Rt Hon George Osborne MP
Chancellor of the Exchequer
HM Treasury
Horse Guards Road
LONDON SW1A 2HQ

Tuesday 9 December 2014

Dear Chancellor,

THE SMITH COMMISSION – DEVOLUTION OF AIR PASSENGER DUTY

As the leaders of Scotland’s largest airports we strongly welcome the findings of the Smith Commission which has recommended the devolution of Air Passenger Duty (APD) to the Scottish Parliament.

APD is the highest air passenger tax in the world and it is damaging our economy, our tourism potential and our ability as a nation to prosper.

We would urge you, therefore, that you make an early commitment to deliver on the financial powers recommended by the Smith Commission, including the devolution of APD, as soon as possible.

Due to the size of the market (population) in Scotland, we will always find it more difficult to attract and sustain new routes than other more densely populated parts of the UK and Europe. This situation is compounded further by APD, which simply serves to artificially depress demand and dissuade airlines from basing aircraft here.

The stark impact of APD was highlighted in a 2012 report commissioned by our airports which warned that in addition to costing Scotland two million passengers per annum, by 2016, APD will cost the Scottish economy up to £210 million in lost tourism spend per annum.

Following a year of unprecedented success and attention for Scotland it is imperative the UK Government harnesses the opportunity presented by the Smith Commission and acts swiftly to devolve APD to Scotland. In doing so, you will deliver a tremendous boost to our country’s tourism industry and our economy as a whole.

We are aware of and understand the concerns which have been raised by our counterparts in England regarding APD, however, we believe that any tax competition across the border would be minimal and is not in itself a good reason to prevent the devolution of the tax to Holyrood. In almost all cases, Scottish airports do not compete substantially with airports in the north of England for flights – our most energetic competition is in Europe where there is no tax at all.

More...
What is more, APD is a self-contained tax and does not interact with the rest of the fiscal system. This makes it inherently suitable for devolution as the partial, trouble free devolution to the Northern Ireland Assembly has shown.

As Chancellor of the Exchequer we would seek your reassurances that the UK Government will not only fulfil its commitment to honour the recommendations set out by Lord Smith of Kelvin to ensure the Scottish Parliament receives the new powers it was promised, but that it will accelerate the process of devolving APD.

Yours sincerely,

Amanda McMillan  
Managing Director, Glasgow Airport

Gordon Dewar  
Chief Executive, Edinburgh Airport

Carol Benzie  
Managing Director, Aberdeen International Airport
The Smith Commission: A Case for APD

Date: 28 October 2014
Introduction
This paper represents the agreed position of Scotland’s largest airports – Aberdeen, Edinburgh and Glasgow. All Scottish airports, along with Scotland’s main airlines have campaigned long and hard to reduce or abolish Air Passenger Duty (APD). We contend that APD in its current form amounts to an unnecessary tax on Scotland’s domestic and global connectivity.

We welcome the opportunity created by the work of the Smith Commission to put the case for the devolution of APD to Holyrood, which would allow, in line with the Scottish Government’s commitment, its reduction and eventual abolition.

The UK Government has significantly increased rates and restructured APD since 2007. Rates for short haul travel have increased by around 160% with long haul rates increasing by between 225% and 360%. Given its location on the periphery of Europe, Scotland and its economy is particularly reliant on aviation and any loss of connectivity will have a significant impact on the country’s competitiveness.

We believe that APD as it stands is damaging Scotland. It is damaging our economy, our tourism potential and our ability as a nation to prosper.

In addition to costing Scotland two million passengers per annum, a 2012 report, commissioned by Scottish airports, warns that, by 2016, APD will cost the Scottish economy up to £210 million in lost tourism spend per annum.

In the same period, we understand that APD in Scotland will raise £200m for the Treasury.

This tax has now hit its tipping point where the damage that it is doing to Scotland outweighs the benefits, which can only really be measured in terms of revenues for HMT.

The Treasury, despite clear and sustained evidence that it is damaging our country, is implacable – the tax stays and indeed will only increase. UK politicians, some of whom represent Scottish constituencies, have consistently avoided any meaningful discussions on the issue.

We are therefore of the opinion that the Scottish Government, directed by the Scottish Parliament, is best placed to manage this tax in a way that benefits Scotland.

APD presents an opportunity for this process – should primary legislation not be required for its devolution, it can be devolved before the 2015 General Election as an act of good faith. Given the changes in Northern Ireland in this area this seems possible.

The economic benefits of such a move would be real and swift.

Background
APD is an excise duty which is levied on the carriage of chargeable passengers from a UK airport on chargeable aircraft. APD was extended to smaller aircraft including business jets in April 2013. This includes all flights on aircraft with an authorised take-off weight of 5.7 tonnes or more. The higher rate of APD applies to flights on aircraft of over 20 tonnes but with fewer than 19 seats.

