



INDEPENDENT CONSUMER & COMPETITION COMMISSION

DRAFT REPORT

Review of the PNG Air Transport Industry

18th July 2006



Contents

Foreword	2
1. Introduction	14
2. Context	17
3. International comparisons	22
4. Infrastructure	31
5. Cost Inputs	46
6. Competition Issues	64
Appendix A: Official Terms of References	75
Appendix B: Comparison of PX Domestic Fares- IATA Conversion Factors	77
Appendix C: InterOil project agreement	79

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)

As part of the overall public consultation process, the Commission has released an Issues Paper on the 20th March 2006 to stimulate and solicit responses from key industry stakeholders and other interested parties including the wider public. Submissions on the Issues Paper were due on the 21 April 2006. Accordingly, this Draft Report (“Report”) details, *inter-alia*, the Commission’s preliminary views and conclusion on the relevant issues identified during the consultation process as well as its assessment of other relevant matters detailed in the various submission on the Issues Paper received by the Commission.

Written submissions are now sought on this Report. For those industry stakeholders and other interested parties willing to make verbal submissions, a public hearing will be held in Port Moresby on the 29th August 2006. Following consideration of these submissions, a Final Report incorporating the final conclusions and recommendations on relevant matters considered in accordance with the official terms of references will be presented to Treasury to be delivered to the Government.

The Timeframe of the remainder of the review process is set out in the table below:

Table 1: Review Timeframe

Event	Timeframe
Submissions due on Draft Report	21 st August 2006
Public Hearing (Port Moresby)	29 th August 2006
Release of Final Report	12 th September 2006

Submissions on this Report should be received by the 21st August 2006 (accompanied by a soft copy either on a CD or emailed) and should be directed to:

Mr. Thomas Abe
Commissioner & CEO
The Independent Consumer & Competition Commission
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Angau Drive
BOROKO
National Capital District

The Secretariat may be contacted at the above address, by telephone on 325 2144, or by fax on 325 3980. The Commission's website is at www.iccc.gov.pg and its email address is infor@iccc.gov.pg or salphonse@iccc.gov.pg. For further information on this Review or any other matters of concern in relation to any aspects of this Review, please contact Stanley Alphonse, Special Projects Manager, on 325 2144.

I urge those who have an interest in the Air Transport industry, whether as users, advocates or industry participants, to make submissions on this Report and to further participate in the remaining stages of this Review for the purposes of the industry going forward.

Thomas Abe
Commissioner & CEO
18 July 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 ICCA 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 ICCA 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 solution to perceived problems are not necessarily ones that the government has 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.

Air Transport Sector in PNG

In general, the existing air services industry in PNG 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.

There are two carriers which provide international services into and out of PNG: Airlines PNG and Air Niugini. While Air Niugini services seven major international ports in Singapore, the Philippines, Japan, Solomon Islands and Australia, Airlines PNG currently only provides services between Port Moresby and Cairns in Australia although the company has recently announced that it is commencing a Port Moresby/Brisbane service in August 2006. Air Niugini and Qantas provide code share services between PNG and Australia. The Japan, Singapore and Philippine and Solomons sectors are exclusively provided by Air Niugini. With the exception of the Cairns/Port Moresby sector and POM/HIR, Air Niugini's international services are provided by a Boeing 767 aircraft which is leased from Air New Zealand. Airlines PNG competes with Air Niugini on the Cairns/Port Moresby sector using Dash 8 aircraft and has recently announced the introduction of a competing service to Brisbane using a leased Boeing 737. In addition to these scheduled services, there are some direct charters into PNG from Cairns which service major mining centres.

There is an open skies policy throughout the PNG domestic aviation industry. As such any registered carriers are able to compete on any or all routes throughout the country. On the more profitable routes, e.g. Port Moresby to Lae or Port Moresby to Mount Hagen there are a number of operators servicing these routes. However, in terms of the major centres Air Niugini is still the dominant carrier. There are a number of smaller operators that provide services into the major centres from more remote centres.

The average domestic fare for a fully flexible ticket is roughly 9% higher on a kina per kilometre basis compared to 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.

For the international routes however, PNG performs poorly against the international benchmarks with the average fare out of or into PNG being nearly 70% higher than

comparable international fares elsewhere. When compared against other service providers in the South Pacific it is impossible not to note that Air Niugini is the most expensive carrier. Furthermore, PNG's direct competitor in terms of tourism expenditure, Fiji, is significantly cheaper to fly into and out of from key tourism markets in Australia and New Zealand. The evidence suggests that the lack of competition on the international routes allows Air Niugini to charge higher, less competitive fares than those exist in other international markets. This conclusion is supported by the recent response by Air Niugini to Airlines PNG's decision to enter the international market servicing the PNG/Australia route which has resulted in a decision by Air Niugini to introduce a new range of supersaver fares which are significantly lower than the previous standard fares offered on Air Niugini flights. It has yet to be seen how Air Niugini will respond to the entry of Airlines PNG into the Port Moresby/Brisbane route, although this should become apparent once Airlines PNG announces its fare structure.

Infrastructure

The standard and operational condition of airport infrastructure is an area of significant concern within the industry and a barrier to efficient air transport operations in PNG. To meet the nation's requirements for effective air transportation, 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 on a 'fit for purpose' basis rather than necessarily seeking to make all airports suitable for jets or significant increases in demand. This approach will ensure that investment in new and existing infrastructure is prudent and that money is not wasted on airport facilities which are potentially inappropriate given the likely demand at the airport concerned. The Commission considers that it is not appropriate in the current PNG circumstances to adopt an 'if you build it they will come' approach to airport infrastructure. Rather infrastructure should be based on a detailed assessment of the operational needs of the airport given future demand projections.

- **Investment needs**

With limited public investment funds available, targeting of infrastructure development and repair work associated with airport facilities is necessary if PNG is to maximise the return on its funding of this form of infrastructure. Investments in this area should be matched to projections of increases in demand to support the underlying business case for the investment of funds. The business case should address whether or not there is an appropriate benefit/cost trade off associated with this investment and therefore justification for the investment to proceed. If the funding is to be provided by the CAA, this business case would need to include an appropriate return to the CAA on the 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 such as from the government. Access to international aid and concessional funding is an option, but would also require clear cost/benefit justification to warrant funding by these bodies.

If public funds were to be used for these infrastructure projects, it would be more efficient if they were directed towards:

- The subsidisation of the financing costs for capital works, or
- Facilitating the undertaking of maintenance programs to ensure that airports are at an appropriate standard.

Where this assessment supports the use of government funds for the investment in the capital costs of returning the airport runway to an appropriate standard, communities and government should enter into agreements which state clearly the requirements and obligations of all parties. The overriding objective of such agreements 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 in the sense that no alternative transport options are available for particular communities, then there should not be a need for the government to support marginal infrastructure.

- **Funding**

It is the CAA's view that the current economic viability of existing airports is unsustainable in the medium term without direct government funding of the infrastructure. The Commission does not agree that this is universally the case. There are a number of opportunities available to airports to increase revenues which should be fully exhausted before any government funding is sought.

Some of the alternative strategies which could be pursued to increase the revenue potential of individual airports include:

- The leasing of space at the airport for commercial purposes
- Having large customers of an airport (and for whom the airport is a necessary link to the outside world) partially underwrite services (eg mines)
- Facilitating the establishment of a market for 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 or assaulted.
- Broadening 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 in their region 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 retaining or upgrading an airport and only then after the completion of a cost benefit analysis demonstrates the value of the airport option as the most appropriate transport alternative available.

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 or concessional funding from any centralised body.

- **Planning**

The Commission considers that a detailed national strategic airport management plan is required to identify the infrastructure future needs of the aviation industry. 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 relative 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 and financial viability would also be considered under this approach to provide each airport with a blueprint for maximising their ability to be achieve self sufficient or longer term viability in terms of funding requirements.

