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Will anything curb our increasing demand for flying?

IN THIS ISSUE:

Will Anything Curb our Increasing Demand for Flying?

***Professor Colin Bamford**, of the University of Huddersfield, and a Chief Examiner, discusses the determinants of the demand for air travel.*

Key words
Derived demand
Indirect taxation
Exchange rates
Price elasticity of demand

Exam Board	AS	Unit	A2	Unit
AQA	✓	1(3.1.2) & 2(3.2.1)	✓	4(3.4.2)
Edexcel	✓	1(1.3.2)	✓	4(4.3.7)
OCR	✓	F581	✓	F584
WEJC	✓	1(B) & 2(C)		
CCEA	✓	1 & 2		
Int. Bacc.	Standard 2.1			
Cambridge Pre-U	Microeconomics (b) and The National Economy (i)			

The year 2010 has been a difficult one for airlines and their passengers. For example:

- In April, the fall out from the eruption of Mount Eyjafjallajokull disrupted the travel plans of millions of travellers and resulted in financial losses for many airlines.
- Protracted industrial action by some UNITE workers for British Airways (BA) let to disruption, further losses and more worryingly, a loss of confidence and prestige in the eyes of their customers.
- The new coalition government announced that there would be no third runway at Heathrow despite widespread support from the City, from business and from airlines.
- The prospect of additional taxes on flying was stated in the new government's emergency budget in June, in addition to the 50 per cent increase in Air Passenger Duty due to come into force in November 2010.

These particular problems were on top of the on-going financial losses that were being experienced by most airlines as a consequence of **global recession**.

The demand for air transport

The demand for air transport is a **derived demand**. In other words, air transport is demanded because it provides passengers and freight users with a means to an end. This could be a holiday outside the UK, a business trip to an overseas meeting or the speedy export of valuable cargo. Such traffic may be on a scheduled service or on a non-scheduled service, usually the domain of tour operators such as Thomas Cook or TUI which have their own airlines. Scheduled services include those provided by national airlines such as BA and low cost carriers such as Ryanair, Europe's largest airline.

The determinants of demand for air transport are complex and not necessarily easy to identify. At a national market level, more obvious ones include:

- real incomes/GDP growth;
- the value of the pound sterling compared with the dollar and the euro;
- ticket prices to some extent depend on the price of aircraft fuel, traded in $US, and taxation on passengers such as Air Passenger Duty (APD);
- airport capacity issues, including flight punctuality;
- other behavioural factors such as environmental awareness, consumer confidence;
- price and availability of substitutes such as Eurostar, ferry services and holidays taken within the UK.

The impact of recession

Of these determinants, the state of the economy and its effect on discretionary incomes is the most significant in the short term. Global recession has hit the airlines hard. In 2008, as the recession began to bite, there was less than a 1 per cent fall in the number of terminal passengers at UK airports. 2009 was a different story as Figure 1 clearly indicates. The fall in numbers has persisted into the current year, although the rate of decrease on the same quarter in 2009 has slowed. So, the simple answer to "will anything curb our ever increasing demand for flying?" can be summed up in one word... Recession!

Currency movements

A second factor that can affect the demand for air travel, especially for leisure purposes, is the value of the pound against the dollar and the euro. These relationships for the last three years are shown in Figure 2. As this shows, the pound has depreciated quite markedly against both the dollar and the euro over this period. There was a particularly marked depreciation of over 30 per cent against the dollar from mid-2008 to March 2009. By the end of 2008 the pound and the euro almost reached parity.

The main effect of changing currency values is on the leisure destination. So, if the pound depreciates against the dollar the cost of holidays in the USA and in countries with a currency linked to the dollar, becomes more expensive. A **time lag** can be expected given that most holidays are planned and booked well ahead of departure.