APD rates are set by the UK Government. However, the Finance Act 2012 devolved to the Northern Ireland Assembly (NIA) the power to set APD rates on direct long haul flights from Northern Ireland. With effect from 1 January 2013, the NIA legislated to set these devolved rates at £0. Northern Ireland’s
direct long-haul flight rate is administered on the Northern Ireland Executive's behalf by the UK's tax authority, HM Revenue and Customs (HMRC).

APD is by far the highest air passenger tax in the world, despite the UK being an island nation. In April 2013, the Republic of Ireland scrapped its equivalent of APD entirely, leaving the UK as one of just five countries in Europe to levy a passenger departure tax.

The tax raised £2.9bn in 2013-14, (approximately £200m from Scotland) however, research by PwC suggests that reducing or abolishing APD would raise as much or more money for the wider economy. In addition, cutting or abolishing APD would create sustainable jobs and encourage the development of businesses across all sectors in the UK, not just in aviation and tourism.

APD is not an environmental tax as some suggest and it does not have a positive impact on emissions. Indeed, our high APD rates have the effect that inevitably some people are incentivised to take connecting flights via European airports such as Amsterdam's Schiphol – in order to avoid APD - rather than fly direct. This results in a net increase in carbon emissions.

The Calman Commission in 2009 included APD in the package of powers to be devolved to Holyrood in the Scotland Act of 2012 and was the only substantive recommended transfer that was excluded from the devolution process at that time, doubtless because of the Treasury's opposition to such a move.

The Smith Commission is now considering the new package of powers and responsibilities that will transfer to Holyrood and is expected to conclude in 2015 to allow the new Westminster Government to consider proposals after the next UK election.

Scotland's business and tourism industry, its airports and the majority of its politicians have agreed that there is a strong argument and willingness to reduce or abolish this tax that hurts tourism, inward investment and reduces access to international markets.

We believe that devolution of the tax to Scotland is the best way to achieve this.

The current position

There is a broad political consensus in Scotland that APD cannot continue to exist in its current form.

The UK and Scotland's political parties have long considered APD in their deliberations on a post-independence referendum devolution plan and their published proposals are as follows.

Conservative: '...we consider that Air Passenger Duty should be devolved...in our judgement there is no need for fresh legislation in order to allow this to occur.'

Liberal Democrat: 'Responsibility for Air Passenger Duty for flights from Scottish airports should be allocated to the Scottish Parliament, to complement existing powers on the environment, transport and economic development'.

Labour: 'Our interim report considered whether there was scope for devolution of air passenger duty, subject particularly to EU rules. We received a number of considered representations, and continue to note that departures from Highlands and Islands airports are already exempt from this tax.'
Given the pressure to reduce this tax from airlines and others and the risk of tax competition which would be created, we are not now convinced that devolution should be progressed until further consideration is given to the environmental impact and how else this tax might be reformed.

Scottish National Party: ‘Full responsibility for air transport would include competence over Air Passenger Duty, and would facilitate more effective route development and promotion of associated business and inbound tourism.’

Scotland’s leading business and tourism organisations also agree that APD is unfair, and a restriction on our collective ability to drive connectivity, and should be changed.

The submissions to the Commission from VisitScotland, Scottish Chambers of Commerce and SCDI all support the Scottish airports’ view.

The case for devolution of APD

It is recognised, both through our own joint study in 2012 and more recent investigations by airlines that APD has a negative impact on Scotland’s economy and connectivity.

Indeed, it is estimated that at current levels it could cost Scotland more than two million passengers per year by 2016.

In addition, our report warns that, by 2016, APD will cost the Scottish economy up to £210 million in lost tourism spend per annum.

The UK’s APD is the highest in the world, and World Economic Forum data places the UK 139th out of 140 countries in terms of tourism competitiveness with respect to air taxes and charges, with only Chad being placed lower.

Compared to those countries in Europe which still levy such a tax, it is charging on average 5 times more; and in 22 out of 28 EU countries, no APD is levied at all, with several countries who were charging APD now abolishing or freezing it.

The impact of APD goes far beyond the boundaries of our airports, not just in Scotland, but across the world. Airlines tell us that they see it having a negative impact on passenger flows, which ultimately influences their commercial decisions on where to put planes.

Simply put, it hinders Scotland’s ability to compete for new routes, and puts the majority of our international competitors in a better commercial position than Scotland.

To put this in context, APD is typically higher than the local airport charges (known as landing charges), even on the most basic tariffs. This means that even if the airport let an airline land for free, we would still be £13 per passenger behind our European competitors such as Copenhagen.

This is a key competitive factor.

We do not share the concerns expressed by the Scottish Labour Party. APD is a self-contained tax, and does not interact with the rest of the fiscal system. This makes it inherently suitable for devolution as the partial trouble free devolution to the Northern Ireland Assembly has shown.
We believe that any tax competition across the border would be minimal and is not in itself a good reason to prevent the devolution of the tax to Holyrood. In almost all cases, Scottish airports do not compete substantially with airports in the north of England for flights — our most energetic competition is in Europe where there is no tax at all.