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
- Any additional matters which are seen as important consideration 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 outcomes by stakeholders. 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 major sectors such as tourism.

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 by passing on the cost increase 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 commissioned¹. The outcome from the Commission's review was a reduction in the price of petrol and dual-purpose kerosene (that is kerosene for household use and use as Jet A1) 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

¹ ICCC *Petroleum Industry Pricing Review* August 2004

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.

Internationally, prices of petroleum products have increased significantly since 2000. In PNG, 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. Over the same period worldwide prices for Jet A1 have increased by 325%. The price of dual purpose kerosene in PNG over the same period has increased by 170%, reflecting in part the cost savings that the Commission was able to achieve as part of its 2004 review. Nevertheless, fuel prices in PNG and overseas have increased significantly and appear likely to increase further. This has an immediate impact on the operational viability of airlines throughout the world, not just PNG. However, in PNG this impact has been more noticeable as it has occurred during a period in which passenger numbers have not been as strong as in previous years. Nevertheless, the Commission does not support the view that the Napa Napa facility is the cause of the increase in prices, nor that the government should be encouraged to subsidise fuel costs. The industry will need to look towards its longer term investment in aircraft type as the appropriate response to this change in the relative cost of one of its operating inputs.

The airline industry has also raised concerns about the availability for Avgas as a fuel type used primarily by piston driven aircraft. 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 this product, and no longer is it 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. 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.

Taxation

Industry sources have raised concerns about the different tax rates that apply in PNG by comparison to other countries with which PNG has close economic relations. This has particular significance when the industry has to compete in international markets to attract skilled technicians and engineers. The Commission notes that this is an issue that is not unique to the airline industry but also impacts on other industries which face international competition for skilled workers, including the mining industry. The determination of domestic tax policy and in particular tax rates needs to consider not only the domestic requirement for tax revenue to fund government projects, but the

wider impact that such policies can have upon the economic viability of domestic industries. The Government is unlikely to set the tax rates for internationally recruited labour to help bridge the cost differential that PNG industry faces when having to recruit such skilled manpower, but the issue highlights the interrelated nature of domestic fiscal policy with domestic and international competitiveness. These matters need to be carefully considered by governments in making domestic policy decisions, particularly for a relatively small open and trade dependent country such as PNG. The issues that this raises also highlights the need for continuing investment in training of PNG skilled manpower so that they can meet the internationally determined technical qualifications required in maintaining and repairing aircraft used for commercial purposes.

The Commission has also examined the extent to which 'taxes' add to the cost of fares charged by the commercial airlines. Despite the use of the term 'taxes', the majority of these additional costs (which are often not fully disclosed in advertising of fares) are in fact costs and charges that are placed on fares by the airlines and not 'taxes' in any sense of the term. The Commission has required full disclosure of all charges and costs in advertisements of fares and will use its powers to enforce action to ensure that consumers are not misled regarding these charges.

CAA Charges and Regulation

Industry has expressed concern about the magnitude of CAA 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. 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. This will require the sharing of information with the industry on CAA plans and budgeting for future medium term capital expenditure, operating expenditure and cost recovery methodologies before charges are further adjusted. A process of consultation which addresses the rationale behind any adjustment in 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
- Outline the performance outcomes to be expected from the proposed maintenance and capital investment program.

This would enable both the CAA and the industry to articulate clearly and in an informed manner their respective positions. It would also enable both the opportunity to create a dialogue which aims to ensure that any increases in the proposed charges are reflective of efficient costs, are communicated in a timely manner, and address the issue of the ability of industry to absorb such increases. This consultation process should begin well in advance of the introduction of the new charges.

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 ICCA 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 will consider its final recommendation to the Treasurer on the need to introduce direct regulation of CAA's fees and charges prior to releasing its final report.

- **CAA structure**

Currently the CAA has a broad 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 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 some of the commercial and regulatory functions effectively 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.

The Commission considers that there is merit in considering a separation of the various roles and responsibilities of the CAA. However, 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 a fully disaggregated CAA in its various businesses and regulatory activities as identified.

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 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.

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 ICCA Act. Section 70 of the ICCA 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 under its existing powers will be seeking further submissions from Air Niugini and Qantas as to why the Commission should allow the continuation of the code sharing arrangement.

Marketing

In terms of marketing in the PNG context, access to direct computer based systems which allow consumers to make informed decisions on competing fares and service offerings is limited. Increasingly, travellers and in particular international tourists are becoming sophisticated in their purchasing choices. This requires equally sophisticated responses from companies who are attempting to service these consumers. The Commission notes that currently Air Niugini does not offer a web based platform for purchasing tickets. Airlines PNG has recently announced flights from Port Moresby to Brisbane, and these can only be purchased using web based technology. This is a deficiency in today's increasingly web based market, particularly when seeking to attract tourists to visit PNG. Lack of this type of facility can also give greater power to a dominant incumbent who has access to the only other main source of ticket sales, namely travel agents. To the extent that Air Niugini has played a significant role in training and equipping travel agents in PNG with the technology and skills necessary to plan travel itineraries, make flight bookings and issue tickets and associated travel material, a dominant incumbent can limit the effectiveness of the market in allowing new competitors to emerge. The Commission will be watching with some interest the success of the recently announced initiatives by Airlines PNG and whether these are able to break the strong position that Air Niugini has in terms of access to travel agents.

A submission made to the inquiry proposing the introduction of a 'one-stop' distribution network with a common platform for operators involved in the tourism value chain in PNG as a way of giving greater access to other service providers beyond the main

incumbent is one that the Commission considers has some merit. The Commission notes that if such a centralised distribution network was established there would be a need to ensure it did not contradict the provisions of the ICCA Act relating to collusive and anticompetitive behaviour. However, the Commission also notes the dominant role being taken by Air Niugini in the training of travel agents and the potential for anticompetitive outcomes from this practice. The Commission will examine this arrangement in more detail prior to the finalisation of this study.

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 ICCA 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 ICCA 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 sections 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 ICCA 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 ICCA 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 second in a three part series to be released by the Commission. It is a Draft Report analysing the various issues associated with the industry. The Commission has made a number of draft findings throughout this report on which it now invites the public to comment on. These findings have been based on the Commission 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 Commission now invites further comments from interested stakeholders to address the implications of the various recommendations presented in this report.

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 doing this 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 in related industries, with a particular reference to the tourism sector.

This Report is structure 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 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 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 at this stage, 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 for people and physical goods.

The Commission is currently in the process of assessing licence applications for the introduction of competition in the provision of mobile telephone services in PNG. The importance of this process 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 telecommunication 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 aviation services in those remoter regions. Thus, development of these regional economies will become a key driver of the sustained economic growth of the broader PNG economy.

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 in 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 cheaper transport than what is available in the 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.

