA to meet the minimum safety and security standards required by the international regulators. This has potential to close down all the operations of Air Niugini.
- Over the last decade Air Niugini has been undertaking work and meeting airport and related security

Air Niugini recommends that urgent action and funds allocation must be made to deal with the CAA and the state of PNG's airports and safety and security infrastructure. In particular, Air Niugini recommends that these problems could be overcome by separating the asset owner from the regulator. The separation needs to be real and not notional if the regulatory system is to have any integrity. Air Niugini does not believe that creating an internal separation within the current CAA is a solution.

Discussion

The Commission notes the consensus of industry stakeholders that the mix of functions undertaken by CAA introduces potential for conflict between these functions and limits the CAA's effectiveness. There is also some agreement amongst industry stakeholders that some form of separation of the CAA needs to occur.

The Commission therefore reiterates its view from the Draft Report that there is merit in considering a separation of the various roles and responsibilities of the CAA. More specifically, the Commission considers that structural separation of the CAA into separate corporate entities would be highly desirable. It is recommended that the move to structural separation be preceded by a process of accounting separation and operational separation.

Accounting separation needs to occur as soon as possible. This would involve developing separate accounts for the regulatory, airport operational, air navigational and safety functions of the CAA. It would make the cost base of the CAA more transparent, providing a better understanding of the various business functions to both the management of the CAA, the regulator and the market. Independent monitoring of the accounts by the Commission would be an important aspect of ensuring transparency. Importantly, it will allow any areas of the business where there are funding shortfalls to be identified and CSO payments to be properly targeted. The Commission recommends that, given the importance of accounting separation to the move to structural separation, the Government should provide funds to the CAA to facilitate the accounting separation process.

Operational separation would involve the separation of the CAA into units which deal with each other on a commercial, arms-length basis, maintain fully separate accounts and reporting systems and maintain separate management and staff. Compared with the existing structure, operational separation would provide staff and management of each unit with increased incentives to meet the objectives of the individual business units. The process of operational separation will set the CAA on an important path of moving to a more corporatised model.

As noted already, the Commission strong preference is for structural separation of the CAA into separate corporate entities. Structural separation would clarify the roles of responsibilities of CAA management staff and minimise the potential for cross-subsidisation or anti-competitive conduct between the separated entities. The Commission understands that legislation to achieve structural separation of the CAA has existed for some years but not been passed in the PNG Parliament. The Commission recommends that this legislation be introduced as soon as possible.

Appendix A: Official Terms of References

Inquiry under Section 123 *Independent Consumer and Competition Commission (Act)* 2002

Review of Certain Business Impediments in the PNG Aviation Industry

The Government is committed to fostering a more efficient and faster growing economy through removing impediments to business. The Terms of Reference herein support the 2006 Budget announcement that business impediments in the aviation industry caused by regulation and barriers to competition will be an assessed by the ICCC (the Commission) with a view to identifying regulatory improvements. The inquiry is conducted pursuant with the powers of the Minister for Finance and Treasury under Section 123 of the *ICCC Act* 2006.

In establishing a review, the Government is aware, among other things, that:

- owing to the dispersed nature of PNG's population, PNG's challenging geography and the lack of alternative viable transport for many routes, provincial and international air services are an indispensable business input in PNG;

- issues surrounding aviation competition and regulation have been raised by the Business Impediments Working Group

- PNG's aviation industry supports national economic growth and development, including through facilitation of private sector activity, the delivery of core government services and by being a key partner in the expansion of PNG's tourism sector; and

- a competitive aviation sector, effectively regulated to ensure safety, can foster a more efficient transport industry capable of contributing its full potential to the PNG economy.

Specific requirements of the Inquiry

1) The ICCC is to examine and report on impediments to business caused by regulatory and competitive constraints in the freight and passenger domestic and international market with reference to:

   a) the current operation of the aviation industry in PNG, including through consideration of market characteristics, the degree of competition and countervailing power within the industry, the extent of substitutability for aviation services and the contribution of aviation to the tourist industry;

   b) the current aviation regulatory arrangements including licensing, air traffic control, air space allocations and access to essential airport infrastructure;

   c) current pricing practices within the industry, including the existence and rationale for any cross subsidy arrangements, the comparative price attractiveness of PNG as tourist destination within the South Pacific, pricing and access arrangements for essential airport infrastructure, the setting of fees for regulatory services and the extent to which government fees or charges are incurred by the industry;

d) possible barriers to entry and potential for the entry of new competitors into the air transport industry; and

e) the extent to which some aviation services and facilities are supplied implicitly as community service obligations for the purpose of attaining social objectives.