Furthermore, we do not believe that any decision on devolution should be delayed until environmental impacts are considered.

Indeed, recent analysis from Transport Scotland has shown that the estimated impact on emissions will not change markedly either way.

By applying a 50% reduction in APD in Scotland, the return ticket price will be cut by between 3.7% and 8.8% and passenger numbers will increase by an estimated 742,000 - a rise of over 3%. Assuming a linear average relationship between passengers and emissions suggests the reduction in APD could increase aggregate emissions by 34 ktCO2e (0.034 MtCO2e) over the course of a full year. This represents an increase in transport emissions of just over 0.25% over the current total.

As mentioned previously in this document, reducing APD will incentivise more direct travel from Scotland, and will likely reduce the need to transfer through European airports to avoid paying APD. We simply do not understand the foundation of the Scottish Labour Party’s concerns here.

Aviation’s contribution to global carbon emissions should be put in context. If we grounded every UK flight tomorrow, global man-made CO2 emissions would be reduced by 0.1%. All UK domestic and international aviation accounts for around 6% of UK CO2 emissions compared to 31.1% from power stations and 21.6% from road transport.

More obviously, climate change is an issue that does not respect international borders, and therefore unilateral decisions by one country will likely have little or no impact on that global problem, and will perhaps only serve to reduce the competitiveness of the economies that attempt to suppress demand in their own backyard, whatever the motivations or intentions.

We have spoken with Scotland’s main airlines to better understand their response to the potential abolishment of APD in 2015.

easyJet has committed its support to a Scottish campaign against APD and has stated that, should the tax be devolved to Scotland, it would be a more attractive market for the airline to invest new routes and base aircraft.

Ryanair has also committed to bringing 3m more passengers through Scottish airports by 2016 if APD is devolved to Scotland.

Ryanair knows the difference that a reduction in APD can make. A brief analysis of Dublin Airport shows us that trans-Atlantic traffic has grown there by approximately 33% compared to the UK’s 24% since 2010.

We have heard arguments that suggest Ministers believe APD assists with reducing the deficit. We contend that there is a flip side to the argument that says APD is obstructing our ability to tackle the economic challenges Scotland faces. As our airlines tell us, it is undermining our connectivity with domestic and international markets, making it more expensive to fly people and goods around an increasingly competitive world.
Together with the wider aviation industry, we have made repeated representations to the UK Government on APD which, despite robust evidence to support them, have fallen on deaf ears in the Scotland Office and the Treasury.

Due to the size of the market (population) in Scotland, we will always find it more difficult to attract and sustain new routes than other more densely populated parts of the UK and Europe, and this situation is compounded further by APD, which simply serves to artificially depress demand and dissuade airlines from basing aircraft here.

Unless APD is devolved, people travelling to and from Scotland - who in most cases fly due to the lack of feasible alternatives - will continue to face some of the highest levels of taxation in Europe, which is clearly a disincentive to travel.

We believe that given Scotland’s unique challenges in this area when compared with the rest of the UK, and the other tax raising powers to be devolved, that APD should form part of this package.

In 2014, Scotland has enjoyed a year that has seen it take centre stage in the world, with the Commonwealth Games, the Ryder Cup, the Edinburgh Festival and the Independence Referendum.

We must seize this opportunity, and build a tax system that allows the industry to pay its fare share but which also encourages it to build and sustain connectivity, accessibility and affordability.

Let us make it easier for those that wish to visit Scotland to do so, and let more of our own people travel for business or pleasure. Scottish businesses should be better placed to exploit the benefits that the marvellous summer of 2014 provided.

We ask that the Smith Commission carefully considers the devolution of Air Passenger Duty before the 2015 General Election, and allows Scottish aviation to flourish, opening up new, exciting opportunities for all.

Amanda McMillan  
Managing Director, Glasgow Airport

Gordon Dewar  
Chief Executive, Edinburgh Airport

Carol Benzie  
Managing Director, Aberdeen International Airport

A Case for APD  
6
Appendix:

We have appended the following:

A. 2012 York Aviation study into the impact of APD on Scotland

B. Ryanair Commitment letter

## Contents

**KEY MESSAGES**

1 INTRODUCTION..............................................................................................................1

2 THE RECENT HISTORY OF APD................................................................................2

3 IMPACT ON DEMAND AT SCOTLAND’S AIRPORTS...............................................8

4 ECONOMIC IMPACT OF THE CHANGES TO APD .............................................15
KEY MESSAGES

▶ The UK Government has significantly increased rates and restructured APD since 2007. Rates for short haul travel have increased by around 160% but it is long haul travel that has really been penalised with rates increasing by between 225% and 360%. This has been done at a time, latterly, when Scotland and the rest of the UK have been experiencing one of the worst recessions in living memory. Furthermore, there would appear to be evidence that further rate increases may occur in the future.