Air travel, either by passengers or freight, 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 are important factors when travel is time sensitive. While the preference for aviation services is depended on a number of factors the two primary factors which appear to influence the demand for services are:

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

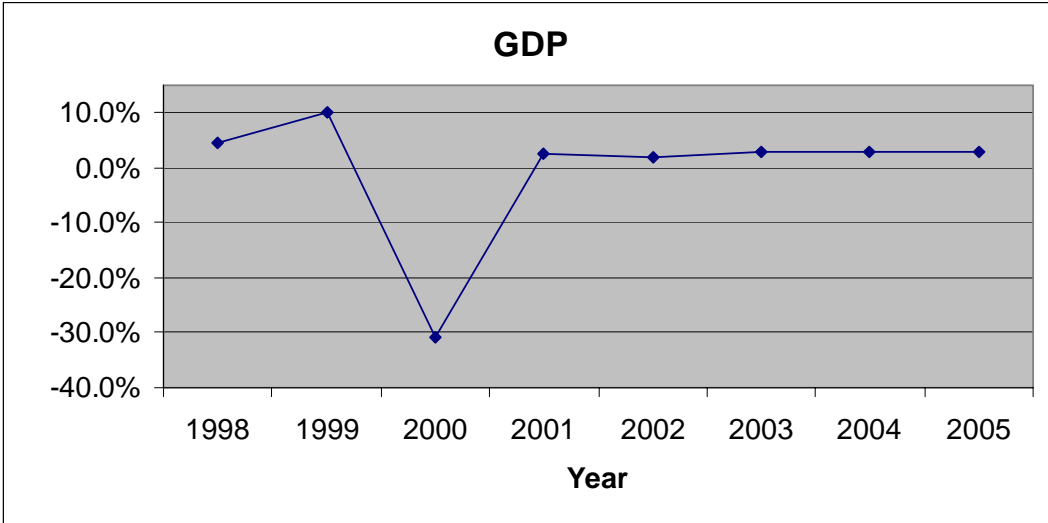
Both factors are directly linked to the affordability of services to ordinary Papua New Guineans and businesses operating in PNG. Importantly there are a number of additional influences on demand including population growth, the social environment, attitudes to travel, attractions at destinations, and 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 leads to higher expenditure on travel for leisure purposes, and
- Higher economic activity increases the demand for business travel as well as stimulates demand for freight services.

The worldwide market for air travel has experienced significant growth over the years. This has been supported by strong economic growth which has stimulated demand for 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.

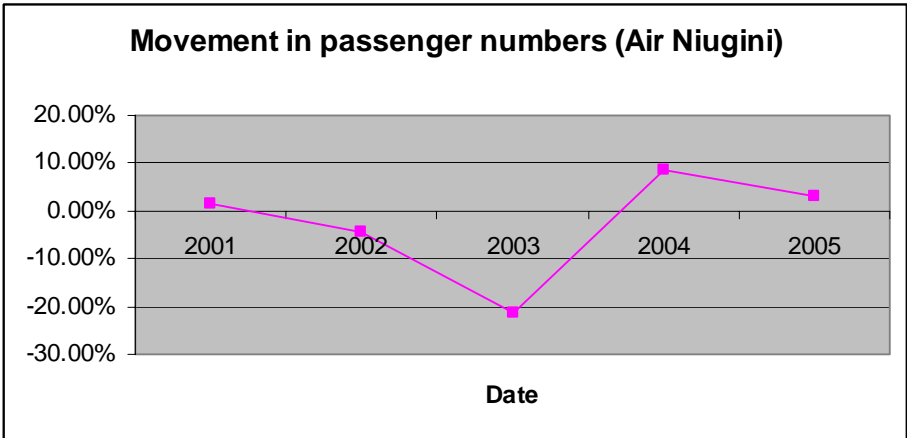
Figure 2.1 Economic contraction in PNG



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

Although precise figures are not available, the contraction in economic activity has had a wide ranging impact on the PNG economy, including in the demand for aviation services (see figure 2.2).

Figure 2.2 Passenger numbers for Air Niugini 2001-2005



Source: Air Niugini Submission and Department of Transport

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 has assumed that this was replicated throughout the industry.

Operating environment

Infrastructure

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 population 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. Airlines PNG would soon fly the POM/BNE sector through a leased B737 aircraft.

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 and Australia, Airlines PNG only provides services between Port Moresby and Cairns in Australia. Air Niugini and Qantas provide code share services into Australia. The Japan, Singapore 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 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. In addition to these scheduled services, there are some direct charters into PNG from Cairns which service the major mining centres. For example Fubilan 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 these routes. However, in terms of the major centres 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.

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.

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 review 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 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. Thus, as required under the terms of reference, this section compares prices for fares to and from PNG and within PNG to international benchmarks.

Submissions

A number of submissions 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 which can be found in Appendix B of this Report.

Mr David Olley 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 K1824.39. 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.

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.

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.

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 nearly all of the international routes from PNG. While Air Niugini competes on a domestic level with a number of operators, it is the only provider of international services, aside from the Airlines of PNG weekly Cairns service and its recently announced service from the POM/BNE sector. There is a code share agreement with Qantas which impacts on price competition between Air Niugini and Qantas on the Australian/PNG sector. Consumers have raised concerns that Air

Niugini's dominance in the market has translated into higher prices and lower levels of service.

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 against other 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 has possibly limited the industry's ability to be as price competitive as other airlines in other countries. Special circumstances in PNG, 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 market.

Domestic fares

Figure 3.1 provides a comparison of domestic fares on a per kilometre basis for countries in the Asia Pacific region. Included in this analysis are domestic fares from a number of neighbouring countries including:

- Australia
- Thailand
- Malaysia
- New Zealand

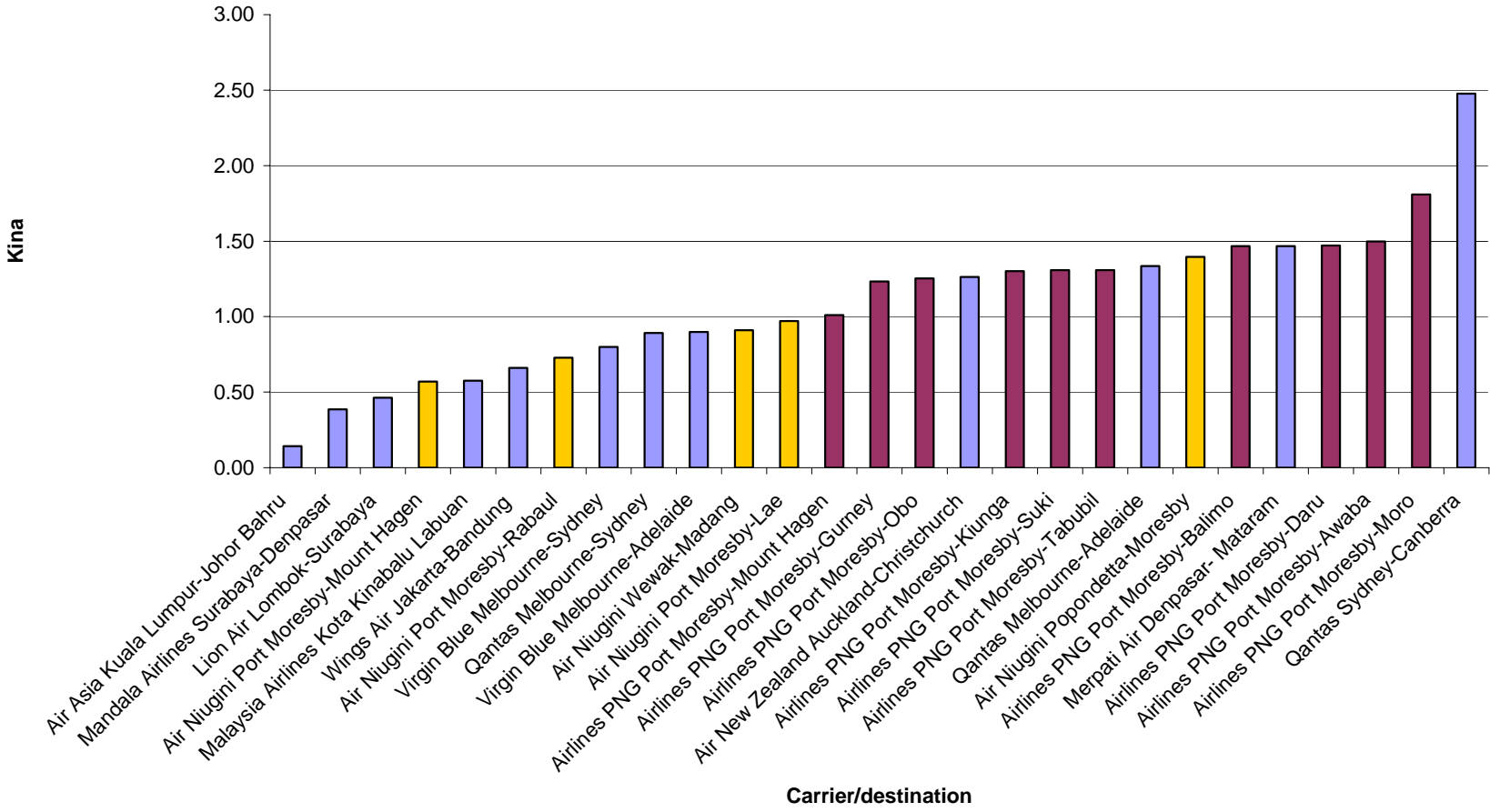
As shown in Figure 3.1 the prices paid by Papua New Guinean travellers on a per kilometre basis are broadly comparable with domestic fares charged in these other countries. The overall average fare on a per kilometre basis for the sample used was equal to K1.15 per kilometre while the PNG average was 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 Australian and New Zealand fares. The average fare of Australian, New Zealand and PNG fares 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 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 in terms of kina per kilometre in PNG 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 than either of the Australian carriers. 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 appear reasonable.