2) The ICCC is to identify:

a) where justified, improvements that can be made to the efficiency of aviation in PNG through reducing regulatory costs and increasing competition; and

b) the potential benefits for the national economy.

3) In discharging its responsibilities under this review, the Commission is to consult with stakeholders, through both public hearings and submissions on specific matters as the Commission considers appropriate, and follow a three stage reporting and consultation process through:

a) presentation to the authorizing department on the findings of 1 (a) to (e) of the terms of reference and preliminary comments on 2;

b) presentation of a written draft report for consideration and comments by the Government and other interested parties, including a one month opportunity for submission of written comments on the Draft Report; and

c) presentation of a fully documented written Final Report to the Treasurer for presentation to wider Government.

The Review is to submit its final report by 18 August 2006.

Minister for Treasury and Finance

January 2006

Appendix B: Comparison of PX Domestic Fares- IATA Conversion Factors

SECTORS		DISTANCE KM	NORMAL FARE ONEWAY		SPECIAL FARE ROUNDTRIP	RATE PER KM ON NORMAL FARES PGK/KM
			NUC (USD)	PGK		
Port Moresby	**Goroka**	**423**	**137.67**	**416**	**137.67**	**0.9834**
Port Moresby	**Madang**	**494**	**131.38**	**397**	**131.38**	**0.8036**
Honiara	Choiseul Bay	494	121.56	367		0.7436
Jakarta	Palembang	433	124	367		0.8653
				375		
Rabaul	**Wewak**	**949**	**260.44**	**787**	**260.44**	**0.8293**
Jakarta	Denparsar	961	218	659		0.6855
Port Moresby	**Vanimo**	**1036**	**237.94**	**719**	**237.94**	**0.694**
Port Moresby	**Kavieng**	**1038**	**202.53**	**612**	**202.53**	**0.5896**
Surabaya	Palenbang	1009	257	777		0.7697
Jakarta	Mataram	1095	242	731		0.6678
Rabaul	**Hoskins**	**240**	**83.39**	**252**	**83.39**	**1.0499**
Honiara	Sege	252	66.38	201		0.796
Palangkaraya	Pangkalanbun	257	70	212		0.823
Dhaka	Chittagong	221	68	205		0.9298
Port Moresby	**Rabaul**	**799**	**191.94**	**580**	**191.94**	**0.7259**
Kavieng	**Wewak**	**832**	**275**	**831**	**275**	**0.9988**
Honiara	Santa Cruz	787	147.79	447		0.5674
Jakarta	Pontianak	734	190	574		0.7822
Port Moresby	**Mount Hagen**	**512**	**134.36**	**406**	**134.36**	**0.793**
Honiara	Mono	545	122.93	371		0.6816
Palembang	Padang	527	149	450		0.8543
Port Moresby	**Lae**	**325**	**97.29**	**294**	**97.29**	**0.9046**
Honiara	Munda	308	80.3	243		0.7878
Palembang	Tanjung Padan	328	82	248		0.7554
Dhaka	Cox's Bazaar	304	95	287		0.9443
Port Moresby	**Goroka**	**423**	**137.67**	**416**	**137.67**	**0.9834**
Port Moresby	**Madang**	**494**	**131.38**	**397**	**131.38**	**0.8036**

