The Oil Drum: Australia & New Zealand
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A Tale of Profit and Loss - The Future of Air Travel – Part 2

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Topic: Economics/Finance
Tags: air transport, australia, qantas, virgin [list all tags]

This is a guest post from Cameron Leckie of ASPO Australia.

The first post on this series on the future of air travel[1] looked at the fuel economy of the aircraft fleets in service with QANTAS and Virgin Blue on fuel economy and fuel economy per passenger perspective. Not surprisingly, the smaller aircraft were more economical than the larger aircraft, however the larger aircraft, in general, were more economical on a per passenger basis. Thank you for all those who commented on the previous post and the information that you provided.

This post gets to the crux of the matter. Profit and loss! No business can survive on sustained losses; sooner or later it will become insolvent. This post will investigate how long Australia's two largest airlines, QANTAS and Virgin Blue can remain profitable in the era of high oil prices.

How long can they remain profitable?

This post will examine in some detail Australia's two largest airlines with the aim to establish how long they will remain profitable in an era of high oil prices.

The approach taken is to develop growth figures across a number of categories based on the airlines historical data. The data has been obtained from the financial reports of both airlines.[2] The time frame that has been used is from FY 2003/04 through to 2006/07. The historical growth rates will then be projected forward until 2018. After developing the base case, a number of differing scenarios will be developed that will provide an indication of how long we can expect the airlines to remain profitable. The factors that have been considered and the per annum growth rates over the period are displayed in table one.

Factor	QANTAS Group Growth pa	Virgin Blue Growth pa	Description
Revenue	8.4%	9.9%	Data calculated from financial statements
Expenses	9.3%	10.2%	Data calculated from financial statements
Expenses (less fuel)	5.1%	6.7%	This has been calculated due to the different growth rates in non fuel expenses and fuel expenses.
Fuel	36.5%	29.3%	Data calculated from financial statements
Available Seat Kilometres (ASK)	4.3%	8.3%	Measures the airlines capacity growth.
Revenue/ASK	3.5%	1.1%	Measures revenue per ASK
Expenses/ASK	4.3%	1.3%	Measures expenses per ASK
Fuel/ASK	27.5%	14%	Measures fuel costs per ASK

Table One: Factors considered in determining the future profitability of QANTAS and Virgin Blue.

This table shows that expenses have been growing at a faster rate than revenue for the last four financial years, mainly due to the significant increase in fuel costs over that period.

To determine the airlines future profitability, the revenue and expenses of the airline have been related to its capacity, or Available Seat Kilometres (ASK) giving two values, being revenue per ASK (R/ASK) and expenses per ASK (E/ASK). For as long as an airline can keep R/ASK greater than E/ASK an airline will remain profitable.

Using the historical growth rates, a baseline (or business as usual) projection has been made for the period 2008 to 2018. The non fuel and fuel expenses have been calculated separately and summed to provide the projected expenses. Using this baseline projection, fuel as percentage of total operating cost, increases from 24% in 2007 to 58% in 2018 for QANTAS and 27% to 75% for Virgin Blue. Chart one and two detail the future profitability of QANTAS and Virgin Blue respectively using this baseline.

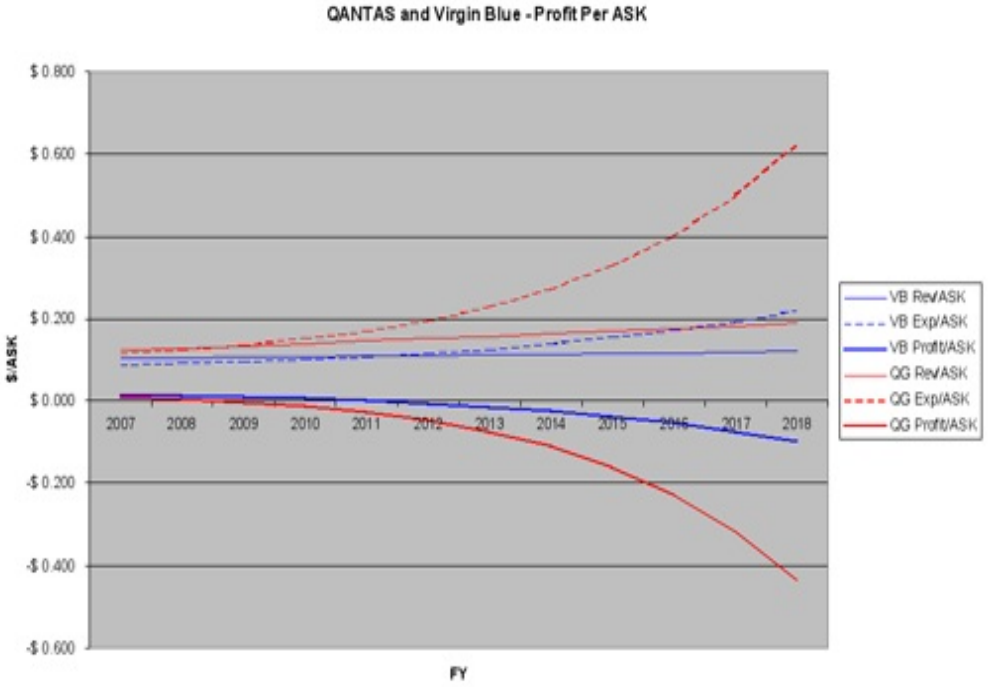

Chart One: Baseline for the future profitably of QANTAS and Virgin Blue. Based upon historical growth rates for the period FY 2003/04 to FY 2006/07 projected to 2018.