Importantly 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 which occurs 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 these airlines. Further, there are some considerable discounts available to PNG consumers on domestic routes. The key difference is primarily the focus on a more proactive approach to yield management in the overseas markets. The Commission notes that it is probable that the PNG market is lagging behind in terms of a sophisticated approach to yield management.

The degree of competition in the overseas markets is also another reason for the relatively sophisticated approach to yield management. 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. However, with Air Niugini dominating the domestic market and despite having load factors of the order of 60% there is limited competitive pressure to partake in active yield management.

Average price per kilometre domestic



International fares

Figure 3.2 provides a comparison of international fares throughout the Asia Pacific region. Included in this analysis are international fares for routes of similar lengths and frequency of demand, including the following return trips:

- Nadi to Sydney, Nadi to Brisbane, Nadi to Auckland, Nadi to Christchurch
- Perth to Singapore
- Sydney to Honiara

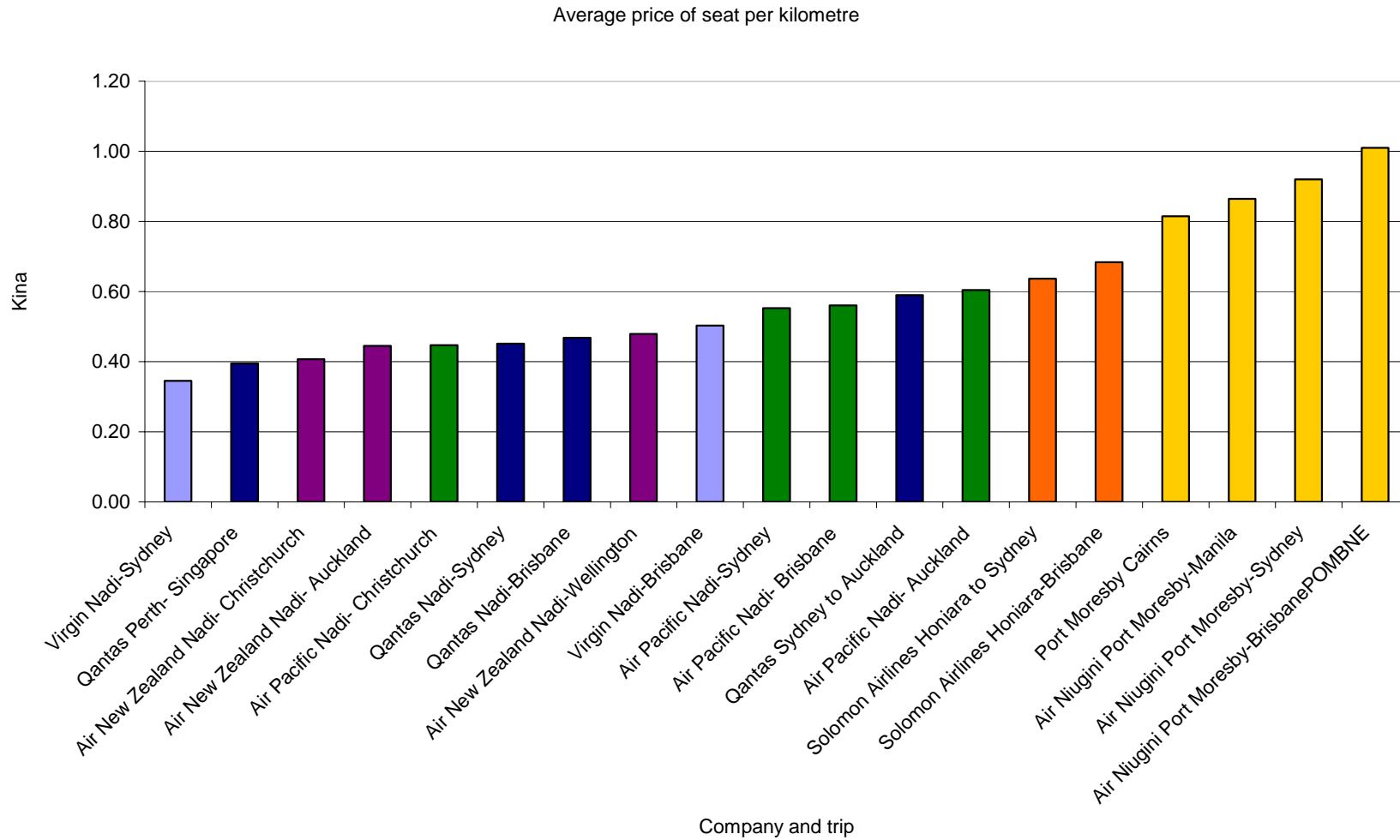
Figure 3.2 shows that the average fares across the routes surveyed on a Kina per kilometre basis is K0.58, which is significantly lower than the average fare domestically. This is to be expected given the economies of scale available with larger aircraft and potentially longer routes. The PNG average fare is only marginally lower than the domestic fare at K0.98 and significantly higher than the average fare for those 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 key tourism markets of Australia and New Zealand.

The Commission has had to consider whether there are some significant operational differences between these airlines which explains the differences in their costs structures and subsequent pricing structures. Airlines face considerable 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 common with increased networks. For example, airlines can reduce their average in-house engineering and maintenance costs as they increase their fleet of aircraft. The opportunity for carriers to rationalise some overhead costs between airports also results in lower average costs. 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 higher than those of the benchmark group. However, it could be argued that the lack of competition on the international routes allows Air Niugini to charge higher, less competitive fares. For example, competition on the Nadi route which is serviced by a number of airlines has resulted in fares which are just over half as expensive as PNG fares on a per kilometre basis.

The Commission notes that on the Port Moresby/Cairns route the Airlines PNG 'Discovery fare' is K0.81 per kilometre which is still higher than the average of fares in some of the highly competitive markets but is lower than the Air Niugini Port Moresby/Brisbane and Port Moresby/Sydney route where competition is limited to the code share agreement between Air Niugini and Qantas.

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 is actually the opposite. That is, the shorter international trip has a lower average fare. As noted above one of the explanations for this may be the absence of competitive pressure on the routes other than the Port Moresby/Cairns route which allows Air Niugini to charge higher, less competitive fares.