▶ The UK appears to be out of step with much of the rest of Europe on this issue. Rates are higher than elsewhere by some margin and while some others are abolishing or reducing the burden on passengers, the UK has increased it. Austria and Germany have recently introduced similar taxes but these are considerably lower and appear to have been reduced slightly after the first year of operation.

▶ Scotland and its economy is particularly reliant on air service access, being geographically peripheral from the key centres of Europe and the UK and with its history as a trading nation, reflected particularly in Edinburgh and Glasgow positions as international financial and business services centres, and in Aberdeen’s position as a key global centre for the energy industry. Tourism is also a key component of the economy, bringing visitors from around the world. Any loss of connectivity will impact on Scotland’s competitiveness with long haul routes recognised as being of particular economic and strategic importance to the Scottish economy.

▶ The impact of the changes in APD since 2007 has been significant. Each increase or change in structure has resulted in a widening of the gap between actual performance and what Scotland’s airports could have achieved without APD.

▶ In our analysis the initial doubling of APD in 2007 has an initial dramatic effect with around 1.2 million passengers lost in 2007. The next significant step comes with the increase in rates in November 2010. In 2011, the first full year of impact, the gap between the Without APD increases case and the With APD Increases case grows from around 1.4 million in 2010 to over 1.7 million in 2011. By 2016 the total difference in traffic has reached around 2.1 million passengers per annum.

▶ Over time the impact becomes increasingly concentrated on international traffic, with longer haul passengers particularly affected. This focus of the impact on international traffic is particularly concerning given the policy aims of the Scottish Government to grow the Country’s international connectivity.

▶ In terms of the knock-on impacts to the Scottish economy, APD will over the long term reduce traffic and connectivity from Scotland’s airports, impacting on inward investment, trade and competitiveness. It also impacts on Scotland’s inbound tourism industry. By 2016 we estimate that £210 million per annum less will be being spent in Scotland by inbound visitors than if APD had not risen as it has since 2007. It should also be remembered that Scotland’s airports are major employment centres in their own right and that APD’s impact on traffic will limit the role they can play as generators of job opportunities and prosperity. We also estimate that in broad terms the impact of APD on other tax revenues in Scotland could be around £50 million by 2016.
1 INTRODUCTION

1.1 In September 2012 Aberdeen, Edinburgh and Glasgow airports commissioned York Aviation to undertake an assessment of the impact of Air Passenger Duty (APD) across the Scottish air transport market. This work builds upon the previous research undertaken in this area by York Aviation in February 2011 following the increases in APD in November 2010 and its restructuring into four separate distance bands.

1.2 Scotland and its economy is particularly reliant on air service access, being geographically peripheral from the key centres of Europe and the UK and with its history as a trading nation, reflected particularly in Edinburgh and Glasgow positions as international financial and business services centres, and in Aberdeen’s position as a key global centre for the energy industry. Tourism is also a key component of the economy, bringing visitors from around the world.

1.3 On 1st April 2012, APD rates were increased again. The increases this time were more modest than those that have been seen in the recent years but they signal that APD is still seen as a potential source of additional tax revenue moving forward. This view has been reinforced by the announcement of further increases in April 2013. In this context Scotland’s airports are keen to understand the extent of the impact that APD has had on the market.

1.4 This report focuses on a number of key areas:

→ it charts the changes in APD that have taken place since the last report was produced and considers the potential future direction of APD rates;
→ it provides an update on the position on similar taxes across Europe and considers the UK’s position;
→ it examines the impact that APD has had on traffic since its initial doubling in 2007 through to a projected position in 2016;
→ it considers in broad terms how these changes in traffic have impacted on the Scottish economy.
The Impact of APD in Scotland

2  THE RECENT HISTORY OF APD

Introduction

2.1 Below we provide a brief overview of the development of Air Passenger Duty in the UK in recent years. We then move on to compare the UK’s position on aviation duty to other countries around Europe.

APD in the UK

2.2 Since 2007 APD has both been increased substantially and restructured. In terms of restructuring, the Duty has moved from being a two distance band system to a four distance band system. A distinction between the rates charged to premium and economy class passengers has been retained. Passengers occupying seats in premium classes have APD levied at the full rate, while passengers in economy class or on services with only one class have APD levied at a reduced rate. The changes in rates and structure are set out in Table 2.1.