Using this baseline, QANTAS will make a net loss from 2009 and Virgin Blue from 2012. Over time the losses per ASK increase and at some point the airlines will become insolvent. This baseline will be now used to develop a number of other scenarios. The scenarios that will be used are described below:

- **Scenario one**. Revenue, fuel costs and capacity growth continues to grow at historical rates whilst on-fuel costs reduce.
- **Scenario two**. Revenue and fuel costs continues to grow at historical rates (calculated according to provided capacity), whilst non-fuel costs and capacity reduce.
- **Scenario three**. Fuel costs continues to grow at historical rates (calculated according to provided capacity) whilst revenue, non-fuel costs and capacity reduce.

- **Scenario four**. Fuel costs remain constant relative to capacity whilst revenue, non-fuel costs and capacity reduce.
- **Scenario five**. Fuel costs remain constant relative to capacity whilst revenue, non-fuel costs and capacity increase at historical rates.

2% per annum has been used as the figure declining costs, capacity growth and revenue. Obviously, higher or lower figures will result in changes to the predictions developed.

Some of these scenario's assume that the airlines can increase revenue and reduce non fuel operating costs in an era of high oil prices. Oil prices have been negatively impacting airlines for some years now. For example in the QANTAS annual report of 2005 it stated that '*Qantas' greatest challenge remains the cost of fuel, which we believe will stay at the current high levels*.[3] As a result airlines for a number of years have been reducing costs. The easy cost saving options have already implemented, meaning that to further reduce costs will be increasingly difficult. The airlines will no doubt continue to raise fuel surcharges in an effort to increase revenue. Unfortunately for the airlines, each fare increase will result in fewer passengers, meaning that their Revenue Seat Factor or Load factor will fall, leading to further capacity reduction.

Chart two and three provides a summary of the profit/loss per ASK for the base case and the five scenarios for QANTAS and Virgin Blue respectively.

Chart two. Summary of profit/loss for QANTAS against the base case and four scenarios.

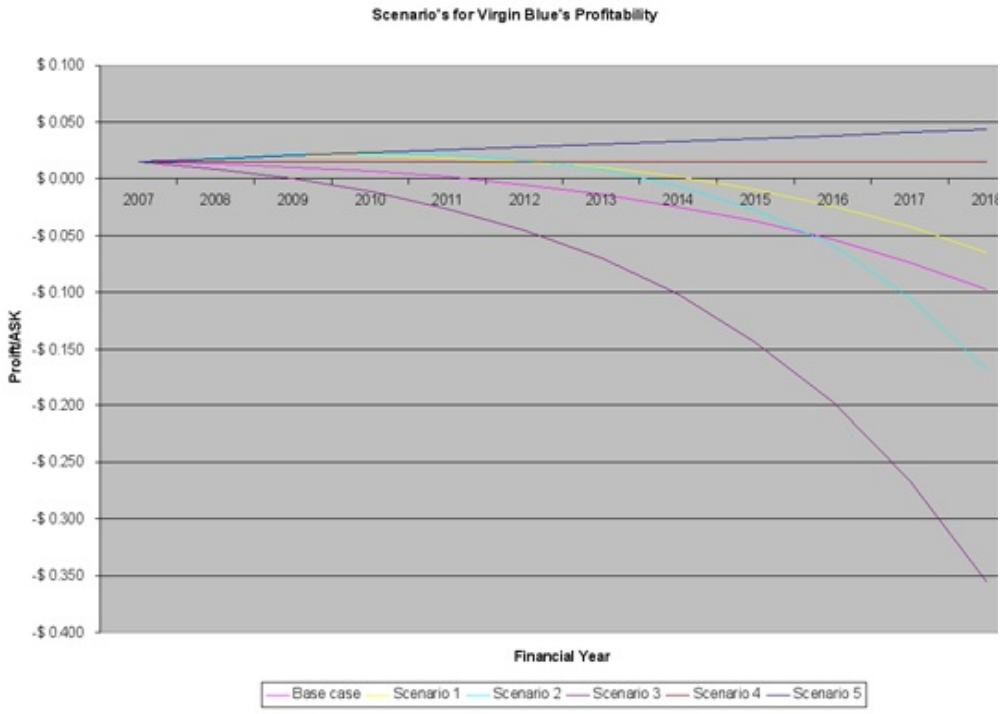

Chart three. Summary of profit/loss for Virgin Blue against the base case and four scenarios

This chart shows the fairly sobering picture that, with the exception of scenario four and five, both QANTAS and Virgin Blue are likely to become unprofitable between now and 2018. The scenario's have not been assigned probabilities, however my gut feel is as follows:

- The price of jet fuel will continue to increase at or above the current rate as we approach and past peak oil.
- Both airlines will slow their capacity growth over the next couple of years before reducing it.
- Both airlines will attempt to reduce their non-fuel operating costs, although this may be difficult due to inflation.
- Revenue will decrease over time as fewer passengers can afford to travel, due to increases in the cost of air travel and the worsening economic situation associated with the onset of peak oil. I don't see passenger numbers beginning to fall for a year or two yet, as I don't think that the pinch from higher fuel prices has as yet significantly changed spending habits (either that or we are just going further into debt?).