Figure 3.2 Average price per kilometre (international)



There has been some suggestion that as a privately owned operation Air Niugini may be more efficient in its operation. There is some evidence of private airlines being 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. The management of the airline between 2000 and 2002 combined with a number of external factors resulted in severe financial distress to the business to 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. However, the code share agreement effectively restricted the competitive tension between Qantas and Air Niugini on these routes, a competitive issue which is discussed further below.

Considering Air Niugini's high average fares set out in Figure 3.2 it is likely that these have been the result of a lack of competitive pressures. Air Niugini may face some additional costs as a result of its 'national flag' carrier status which support the current fare structure. However, it is also probable that the lack of competitive pressure as resulted in a number of inefficiencies in Air Niugini's cost structure. These inefficiencies would not be present if Air Niugini faced effective competition from an alternative carrier on international routes.

Higher fares have had an adverse impact on passenger demand, particularly from international tourists, according to the Tourism Industry Association. The Australia/PNG sectors would not appear to cater to passengers whose decision to travel is usually more price sensitive, e.g. leisure and holiday travellers. Indeed, given the limited alternatives for travelling into and out of PNG, with only the Cairns/Port Moresby route having a commercial competitor, Air Niugini is able to charge at whatever rate it wishes with its main focus being on passengers which are able to pay these fares, that is mainly business travellers or travellers who are travelling to PNG as part of their employment.

Consumption choices for air travel are dependent on the price of air fares. However, business travel is generally less sensitive to changes in air fares than leisure travel. This is partly because business travellers often need to fly at short notice to specific destinations, and usually at company rather than personal expense. This results in a demand for services which is largely dependent on external factors rather than price factors.

It is common throughout the aviation industry to engage in price discrimination to take advantage of the differential in the elasticity of demand from the business traveller versus the holidaying or leisure traveller. There are some potential economic and social advantages of this price discrimination. For example, it may enhance economic efficiency: given that the marginal cost of carrying an extra passenger is well below average cost and price discrimination allows the airline to cover its fixed costs with higher priced business and full economy fares, a price discriminating airline operator is still able to recover its costs with its discounted fares while at the same time ensuring full

passenger bookings. Price discrimination also has some equity advantages: for example, it allows travel by some who would be unable to afford the airfare under uniform pricing and it may allow the operation of some flights that otherwise would not be viable. However aside from some infrequently available wantok (50% off) fares and some other discounts for group, weekend and mining-related travel, the Commission is of the view that Air Niugini has relatively low use of discounting and yield management, which are key business strategies for all leading airlines. The lack of active discounting is most likely due to the fact that load factors on the individual routes are extremely high. This is supported by data presented by Air Niugini which quoted an average load factor over all routes for the past four years of 58.1%.

Personal travel is considerably more sensitive to prices largely due to the discretionary nature of travel at this end of the market. As this expenditure is discretionary it competes with expenditure on many other goods and services such as home entertainment systems, swimming pools and restaurant dining. Given the many possible substitutes, leisure travellers tend to be sensitive to changes in the overall costs of travel. The high prices charged by Air Niugini compared with other competing destinations places PNG's tourism industry at a significant disadvantage. It also limits the opportunity for other forms of leisure travel, e.g. family reunions, which are also price sensitive.

To the extent that current arrangements result in higher air fares, the output of PNG tourism operators decreases as foreign tourists are discouraged from visiting PNG. If prices were to fall to be more in line with the benchmarks considered in Figure 3.2 it is extremely likely that there would be a boost to the PNG tourism industry as it would be able to compete with direct rivals in the region.

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 operations than in previous years, still benefits from a degree of contestability between existing operators be they regular scheduled flights or charter operations.

For the international routes however, PNG performs poorly against the international benchmarks. While there may be some costs as a consequence of Air Niugini being the national 'flag carrier', the poor performance against these benchmarks cannot be solely attributed to this factor. This is evidenced by the ability of Air Niugini to offer discounted airfares on some of routes where there is competition challenging for the demand on a specific route, namely the Port Moresby to Cairns route. More recently, Air Niugini has announced further discounted fares for tourists travelling to and from PNG, possibly in response to this inquiry and the possible options that government may adopt in response to the lack of competition on the majority of the international routes. The code share arrangement between Air Niugini and Qantas on the PNG/Australia routes is discussed in more detail later in this Report. However, there is no immediate evidence to suggest that this arrangement has enhanced competition and contestable pricing behaviour between the two carriers.

From a competition policy perspective, the Commission notes that the ability of Air Niugini to discriminate between international travellers and domestic travellers in terms

of its pricing potentially gives it a competitive advantage in the domestic market. This is despite the fact that Air Niugini has stated that the domestic market is self sustaining. To the extent that Air Niugini is cross subsidizing between its domestic operations, competitors in the domestic market suffer a potential competitive disadvantage in the more competitive domestic market. These matters are explored further in section 6 of this Report.

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 airports². This can create potentially hazardous landing conditions and has raised safety concerns from the industry. The lack of proper aerodrome facilities and nav aids 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 continual upkeep of airstrips. For example, the maintenance of outstation airstrips has been transferred to the provincial governments. However, 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.

² 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 which in turn have repercussions in terms of costs to the industry and travellers and leads to an inefficient operation of the business.

Air Niugini has also claimed that it is unable to operate in 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 stated 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 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. Treasury proposes that an extensive cost-benefit analysis be undertaken to consider the economic and social case for international airport expansion with reference to 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 the investment to be inappropriate.

Discussion

The major issue associated with infrastructure is the low standard of upkeep on airports and how to fund upgrades. This has been primarily driven by low levels of funding from

the government³ 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 these airports, but there is a lack of finance and necessary management skills to carry out this task. 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 ports as the airports can be well below the minimum required standard.

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 jets. 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 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 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.

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

³ 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.

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 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 some of the necessary 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 small airports. Access to appropriate facilities for refuelling, storage and cargo handling is also vital to the viability of a airport those carriers who use this facility.

Submissions

During its initial consultations, the Commission noted concerns expressed by some participants in the industry that there is a 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 facilities⁴ 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 understanding that any lease charges made by the CAA for their facilities are included in the consolidated fees and charges which are charged for access to air navigation charges and ground handling by CAA. The Commission has assumed this to mean that Air Niugini does not pay anything in terms of the defined lease payments.

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. Effectively this allows 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 arranged for a sixth freedom route from South East Asian ports via Port Moresby to Brisbane and Sydney 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

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.

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 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 confused as to how tendering out services at Airports will increase the availability of terminal facilities. 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.

The PNGCCI submitted that retail services at airports could be improved by the privatization 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 or 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 business⁵ opportunities.

Discussion

The Commission has examined each of the issues raised in submissions on terminal 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

⁵ 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

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 addressed 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 successful it must match the functionality of airports with the demand 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, and retail outlets. It is however vital that all airports meet the minimum requirements set out as part of the safety regulations regarding navigational aids and tower controls. 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.

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 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 depends 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 which addresses the rationale behind any increase in charges would:

- Provide a comparison 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 going forward
- Outline the performance outcomes to be expected from the increases in funding.

This would enable both the CAA and the industry to articulate clearly and in an informed manner on their respective positions. 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 such increase. 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.

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 in their revenues which should be fully exhausted before any government funding is sought. Furthermore there are potential efficiencies on 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 Commission has requested additional information from CAA regarding this surplus and has been told by CAA that the profit result reflects the payment of charges relating to previous years, in which it made significant losses (in other words there was a deferred recovery of losses in earlier years). The Commission considers that CAA's recent profit announcement is not necessarily justification for a reduction in charges. 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 basis, CAA would be forced to investigate options for minimising costs. Where this can be achieved through the outsourcing of various services as noted 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 the 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 successful management of 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.

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. However, the Commission notes that there are some practical limitations to this model where provincial administrations do not have the necessary skill sets or funding to ensure successful management. 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 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 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.

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 revises the question of how airports are to be funded into the future.

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:

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.