### Table 2.1: Changes in APD Rates and Structure since 2007

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Band A (0 to 2000 miles) or Europe pre Nov 2009</td>
<td>£10</td>
<td>£5</td>
<td>£20</td>
<td>£22</td>
<td>£24</td>
<td>£26</td>
</tr>
<tr>
<td>Band B (2001 to 4000 miles) or Other pre Nov 2009</td>
<td>£40</td>
<td>£20</td>
<td>£80</td>
<td>£90</td>
<td>£120</td>
<td>£130</td>
</tr>
<tr>
<td>Band C (4001 to 6000 miles) or Other pre Nov 2009</td>
<td>£100</td>
<td>£50</td>
<td>£150</td>
<td>£162</td>
<td>£184</td>
<td>£184</td>
</tr>
<tr>
<td>Band D (over 6000 miles) or Other pre Nov 2009</td>
<td>£110</td>
<td>£55</td>
<td>£170</td>
<td>£184</td>
<td>£184</td>
<td>£184</td>
</tr>
</tbody>
</table>
2.3 This demonstrates quite clearly the extent of the increases experienced by passengers since 2007. Medium and long haul passengers have been hardest hit, with APD rates increasing by between 225% and 360%. Passengers to Band C and D destinations have been particularly hard hit due to the introduction of the greater number of distance bands. Domestic and European rates have increased by substantially less but the growth has still been dramatic, with rates increasing by 160%.

2.4 It is perhaps helpful to think about these increases in terms of ‘real world’ examples:

→ before the 2007 increase a family of four going on holiday to Spain in economy would have paid just £20 in APD for their trip. However, in summer 2012 to do the same trip they would have paid £52;

→ the same family travelling to Florida for a holiday prior to 2007 would have paid £80 in APD for their trip. In summer 2012 they would have paid £260 for the same trip.

2.5 Figure 2.1 shows how the increases between 2007 and 2012 have impacted in terms of a typical fare to each APD distance band.

![Figure 2.1: APD Compared to Typical Fares by Distance Band](source.png)
2.6 This clearly shows how APD has increased substantially as a proportion of typical fares. For domestic travel APD has gone from being around 10% of the value of a fare to around 26%. For international travel, this proportion has gone from between 3% and 4% to between 9% and 14%.

2.7 This impact is set to increase again in April 2013 when APD rates for long haul travel are set to rise again, with rates increasing by £4 for premium class passengers and £2 for economy class passengers.

2.8 Unsurprisingly, given the level of these increases, the air transport industry believes strongly that this level of taxation is severely damaging growth and is hampering the sector’s ability to recover from an extremely severe recession and act as an economic driver for the future.

2.9 The one area of the UK that has been less affected by the APD is Northern Ireland. Effective from 1st November 2011 direct long-haul routes from Northern Ireland had their rates of duty reduced. Rather than attract rates at Band B or above, all direct long haul services from Northern Ireland only attract APD at Band A. This was seen as being important in retaining Northern Ireland’s New York route and demonstrates the recognition that APD is affecting airline decision making.

2.10 There is also evidence to suggest that rates will continue to rise in the future despite the opposition from the air transport industry and increasing recognition from wider commentators that APD is damaging growth. The 2012 Budget documents identify that significant further increases are expected in receipts from APD in the coming years. These appear to be substantially above what might stem from traffic growth.
2.11 Between 2012/13 and 2016/17, APD revenues are expected to rise by around £1 billion, from £2.9 billion to £3.9 billion. This represents a 34% increase in revenues. This suggests that further increases should be expected at some point in the future. In 2012 we estimate that APD revenue from passengers at Scotland’s airports was around £320 million per annum. This would suggest that by 2016/17 APD revenue from passengers at Scotland’s airport could be around £433 million per annum.

### Aviation Duty in Europe

2.12 The UK is not the only European country to operate an aviation duty of some sort. A number of European countries have either considered or introduced aviation duties in recent years. It is difficult to be precise about exactly which countries have examined or implemented aviation duties as such duties come in a number of guises and it is not always clear on what basis the duty or charge is levied or its ultimate purpose. However, an updated version of our review from 2008 is set out in Table 2.2 and we believe that this represents a good picture of the development and evolution of APD style charges to passengers in Europe in recent years.

2.13 There are a number of points to note:
The Impact of APD in Scotland

Table 2.2: Aviation Duties in Europe

<table>
<thead>
<tr>
<th>Country</th>
<th>Duty</th>
<th>Date</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>€8 to Europe, €40 Outside of Europe</td>
<td>From 1st January 2011</td>
<td>Rates may now have been updated to follow Germany but no information found.</td>
</tr>
<tr>
<td>Belgium</td>
<td></td>
<td>2008</td>
<td>Aviation duty considered by Belgian Government. Never implemented due to concerns regarding impact on the industry.</td>
</tr>
<tr>
<td>Netherlands</td>
<td>Range between €11 and €45</td>
<td>Introduced in 2008 then withdrawn in June 2009</td>
<td>Introduced as an environmental tax but the impact on demand was such that the tax was swiftly withdrawn.</td>
</tr>
<tr>
<td>Germany</td>
<td>€7.50 short haul, €23.43 medium haul, €42.18 long haul. These are the economy rates.</td>
<td>From 1st January 2011. Updated in January 2012.</td>
<td>Led to a significant reaction from airlines, including the withdrawal of low fares airline capacity.</td>
</tr>
<tr>
<td>Denmark</td>
<td>€10</td>
<td>Abolished in 2007</td>
<td>Briefly introduced a ticket tax but has since been withdrawn.</td>
</tr>
<tr>
<td>France</td>
<td>€1 in Europe, €4 outside Europe</td>
<td>Introduced in 2006</td>
<td>Purpose of this tax is unclear. Levels are relatively low.</td>
</tr>
<tr>
<td>Ireland</td>
<td>€3</td>
<td>Introduced 1st April 2009</td>
<td>Introduction of the original €10 tax has coincided with significant declines in passenger numbers at Ireland’s airports. Reduced to €3 from 1st March 2011.</td>
</tr>
<tr>
<td>Malta</td>
<td>€23</td>
<td>Abolished in 2008</td>
<td>Removed following legal challenge from the European Commission. Tax described as discriminatory.</td>
</tr>
<tr>
<td>Spain</td>
<td>Various – dependent on airport or state</td>
<td>These have been rising in 2012. Average rise estimated to be around 20%</td>
<td>There is a lack of clarity over precisely the levels of these taxes. Taxes appear to be around €13 to €14 at Madrid and Barcelona airports.</td>
</tr>
</tbody>
</table>