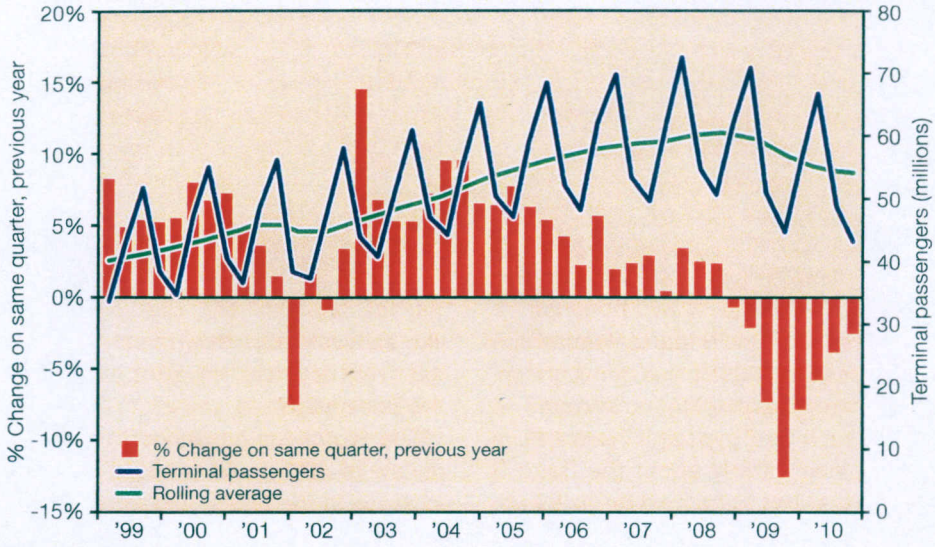
Crude evidence of the effect of currency changes can be shown by looking at the origin and destination of terminal passengers at UK airports. Table 1 shows that the number of passengers travelling to North America was hit hardest following the steep depreciation of the dollar. Although still a decline, the percentage change is much lower between the first quarter in 2009 and that in 2010 during which the pound had appreciated against the dollar. Travel to and from Europe is less easy to explain in these crude terms since there has been an increase in leisure travel to non-euro area countries such as Turkey and Croatia at the expense of Spain and Portugal.

Air Passenger Duty

Air Passenger Duty is an indirect tax which is charged for all passengers flying from a UK airport including transit passengers. It is an increasingly controversial tax that has been collected by the airlines since 2004 when the rate was just £5 for European destinations and £20 for other destinations. The tax doubled from February 2007 to October 2009 when APD was restructured. The current position is shown in Table 2.

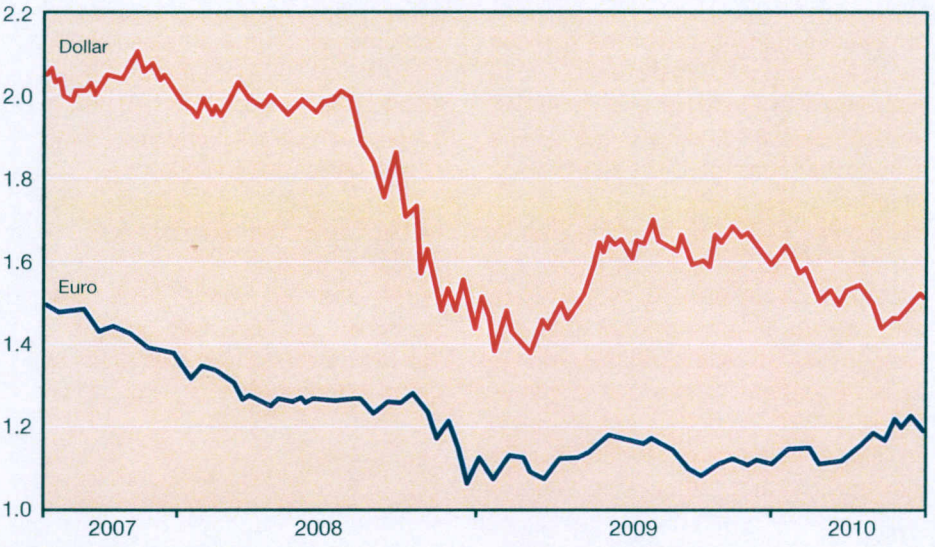
The distance used for banding is that between London and the capital city of the destination country. This formula has been heavily criticised by some tourist destinations. A trip to Barbados, for instance, falls into Band C yet a trip to San Francisco, which is a longer

Figure 1: The number of terminal passengers at UK airports by quarter



Source: CAA, *Airport Statistics*

Figure 2: Pound vs. Dollar and the Euro



Source: *The Daily Telegraph*, 16 July 2010

Table 1: Terminal passengers at UK airports by origin/destination (m)

	% change Quarter 1 compared with a year earlier	% change in rolling year Quarter 2 in 2009 to Quarter 1 in 2010 compared with Quarter 2 in 2008 to Quarter 1 in 2009
Domestic	-4.8	-6.6
Europe	-3.3	-6.3
North America	-3.0	-7.3
Rest of World	+3.2	+2.8
Total	**-2.5**	**-5.3**

Source: CAA, *Airport Statistics*

Table 2: Rates of Air Passenger Duty since November 2009

	November 2009 to October 2010	November 2010 onwards
Band A (0-2000 miles)	£11	£12
Band B (2001-4000 miles)	£45	£60
Band C (4001-6000 miles)	£50	£75
Band D (over 6000 miles)	£55	£85

The above rates double where passengers travel in premium economy, business or first class.
Source: CAA, *Airport Statistics*

distance, is in Band B due to Washington being less than 4,000 miles from London. Elsewhere, developing economies in Africa such as Egypt and Kenya have complained bitterly about the Band B charge that has to be paid by visitors to their countries.