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 airports⁶. 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*.

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 to cost recover. The CAA notes that the charges in Australia are around 50% higher across the board. This leads to a double bonus for Australian airports. Firstly the travelling public on a per passenger basis is better able to absorb the higher costs and there is also a greater opportunity to increase revenue as demand is generally rising. Furthermore, Australian airports also have far greater alternative revenue opportunities from activities such as retail, car parking and property development.

⁶ 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

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, those non CAA owned airports there is also a decline in demand which is increasing burden on their operations straining their already 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 smaller 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 investment in the airport infrastructure.

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 economic 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 pursued to increase the revenue of the local airport could include:

- The leasing of space at the airport for commercial purposes
- Have large customers partially underwrite services (eg mines)
- The establishment of a market for services at the airport
- Provide appropriate security at the airport to ensure that the airport is not vandalised and passengers and operators are not threatened and/or assaulted.
- 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 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 extreme mountain ranges. 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 due to these factors 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 seen 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
- Any additional matters which are seen as important consideration 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 to facilitate the findings from the process being followed through. 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 major sectors such as tourism.

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 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 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. Further, non compliance with CAA's requirements could potentially lead to the voiding of the insurance of carriers. Air Niugini argues that CAA and its administration of the regulatory, security and safety regimes constituted a barrier to entry into the market. Air Niugini claims that new entrants may be concerned by the lack of insurance cover associated with landing at a CAA airport which will result in a failure to enter the market.

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 the advisories. Airlines PNG noted that it is unlikely that people will travel at night because of concerns about personal safety. Airlines PNG noted 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 concerns about being at an airport facility after travel.

The CAA has advertised a preference to retain responsibility for security and safety at regional airports even though other functions associated with the operation of these airports is handed over to provincial governments.

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

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 their 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 Nadzad 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, airlines are unable to operate with the same frequency 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, levels of adequate 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 these later times. 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.

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 airlines industry, operators use two types of fuel, namely:

- Aviation Gas (“Avgas”)
- Aviation of 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 the international price for oil. 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 requirement rules 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 in 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 submitted that the restricted availability and/or unreliable supply of aviation fuel in some PNG locations has resulted in operational and cost impediments to the local aviation industry.

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 likely 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.

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. For example, based on the March 2006 Jet Fuel Price in the international market the price of kerosene was US\$80.90 per barrel whereas actual price paid by Air Niugini in Port Moresby was US\$92.65 (international terminal), a price 14.53% higher than the international price. When the cost of transporting fuel into domestic ports is taken into account these costs escalate as follows:

- Jackson Domestic US\$93.650
- Tokua US\$103.03
- Nadzab US\$104.29
- Wewak US\$124.67
- Kavieng US\$121.59
- Mt. Hagen US\$117.10
- Hoskins US\$123.14
- Tabubil US\$134.09
- Buka US\$161.01

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.⁷

Air Niugini noted that given a lack of adequate storage and refuelling facilities at other 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 passengers and the number of passengers flying. Further, 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

⁷ Air Niugini submission page 14.

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. .

Discussion

Napa Napa

There has been a significant number of comments 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 maintain prices for a further five years. The Commission sets the distribution and retail margins on fuel and considers that the returns generated via this 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 to 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. At the time of the introduction of the Napa Napa refinery as the source of supply, the Commission also introduced a new pricing model which for dual use Kerosene/Jet A1 reducing 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 also 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. Any increases at that time were more a reflection of the increasing international world prices which coincided with the change over of supply from Singapore and Australia to direct supply from Napa Napa.

In addition, Avgas initially being part of the project agreement for Napa Napa, is not produced in PNG. It is argued by the 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 used in a reasonable period of time, and avoids costly wastage of fuel (a cost that consumers in the form of airline operators would have included in the fuel price). However, it 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 of this form of fuel. As to whether the Napa Napa refinery could have produced previously 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.

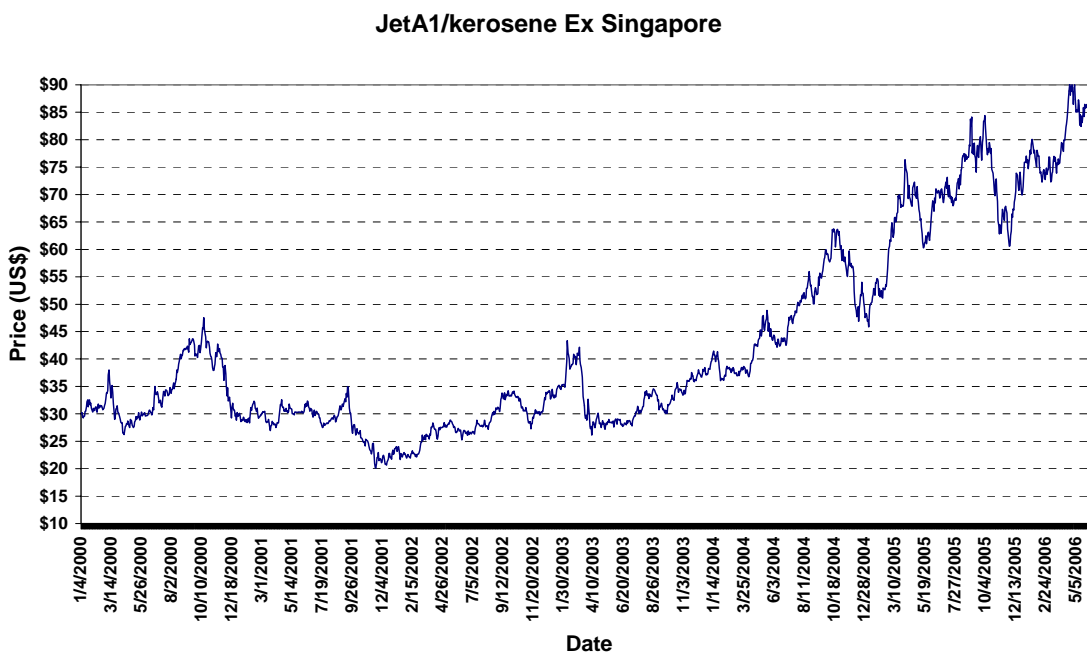
In summary, the establishment of a refinery in PNG has changed the way individual prices are determined and the sourcing of supply of petroleum products. The commissioning of supply from Napa Napa coincided with Commission's own review of pricing of petroleum products in PNG. This review effectively reduced the price of petroleum and dual purpose kerosene in PNG (essentially the impact of a price increase on fuel). 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, this 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 of 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 of the impact of rising prices on worldwide inflation. However, uncertainty in key oil producing regions has caused an increase in oil prices which has had a similar impact on airline profits.