Source: York Aviation web searches.

- relatively few European countries currently operate an APD type duty. Austria, France, Germany, Ireland and Spain appear to be the only ones currently operating;
- nowhere in Europe imposes duties at as high a level as those observed in the UK;
- although schemes do have distance band elements within them, these are not as complex as those observed in the UK;
a number of Governments have either not implemented, reduced or withdrawn aviation duties because of the potential damage to the air transport industry or the actual damage they have done. The most obvious example is the Netherlands, where the air passenger tax lasted only a year following a dramatic downturn in demand at Schiphol Amsterdam Airport. Passenger demand fell by 8% between 2008 and 2009. The Irish Government has also reduced its ticket tax from €10 to €3 in an effort to boost its flagging tourism economy, which has been badly hit by the global recession and the introduction of the ticket tax in 2008;

it is also noticeable that the German air ticket tax appears to have had its rates reduced, if only slightly, after its first year of operation;

the only other country where passenger taxes appear to have been increasing is Spain. The situation is slightly unclear and varies across the country but there appears to have been a general increase as fiscal pressure mounts on regional governments to balance their budgets.

2.14 Overall, while APD is not the only tax of its type in Europe, it does appear to be by some margin the highest and most punitive. This is bad for the industry in Scotland not only in real terms due to the loss of demand but also in terms of perception and the ability to secure the development of marginal routes. In the current market particularly, airlines are relatively risk averse and making decisions is often about marginal differences in costs and benefits. APD is seen as a negative and a potential additional risk factor for locating capacity in Scotland and indeed the rest of the UK compared to other locations in Europe.
3 IMPACT ON DEMAND AT SCOTLAND’S AIRPORTS

Introduction

3.1 In this Section we set out the results of our analysis of the demand impact of the APD increases of recent years at Scotland’s airports. This has been based on a simple price model using data from CAA Statistics, CAA Passenger Survey 2009 and AirportIS (an IATA database providing information on passenger flows and air fares). This model was developed originally for our 2011 report and the key parameters remain the same. The primary difference in the analysis undertaken here is that it is both backward and forward looking. In our previous report, we focussed on considering how the APD rises in November 2010 would impact on Scotland’s airports in the future. Here we have sought to look more explicitly at what has been the effect of the changes to APD since 2007, the opportunities for growth that have been lost and how growth might be impaired through to 2016.

Structure of the Model

3.2 The basic premise of the model is to identify the increase in average ticket price resulting from a change in the level of APD and then apply an appropriate price elasticity to identify the resulting impact on demand. It should be noted that these elasticities represent long run relationships between price and demand. This can lead to modelled changes in the short run that would in reality take time to appear. However, this does not change the ultimate medium to long term impacts.

3.3 The model splits the Scottish air transport market in to a range of different market segments and across Scotland’s main airports. The market is split in to:

- business and leisure passengers;
- premium class and economy class ticket holders;
- Scottish, other UK and foreign passengers.
3.4 This combination of factors makes for a total of 12 passenger segments when combined the various permutations available (e.g. one category would be Scottish Business passengers travelling on a premium class ticket). Passengers have then been allocated to the appropriate APD Band for their final destination (domestic travellers have been separated out from other Band A passengers as domestic passengers will attract APD for both their outward and return journeys). The data to enable this segmentation has been taken from CAA Passenger Survey 2009. An average fare for each market segment and for each APD band has then been identified using data from AirportIS.

3.5 Results have been reported for the following airports and airport groups:

- Edinburgh;
- Glasgow;
- Aberdeen;
- Inverness;
- Glasgow Prestwick;
- other Scottish Airports.

3.6 Looking forward, we have assumed that domestic traffic will grow at around 2% per annum and international traffic at around 3% per annum. This is a simplified assumption for the purposes of demonstration but is broadly in line with DfT’s recent passenger forecasts for the UK published in 2011. The exception is traffic in 2012 which we have projected forward on the basis of actual performance to July 2012.