Whether APD actually deters air travel is difficult to assess. It does make some popular destinations seem relatively less competitive than others and the increase has been a massive 325 per cent on long haul flights to Malaysia and Australia. Nonetheless, APD is just one of the factors that can affect the decision to travel.

One thing that must be made clear is the APD is not an environmental tax, contrary to what some air passengers may believe. It is an **excise tax**, the revenue from which goes directly into the Treasury coffers. There are negative effects of APD in addition to the impact on some developing economies as previously stated. What is particularly negative is that it gives airlines little incentive to invest in newer aircraft as it has to be paid *irrespective of the CO_2 emissions from the aeroplane*. APD can also deter some passengers from offsetting the carbon emissions from their flight in the false belief that APD is a green charge.

In June 2010, the new Chancellor of the Exchequer, George Osborne, stated that the coalition government would "continue to explore changes to the aviation tax system, including switching from a per passenger to a per plane duty".[1] This move (which had been promised but aborted by the previous Labour administration) is very appropriate from an environmental standpoint. It gives airlines a massive incentive not only to fill their planes but to invest in new planes that are more fuel efficient than older aircraft such as the Boeing 747's that are still heavily used for longer haul trips. The switch would be particularly welcomed by most low cost airlines like easyJet since they mainly operate relatively new, fuel-efficient planes like the Boeing 737.

The worry for passengers is that a review of APD could result in a further increase in the taxes paid for air travel. According to recent Treasury estimates, the Chancellor is looking to collect £3.8bn from air travel in 2014-15 compared to £1.9bn in 2009-10. This estimate though is well below the £5.3bn referred to in the Liberal Democrat election manifesto, which had also given full support to a per plane rather than per passenger basis for APD.

Is demand for air travel price elastic?

When the economy pulls out of recession, an important question that has to be addressed in the debate about air transport is whether demand is price elastic. This particularly applies with respect to the rate of APD given its importance in the overall price of air tickets.

When APD was at its pre-November 2009 level, it seems that compared to the effect of real incomes and GPD growth, a small change in APD would have only a marginal effect on the demand for air transport. But as yet research on this issue is very thin.

In 2007, the Civil Aviation Authority (CAA) carried out a survey of leisure passengers which concluded that a significant increase in ticket costs would limit the growth in demand. The study was based on a typical average European return fare of £73. Passengers were asked for their response to an increase in ticket prices of £10, £20 and £30 respectively. The results are summarised below:

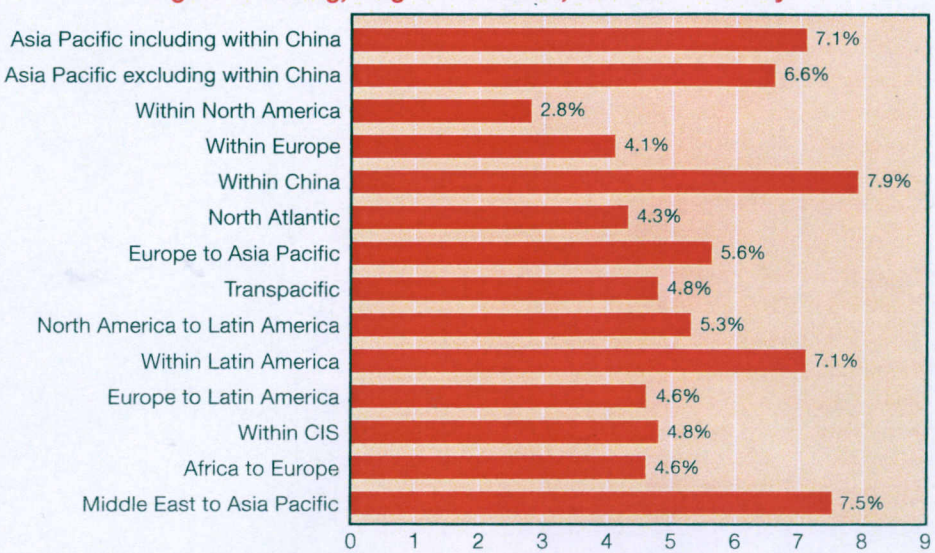
- a £10 increase, 14 per cent on the £73 fare, would result in less than 20 per cent of passengers deciding not to travel;
- a £20 increase, 28 per cent of the fare, would lead to 40 per cent reduction in demand;
- a £30 increase would have the most drastic effect with 65 per cent of passengers refusing to pay a price rise of 42 per cent.