SECTORS		**DISTANCE KM**	**NORMAL FARE ONEWAY**		**SPECIAL FARE ROUNDTRIP**	**RATE PER KM ON NORMAL FARES PGK/KM**
Palmerston	Christchurch	434	242.87	769	126.06	1.7709
Auckland	Wellington	480	280.37	887	135.82	1.8484
Rabaul	**Wewak**	**949**	**260.44**	**787**	**260.45**	**0.8293**
London	Berlin	954	348.18	1102	226.32	1.155
Port Moresby	**Vanimo**	**1036**	**237.94**	**719**	**237.94**	**0.694**
Port Moresby	**Kavieng**	**1038**	**202.53**	**612**	**202.53**	**0.5896**
Auckland	Te'anau	1109		0	203.75	0
Rabaul	**Hoskins**	**240**	**83.39**	**252**	**83.39**	**1.0499**
New Plymouth	Auckland	228	193.97	614	111.92	2.6922
London	Manchester	243	74.85	237	90.52	0.9748
Cairns	Townsville	284	200.51	635	185.76	2.2342
Frankfurt	Zurich	285	447.77	1417	107.46	4.9719
Port Moresby	**Rabaul**	**799**	**191.94**	**580**	**191.94**	**0.7259**
Kavieng	**Wewak**	**832**	**275**	**831**	**275.01**	**0.9988**
Rotorua	Christchurch	676	309.16	978	163	1.4473
Geneva	London	754	197.04	624	891.06	0.827
Brisbane	Sydney	757	259.49	812	191.66	1.0848
Cairn	Mount Isa	782	279.39	884		1.1306
Port Moresby	**Mount Hagen**	**512**	**134.36**	**406**	**134.36**	**0.793**
Nelson	Auckland	495	287.97	911	149.96	1.841
london	Luxembourg	512	562.31	1779	278.54	3.4755
Cairns	Mackay	597	314.78	996	319.94	1.6686
Port Moresby	**Lae**	**325**	**97.29**	**294**	**97.29**	**0.9046**
Frankfurt	Munich	300	273.44	865	101.49	2.8844
Wellington	Christchurch	304	222.23	703	111.92	2.3134
Manchester	Glasgow	312	217.61	689	88.78	2.2072

PGK/USD rate

1PGK=0.316USD (10 May 2006)

IATA Rate Of Exchange (ROE)

PGK=3.021713 (10 May 2006)

Appendix C: InterOil project agreement

'The State will ensure that domestic distributors shall purchase products first from domestic production of such products to the extent that such products produced domestically:

- Are available on a basis equivalent to the basis on which the same products that could be obtained through import markets
- Are equivalent in quality to the same products that could be obtained through import markets

- Are offered by domestic producers of products at prices that are not greater than the import parity price calculated in accordance with Appendix "A".'14

Further, the project agreement states that InterOil would produce all domestic Avgas demand.

> 'InterOil will provide Papua New Guinea with many benefits, some beginning as early as 1998. These include:
>
> ……Self sufficiency for the current refined oil product needs of PNG, including

Products	Estimated current demand	Design capacity
LPG	124 Bbl/day	1,100 Bbl/day
Motor Gasoline	1,7000 Bbl/day	9,000 Bbl/day
Aviation Gasoline	**130 Bbl/day**	**100% of domestic Demand**
Kerosene and Jet A1	1,850 Bbl/day	5,400 Bbl/day
Diesel	7,500 Bbl/day	11,400 Bbl/day
Industrial Fuel Oil	500 Bbl/day	5,900 Bbl/day'[15]

Emphasis added.

[14] Clause 19.1 Obligation to Purchase from Domestic Producers, Project Agreement Among the Independent State of Papua New Guinea (the State) and InterOil Pty Limited and EP Interoil, LTD. 17 August 2000.

[15] Appendix "B" Refinery Proposal, Project Agreement Among the Independent State of Papua New Guinea (the State) and InterOil Pty Limited and EP InterOil, LTD. 17 August 2000.

Appendix D: List of Submission and Participants at Public Hearing

Industry Participants	Written Submission on Draft Report (Yes/No)	Participation at Public Hearing (Yes/No)
Post PNG Ltd	Yes	Yes
Qantas	Yes	No
PNG Divers Association	Yes	Yes
Air Niugini Limited	Yes	Yes
Department of Treasury	Yes	Yes
David Olley	Yes	Yes
Travelport	Yes	No
Department of State Enterprise & Information	Yes	No
Civil Aviation Authority	Yes	Yes
Internal Revenue Commission	Yes	No
Mell Research Consultants	Yes	Yes