**Impact on Passenger Demand**

3.7 **Figure 3.1** shows our estimate of traffic at Scotland’s airports without the increases in APD that have been seen since 2007 compared to actual performance up to 2011 and projected performance from 2012 onwards.

3.8 The impact of APD on total traffic since 2007 is plain to see. Each increase or change in structure has resulted in a widening of the gap between actual performance and what Scotland’s airports could have achieved without APD.
3.9 The initial doubling of APD in 2007 has an initial dramatic effect with around 1.2 million passengers foregone in 2007, increasing to 1.3 million in 2008 as the full year effect is felt. The next significant step comes with the increase in rates November 2010. In 2011, the first full year of impact, the gap between the Without APD increases case and the With APD Increases case grows from around 1.4 million in 2010 (partially affected by the change) to around 1.7 million in 2011.

3.10 The APD increases in 2012 and 2013 are relatively small in comparison to previous changes but even so, by 2016 the total difference in traffic for the year has reached around 2.1 million passengers. This represents around 8.6% of project traffic in 2016. It should be noted that there is a temporary narrowing of the gap in 2009 caused by the general decline in traffic relating to the recession.

3.11 The effects of APD are felt across Scotland’s airports but there are winners and losers, as can be seen in Figure 3.2. Edinburgh is the largest loser in volume terms, with around 1.0 million passengers per annum lost by 2016, followed by Glasgow with around 0.7 million passengers lost per annum by 2016. The relative losses reflect the size of the two airports and in Edinburgh’s case the concentration of low fares airlines. The lower fares offered by these airlines means that the percentage change in fare from a change in APD is greater and hence the impact is higher.
3.12 Aberdeen sustains the third largest losses, at around 200,000 passengers per annum by 2016. The impact on Aberdeen is cushioned to some degree by the high proportion of business traffic at the Airport.

3.13 The most affected in percentage terms is Prestwick Airport, which has lost around 14% of current traffic as a result of APD according to this analysis. This is a result of the Airport’s focus on low fares travel and high proportion of leisure travellers. As described above, APD makes up a higher proportion of in trip costs for low fares airlines and leisure travellers tend to have a higher elasticity to changes in fares.

Figure 3.2: Impact on Individual Scottish Airports

3.14 The losses at Inverness and the Other Scottish Airports are cushioned by the fact that services departing from these airports are exempt from APD. It should be noted that losses at Prestwick actually shrink over time. This relates to the general decline in traffic at the airport and it may be that the impact of APD at the Airport is being understated.

3.15 It is also interesting to note the balance in losses between domestic and international travel. Initially, as steep increases were seen across the board losses were relatively even. However, as APD has been restructured and increases focussed on longer haul travel, international traffic has become more heavily impacted.
This focus of the impact on international traffic is particularly concerning given the policy aims of the Scottish Government to grow the Country’s international connectivity. Figure 3.4 shows the number of scheduled destinations served from Scotland’s airports\(^1\) over recent years. It shows that there has been a decline since 2008, coinciding with both the recession and the changes to APD.

\(^1\) Destinations with more than 5,000 passengers per annum.
3.17 **Figure 3.5** shows the number of scheduled international cities served from EU countries in 2012 taken from OAG. This shows the importance of Scotland developing its connectivity further, especially given its peripherality. It is currently within the bottom half of this group.

**Figure 3.5: Number of International Cities Served by Country in 2012**

[Bar chart showing the number of international cities served by country in 2012.]

Source: OAG.

3.18 Furthermore, it is particularly concerning that it appears to be longer haul international destinations that are particularly impacted by the changing structure of APD and increasing rates. **Figure 3.6** demonstrates that while Band A travel has been affected somewhat less than the market as a whole, Bands B, C and D are impacted substantially more heavily. It shows the cumulative impact of the changes to APD by 2013 in terms of the reduction in traffic by Band. Band B is the worst affected, possibly reflecting the relatively lower fares on to North America in particular.
Conclusions

3.19 Overall, it seems clear that increasing APD and its changing structure has had a significant impact on the Scottish Air Transport market. Based on our analysis, we estimate that by 2016 Scotland’s airports will be handling around 2.1 million passengers per annum fewer than they might have been if the APD changes since 2007 had not been implemented. These impacts are being felt at all Scotland’s airports but primarily at Edinburgh and Glasgow in volume terms. Aberdeen also loses a significant volume of passengers. Prestwick that has been hardest hit in percentage terms. In terms of the market segments affected, our analysis suggests that international traffic has been more seriously affected, with a disproportionate impact on long haul markets.