Table 3: Key indicators of air transport growth, 2009-2029

	% change per year
Airplane fleet	3.3
Number of passengers	4.2
Airline traffic (revenue per passenger km)	5.3
Cargo traffic (revenue tonne km)	5.9

Source: www.boeing.com/commercial/cmo/forecast

Figure 3: Boeing, long-term market, forecast summary



Source: www.boeing.com/commercial/cmo/forecast

1. *The Daily Telegraph*, 22 June 2010.

Although based on crude data, the CAA's research provides a valuable insight into the price elasticity of demand for leisure travel. If the increase in ticket price is high enough, then it would seem that the demand for air transport for this purpose is price elastic. Low fare airlines such as Ryanair, easyJet, Jet2 and flybe would be adversely affected if this price increase through indirect taxation were to come about.

The results from the CAA's survey need to be qualified because:

- the data quoted are estimates based on interviews carried out at airports;
- business travel is likely to be much more price inelastic;
- it is not possible to say what the effect of price increases might be on more expensive flights, long haul in particular.

The future demand for air transport

The most recent estimates of future air passenger demand can be obtained from the website of the Department for Transport (www.dft.gov.uk/aviation). The mid forecast from 2010 to 2030 is an estimated increase in air transport demand of over 70 per cent. The state of the economy as evidenced in the change in GDP has been very significant in explaining the recent change in demand for air travel from UK airports. Globally, this assertion is clearly repeated in Boeing's latest market outlook for the period 2010 to 2029. This stated that "worldwide economic activity, reflected in the global GDP, is the most powerful driver of growth in commercial air services and the resultant demand for airplanes".[2]

Boeing's forecasts and the global distribution of future air traffic growth are shown in Table 3 and Figure 3. The forecasts are based on an assumption that the world economy will experience an average GDP growth of 3.2 per cent per annum over the period.

The geographical forecast of annual traffic growth in Figure 3 is particularly interesting and clearly relevant from Boeing's standpoint as it expects to sell most new aircraft in the Asia Pacific market. India and China will see the highest rates of market growth. Developed markets in Europe and North America will continue to grow at a rate above the projected growth in GDP.

The next twenty years will see a radical transformation in the global fleet of aircraft. High fuel costs will continue to compel airlines to replace older aircraft with new fuel efficient planes such as Boeing's new 787 Dreamliner which burns less fuel that its 747's and emits less CO_2 per passenger than a private car with one occupant.

Questions for discussion

1. Explain why the demand for air transport is a derived demand.
2. (i) Using the information from the CAA's survey of leisure passengers, calculate the price elasticity of demand for the three increases in ticket prices.
   (ii) Discuss the business significance of the estimates you have calculated.
3. Discuss the case for and against a switch in APD from being a tax per passenger to a tax per plane.
4. What might you infer from Table 3 about the changing efficiency of air transport over the period to 2029?
5. Comment upon the wider economic implications of the projected increase in global air transport demand over the next 20 years.

Summary of key points

- **Recession has had a short term effect in curbing the demand for air transport globally and from the UK.**
- **As the 'green shoots' of recovery emerge, then the market will continue to increase in line with market forecasts.**
- **At present, one unknown is the future rates for APD which, if increased, could restrict some of the projected growth.**
- **Notwithstanding, all the evidence points to an ever-increasing demand for air transport, closely aligned to growth in the global economy.**

with Chief Examiner,
Robert Nutter

1. Investigate how the EU Emissions Trading Scheme works and how it applies to air travel.
   http://en.wikipedia.org www.iata.org
   www.greenaironline.com/news www.euractiv.com
2. Research the key environmental benefits of the Boeing 787 (Dreamliner).
   www.newairplane.com www.boeing.com/commercial/787family
3. Investigate the reasons for the growth in domestic air travel within the UK in recent years.
   http://www.airportwatch.org.uk
   See the briefing paper on the expansion of regional airports.
   http://www.aef.org.uk/downloads//AW_Regional_Airports_Paper_Sept2009.pdf
4. Environmental pressure groups such as Friends of the Earth and Plane Stupid have regularly expressed concern about the need to reduce the demand for air travel. Investigate their views.
   Search 'air travel' on FOE web site.
   http://www.foe.co.uk http://www.planestupid.com
5. Investigate how the British Airways voluntary carbon offsetting scheme works.
   http://www.britishairways.com
   Search 'carbon offsetting' on the British Airways web site.

2. www.boeing.com/commercial/cmo/forecast.