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

Figure 5.1 Fuel prices since 2000



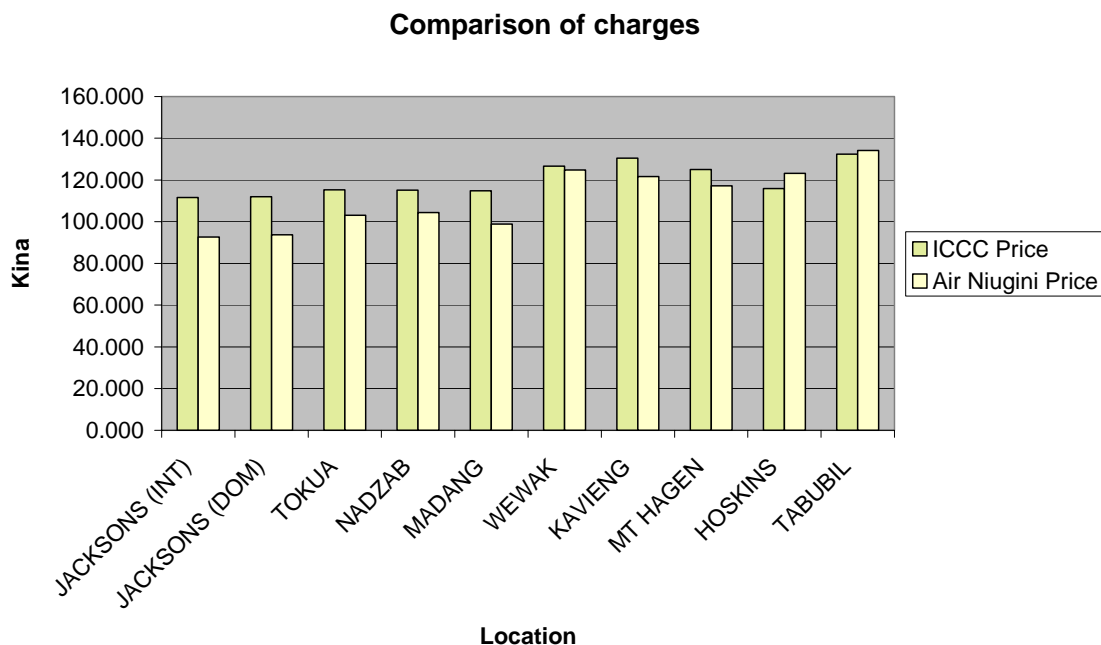
As can be seen in figure 5.1 the price of Jet A1 has increased from \$US20 (K60) per barrel in early 2000 to average price of approximately \$US85 (K254) per barrel over the

first four months of 2006. Nevertheless, there has been significant increase over the last two years in particular, and this will ultimately be reflected in airline fares. (are increase of 323%). Dual purpose kerosene in PNG over the same period increased by 170% somewhat then reflected 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 increasing 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 onto consumers through higher fares.

The Commission is also concerned that Air Niugini appears to complain about the additional overhead costs which are applied to fuel which are over and above those allowed by the Commission’s decision on fuel prices. Air Niugini has various contractual arrangements in place with InterOil and Shell for the supply of fuel to the various airports around the country. The Commission notes that as expected the price which Air Niugini pays for the Jet A1 fuel is actually lower than the allowable price under the Commission fuel price decision for kerosene which is essentially the same product. This is obviously due to 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 notes that the margin on kerosene fuel, which is equivalent to Jet A1, including transportation costs is regulated under fuel price decision. Figure 5.3 sets out the comparison of the costs of kerosene approved by the Commission against the price paid by Air Niugini.

Figure 5.3 Comparative wholesale charges, barrels of oil (March 2006)



In the majority of centres the price paid by Air Niugini is lower than the regulated price approved by the Commission. This differential represents the bulk buying power of Air Niugini in its negotiations with the various oil companies. The Commission notes that

while Air Niugini pays a premium in Hoskins and Tabubil which is higher than the regulated price of kerosene, in the areas where it consumes the vast majority, i.e. Jacksons and Nadzab, of its fuel, Air Niugini has been able to extract significant discounts compared to the regulated price. The two areas where fuel is above the regulated price are both in areas which Air Niugini does not have frequent services and there are several logistical issues with transporting and storing fuel. As such the Commission does not find that there is an issue in regard to the overheads applied to the fuel price.

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 costs 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 systematic problem in the setting of prices for aviation fuel which might require further direct regulatory intervention. However, it does acknowledge that the international price increases, which have occurred, do not show any signs of abating. Thus, airlines will need to look at longer term solutions (as they did in the 1970s) which will result in aircraft that are more fuel sufficient while being suited to the PNG geographical environment and likely load factors. The changes will take time and are not completely under the control of the airline industry or the Commission.

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. 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 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, has become uneconomic to import Avgas in bulk quantities which has lead to the importation of Avgas in drums which 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 the 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. 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 useful 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 the strategies to ensure services to these ports, if indeed this is the aim of the policy. 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 noted above
- Mandating the production of Avgas in PNG

The upgrade of air strips 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 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. Again, however, the issue is linked to the relatively low demand for services into these remote areas.

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 airport strips.

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, as InterOil not produced this 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 of 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 terms of the broader issues of fuel price to airports across the country, the Commission considers that without question, the increase in the cost of fuel has had a negative impact on the affordability of air travel. However, 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 Commission seeks comment from InterOil regarding the price at which it is able to produce Avgas given the current quantities demanded versus the import costs associated with Avgas. The Commission would also like to understand whether or not local production of Avgas would have any impact on the availability of Avgas supplies in PNG. In order for a detailed assessment of the options listed above the Commission requests submissions from all parties, including InterOil, the government and industry stakeholders as to the appropriateness of each of the options described above.

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 good and services taxes are preferred over more narrowly based taxes such as taxes on specific goods and services. Whatever taxation structure is adopted, particular care needs to be taken when considering the impact on industries that can move their operations from one country to another readily and the impact on prices for goods and services which efficiently compete internationally.

Submissions

Airlines PNG has agreed 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 will result in a need for higher wages to be paid in PNG to ensure parity with the wages offered in these countries. Airlines PNG stated:

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 built into ticket prices. However, the Department of Treasury has noted that the only tax levied on the ticket prices in PNG 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 its Australian counterparts on a flight from Cairns to PNG is in fact 300% higher than the 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 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. Airlines PNG is correct to point out that the taxation systems in Australia and PNG are different. However, this is the more due to considerable differences with the Australian and PNG economies. 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 than PNG rates. Approximately 60 to 65% of Australians are employed in the formal economy compared to only 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 tax rates in Australia.

There are three forms of tax 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 led to a 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.

As Airlines PNG has highlighted, there is an international market for skilled engineers. PNG based airlines face therefore 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 markets. In addition, there are also additional costs in the form of staff security and accommodation in PNG which further contribute to higher costs.

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)	MarginalTax 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 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 need for skilled expatriate workers 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 to the 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.

In the international market, a carrier from a country with a lower tax structure will have a cost advantage over a PNG carrier. However, 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.
- 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).

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 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 need entry into the industry on affordable fares for PNG travellers. The Commission notes that this is an issue that is not unique to the airline industry but it impacts on other industries which face international competition for skilled workers, including the mining industry.

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 included 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. 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	Port Moresby	Port Moresby	Port Moresby	Port Moresby	Port Moresby
Destination	Cairns	Sydney	Brisbane	Manila	Singapore
<i>Airline imposed charges</i>					
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
<i>PNG Govt Tax</i>					
PNG Departure tax (code:PG)	30	30	30	30	30
<i>Australian Taxes and charges</i>					
Passenger movement tax (code:AU)	85	85	85		
Intl service charge (WY)	80	94.4	45.2		
<i>CAA charges</i>					
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 as at , breakdown presented by Dept of Treasury

As can be seen, PNG government taxes represent around 4% of the total additional charges levied in 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.

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 servicing facilities as cost effectively as possible should ultimately flow through to air travellers in PNG in reduced air transport costs. However, this assumes that there is sufficient competition for these to be 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 these operators who can access overseas servicing facilities would be completely inappropriate for the provision of such funding. It should then be questioned as to whether it would raise sufficient revenue to fund the facilities in the longer term.

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 been proceeded 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 and to what extent might this be subsidised in some way.

There are a couple of alternative funding models which could be applied, 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 often be provided by way of a tax concession on this expenditure or more desirably a direct subsidy. If direct subsidies by government in support of such training if provided should ideally be directed at capital costs (e.g. Tertiary education facilities and staffing) or costs associated with the establishment of specialist facilities to train aircraft engineers. As much of the benefit will accrue to the industry, desirably there should be sufficient incentive in the standard tax allowances to encourage industry 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 are almost non-existent in the PNG context. However, students could effectively contribute to their own education and skill enhancement by being “bonded” in same way to remain with an employer of 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. This is largely due to 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 exceeded 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 levies but recognises the need to strengthen the skills base in PNG and the benefit 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

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 agreed 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 asserts that it fails to recoup the total costs of providing these services and that the charges levied are minimal as compared to 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 the relevant legislation is required to levy charges on the industry to fund its operations on a "user pay" basis. It is usual practice in other countries for such levies to be imposed on the

airline industry 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 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 deviation 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 plan its on going forward affairs.