This most closely resembles scenario three, meaning that as early as 2010, both of Australia's major airlines could cease to be profitable. At some point, if they continue to be unprofitable they will become insolvent.

Winners and losers

The impact of Australia's two largest airlines collapsing would be enormous. But, as in all situations, there are winners and losers. The losers would include:

- Those people who work for the airlines.
- Those individuals and funds managers invested in airlines, airports and associated infrastructure.
- The industry that supports aviation, including component manufacturers, maintenance and repair, air traffic control, catering etc.
- Airports, including the corporations that own them, security staff, retailers operating from

airports, car hire companies, taxi drivers.
- Tourism, including tour operators, hotels, restaurants and retail outlets in tourist centres.
- Organisations that rely upon air travel for movement of personnel for meetings, courses and work such as mining, government and many other businesses.

The winners list is somewhat shorter:

- Public transport such as trains and buses.
- Long distance bus companies.
- Telecommunications companies, particularly those support tele-conferencing, video tele-conferencing and other technologies allowing people to work from home.
- Our climate.
- Oil depletion may slow due to reduced fuel demand.

Hopefully Cambridge Energy Research Associates (CERA) vision of an undulating oil production plateau[4] will eventuate (see here for a response to CERAs view[5]), demand will soften and the airlines will remain marginally profitable for the next decade or two. Personally however, I don't ascribe to hope as a method of fixing problems, particularly problems of such magnitude.

Inaccuracies

The model is relatively simple, and as a result has some inherent inaccuracies. These include:

- Not all revenue is derived from passengers. For example, only 79% of QANTAS' revenue came from passenger revenue in 2006-07. The bulk of the remainder came from air freight and tours and travel services. Higher oil prices will likely have a negative effect on these revenue sources as well, so this should not have a significant impact on the model.
- Does not specifically account for changes in foreign exchange rates and changes in the oil price. My first model attempted to oil prices and foreign exchange rates to calculate total oil costs, however there was too many unknowns (such as hedging strategies) to make this viable.
- Does not consider the performance of differing groups within the airlines. For example QANTAS has domestic, international, regional and Jetstar amongst its groups. The performance amongst these groups could vary significantly. Whilst operating statistics are available for each of these business units, the financial data is not so easy to source.
- Historical growth rates are not an accurate prediction of future growth rates. To counter this, the model will be updated over time using a four year moving average. The FY 07/08 full year results will be interesting.
- The impact of oil supply disruptions has not been considered, however with minimal capacity to surge current oil production, we are probably only an extreme weather event, terrorist act or geo-political event away from physical shortages. This would most likely be a very costly for airlines.

Conclusion

This analysis provides some very worrying findings. Both of Australia's major airlines could become unprofitable within a couple of years if current trends continue and unviable at some point shortly after that. There is some hope that a reduction in capacity and non-fuel operating costs with a steadying of fuel costs may allow the airlines to remain profitable, but with peak exports likely past and peak oil in the not to distant future, this is a slim hope.

From a risk management perspective, the collapse of airlines would have a major negative impact on the Australia economy. Based on this analysis, it is almost certain that the airlines will collapse, it is only a matter of time unless fuel prices are reduced, and quickly, to a more manageable level over the long term. Declining exports and discoveries whilst demand continues to increase, means

that it is unlikely that this will occur. The net result is that Australia faces an extreme level of risk.

With so much at stake, it would be reasonable to expect that our nation's leaders would be doing everything in their power to prepare the nation for a new age of higher oil prices. Over recent weeks, there has been much discussion by the major political parties on issues such as FuelWatch[6] and reducing either the GST or excise on petrol, but very little on practical methods of reducing our dependence on oil. I will leave it to you to decide how well we are being served by our leaders on an issue of such vital importance to the future of our nation.

The final post in this series will consider the airlines response to peak oil, particularly looking at alternative fuels and new aircraft types and determine whether there is any hope for airlines and air travel in a world of high oil prices.

1 http://anz.theoildrum.com/node/4143#comments_top
2 http://www.qantas.com.au/info/about/investors/index and http://www.virginblue.com.au/AboutUs/Virginbluecorporateinformation/Investorinformation/index.htm
3 http://www.qantas.com.au/infodetail/about/investors/2005AnnualReport.pdf
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6 http://assistant.treasurer.gov.au/DisplayDocs.aspx?doc=pressreleases/2008/023.htm&pageID=003&min=ceb&Year=&DocType=0