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 Aircraft Charges Regulations made 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"*⁸ going forward.

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 the investment is typically over a long period 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 issues that need to be addressed when setting of the CAA fees and charges.

The debate and uncertainty within the industry regarding the legitimacy of the level of fees charged may warrant the involvement of the ICCC 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 issues raised by the industry while at the same time ensuring that the CAA is able to recover its costs including as appropriate return on its investments in essential infrastructure.

As a wholly Government owned entity, the Government could 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 was, if properly factored into the

⁸ CAA's Submission on the Issues Paper

setting of the fees charged, would act to reduce the CAA charges that are ultimately passed through to the travelling consumer or freight operator.

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)
- 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 equity⁹ 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 would have the affect of reducing the cost per passenger. 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 have 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 would result in an increase in the number of passengers which would mean that the CAA's fixed costs would be spread over more airline operators. The appointment of the Commission as the regulator of CAA charges would also help to restore industry confidence in the fee setting process.

5.5 Insurance costs

Under the current regulation, 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 stated 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.

⁹ The Commission would support a subsidy on loan costs by the Government, although supports access to cheaper loans funded by international and development agencies.

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. The presence of international insurance agents in the market would suggest that the requirement to use local underwriters is 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 would in fact help to lower 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.

As such the Commission's draft position is 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 will give further consideration to the issue of insurance costs as part of its preparation of the Final Report.

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”)¹⁰. 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.¹¹

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 in to 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.

¹⁰ International Air Services Commission, Decision [2002] IASC 219,

¹¹ 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 place 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 over sold 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.

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 ICCA Act. Section 70 of the ICCA 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 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 Australian Competition and Consumer Commission (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 provided an important 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 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 Commission has already noted that the lack of competitive pressure on Air Niugini is probably the main reason Air Niugini's international fares on a per passenger basis were considerable higher than comparable fares from other carriers. At the same time, the comparisons for domestic fares within PNG with other carrier rates found that they were comparable on a benchmark assessment basis. While recognising that Air Niugini was probably facing financial difficulties when the original code share arrangement between Qantas and Air Niugini was entered into, it has never been independently assessed as to whether there were alternative options that could have been adopted or whether some other form of code sharing arrangement could have been used which would have still permitted some degree of Competition between the two parties.

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 actual form of the code sharing arrangement itself also deserves careful consideration. As noted by Airlines PNG, there are various options available that affectively ensure that there is a level of competition between joint service providers on a code share route.

The Commission notes that the current Air Niugini/Qantas code share arrangement is due to be reconsidered in mid 2007. The Commission under its existing powers will be seeking further submissions from Air Niugini and Qantas as to why it should allow the continuation of the code sharing.

6.2 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 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.

Discussion

The development and use of computer reservation systems hosted by the dominant carrier has the potential to cause some distortion in the allocation of resources. Effectively a distribution network is established through the computer reservation system

which can then be used by an industry participant to its own competitive advantage by ensuring that its flights are listed more prominently on computer displays used in booking tickets. Significantly, the issue 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. Admittedly people in remote areas do not have the same level of access to the new methods of purchasing, nor do they necessarily have access to a travel agent in the PNG context. Nevertheless in general there is a shift away from agency booking arrangements within the industry towards consumers being able to make direct pricing comparisons between carriers and flight bookings rather than relying on a third party to undertake these tasks.

In terms of marketing in the PNG context, access to direct computer 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 purchasing tickets. This is a deficiency in today's increasingly web based community. This can potentially have a major impact on the access of international tourist to the PNG market as they are unable to easily identify the cost of air travel to PNG. This lack of access to what is essentially been the only international carrier has the potential to cause a significant non price barrier for tourist. Increasingly, international tourists are becoming sophisticated in their purchasing choices which require equally sophisticated responses from companies attempting to service these valuable consumers.

More importantly, in the domestic context, it gives greater importance to the role of travel agents in the selection of carriers for domestic flights. As Air Niugini plays such an important role in the training and equipping of travel agents it can create a preference for Air Niugini flights where they compete with other carriers. The recent announcement by Airlines PNG that it will be offering a Port Moresby/Brisbane service and that tickets on their service can only be obtained via the internet and email, opens up a new approach to marketing in the PNG context and is particularly directed towards the tourist travel market. It remains to be seen how Air Niugini and other parts of the industry respond to this development.

The suggestion for the introduction of a 'one stop' distribution network with a common platform for operators involved in the tourist value chain is one that the Commission considers has some merit. The Commission notes that if such a centralised distribution network was established there would be a need to ensure it did not contradict the provisions of the ICCA Act relating to collusive and anticompetitive behaviour. However, the Commission also notes the dominant role being taken by Air Niugini in the training of travel agents and the potential for anticompetitive outcomes from this practice. The Commission will examine this arrangement in more detail prior to the finalisation of this study.

6.3 Monopoly service provision on some 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 lower volume routes suggests that these routes will remain unprofitable. This situation has been largely driven by low demand which has been 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 freight, 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 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 on 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 where other operators are not able to “cherry pick” the profitable routes while bypassing the less profitable sectors. 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.

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. 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 and maintain. 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	<ul style="list-style-type: none"> 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) 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 o operate strong volume routes to obligation to service a weaker route possibly via triangulation	<ul style="list-style-type: none"> o Larger cities (eg Lae) keep choice of carrier o No Government subsidy required 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> o A transparent and direct intervention to correct market failure and ensure service continuity by covering gap between efficient costs and fares 	<ul style="list-style-type: none"> 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

Options	Pros	Cons
non-existent or highly constrained		Government
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.	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> o A transparent and direct intervention to improve certainty for operator to reinvest o Reduced risk of disruptions to service continuity 	<ul style="list-style-type: none"> 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 continuing 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 decline in demand caused by the level of affordability declining as the increases in the 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 not to intervene.
- 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 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 than the main routes. Airlines PNG has a fleet configuration that is able to handle smaller locations and airfields, but relies on the economies of a hub and spokes concept to cross subsidise some of the minor routes. Air Niugini is in a position to cherry pick the more profitable routes involving the large airports and thus place financial pressure on the viability of an airline that relies upon the hub and spoke model. In these circumstances, forcing Air Niugini to service smaller airfields may reduce its overall cost efficiency and optimised fleet configuration at a cost to the final consumer.

The Commission is interested in further submissions on the public interest and economic merit of the five different approaches outlined above to reduce the risk of cessation or disruption to regular services to low volume PNG airports. The Commission will further consider these options prior to releasing the final report.

6.4 Structure of the CAA

Currently the CAA has a broad 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 considers that there is merit in considering a separation of the various roles and responsibilities of the CAA. However, 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.

The Commission is seeking on stakeholder comments as to the merits of a possible separation of the activities within the CAA. At this stage the Commission 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 welcomes views from stakeholders as to what would be the:

- The appropriate timeframe for this separation to occur;

- The form of such separation, that is, will it be the overall roles outlined above or only some of the roles identified?
- Whether it would be more effective to undertake operational separation while keeping the various roles inside the one organisation?
- Whether some services would be better provided for by some form of private service operator. If so, which services could be better provided by private, for profit businesses?

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 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 ROUNDRIP	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	Palembang	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 ONEWAY	FARE	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".¹²

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 ¹³

Emphasis added.

¹² 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.

¹³ 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.