Figure 3.5: Percentage Impact of APD by Band by 2013

Source: York Aviation.
4 ECONOMIC IMPACT OF THE CHANGES TO APD

4.1 In this section, we consider the impact that the changes in APD have had on the Scottish economy.

4.2 In our view much of the economic impact associated with air services in a modern economy comes from the connectivity these services provide to international markets for trade and investment, increased competition and deeper and broader knowledge bases. Constraining the growth of Scotland’s airports via APD can ultimately only have a negative impact from this perspective. APD makes it harder for airports to attract new routes or improved levels of service. Over time this will impact on Scotland’s attractiveness as a place to invest and its competitiveness in international markets. This in turn will negatively impact on Scotland’s international economy, including key sectors such as banking and finance, oil and gas, creative industries, technology businesses and advanced manufacturing.

4.3 Another key area of potential impact is Scotland’s tourism industry. The 2009 CAA Passenger Survey (the last available covering the main Scottish airports) suggests that around 36% of international passengers are visitors to Scotland. Furthermore, it suggests that around 40% of passengers on domestic services are inbound to Scotland. Based on this assessment and combined with spend per trip information from VisitScotland and VisitBritain, we have identified the tourism expenditure lost as a result of APD between 2007 and 2016.

4.4 In 2007 lost tourism expenditure amounted to around £90 million per annum following the doubling of APD rates. Following the 2009 rise in rates and the restructuring of APD the level of lost tourism expenditure rose significantly again, reaching around £160 million per annum by 2011. At the end of the period to 2016 the tourism expenditure foregone is expected to reach around £210 million per annum. This foregone revenue will reduce the tourism industries ability to support employment and prosperity. It will also result in less tax revenue through VAT reductions, lost income tax from the reduced employment in tourism and related sectors, and likely reductions in corporate taxes.

4.5 It is also interesting to note how losses increase, particularly after the 2010 changes that significantly increased the APD burden on medium and long haul routes. This is clearly reflected in the loss of more, higher spending international visitors with the consequent acceleration of the losses in tourism expenditure.
4.6 It should also not be forgotten that Scotland’s airports are significant employment centres in their own right, generating both jobs on-site and in the wider economy through supply chain and expenditure effects. Research into the economic impact of Scotland’s main airports undertaken in recent years by York Aviation, SQW Consulting and Highlands and Islands Airports Limited, suggests that over 11,000 people are employed on-site at Scotland’s airports, with a further nearly 8,000 supported in the wider economy through supply chain and expenditure effects. With APD constraining traffic growth, Scotland’s airports will not be able to realise their potential as generators of employment and prosperity.

4.7 Across these two impacts the reduced economic activity will also result in a significant loss of tax revenue. While assessing this impact is potentially highly complex, using a simplified approach focusing on lost VAT from tourism expenditure and lost income tax, we estimate the impact of APD in Scotland in terms of other tax revenues could be around £50 million in 2016.
14th October, 2014

Mr Gordon Dewar
Chief Executive Officer
Edinburgh Airport
EH12 9DN
Scotland

By email: [Redacted]
Strictly Private and Confidential

Dear Gordon,

I write with regard to Ryanair’s capacity planning for winter 2015 onwards.

As you know, our 180-aircraft order with Boeing presents opportunity for traffic growth at existing and potential Ryanair airports. We also understand that the Scottish Government is examining the potential to abolish Air Passenger Duty should this tax be included in package of devolved powers from Westminster. We are happy to join you (perhaps with the other Scottish airports) in a joint push to support abolition of this damaging tax.

Ryanair will deliver at least one million additional passengers to Scotland in the year following the abolition of APD in Scotland, and we would be pleased to discuss Edinburgh’s participation in this growth. We propose that all departing passengers over and above our estimated level of 1.6m next year qualify for the growth rate of £1.50 per departing passenger, to secure at least 500,000 passengers for Edinburgh from the total.

I would be pleased to meet with you to discuss this proposal and the possibility of a joint APD approach.

I look forward to hearing from you.

Yours sincerely

[Signature]
Kate Sherry
Deputy Director of Route Development
ESTIMATE OF THE IMPACT ON EMISSIONS OF A REDUCTION IN AIR PASSENGER DUTY IN SCOTLAND

Background

1. Air Passenger Duty (APD) was introduced on UK flights in 1994 in a simple two-band structure. It was only in 2007 though that APD rates began to increase significantly with a four band APD structure introduced in 2009 in an attempt to take better account of the impact different flight lengths had on emissions. These bands were based on the distance between London and its equivalent capital in the destination country. Further APD rate increases were introduced in 2010, 2012, 2013 and 2014. A full breakdown of the history and rates of APD charged in the UK is shown in Annex A.

2. The Scottish Government made a commitment in Parliament to publish an estimate of the impact that a reduction in APD would have on emissions. This note fulfils that commitment by reporting the likely impact from a 50% reduction in APD alongside the methodology used to generate the estimate.

Data requirements, data availability and assumptions

Data requirements

3. Transport Scotland does not possess models capable of producing an estimate of the impact on emissions from altering APD. This calculation is built instead on published price elasticities and data available from a range of sources. These data include APD bands and rates, demand price elasticities, ticket prices by destinations, passenger numbers by broad destination and aviation emission estimates. Unfortunately these data are not all framed in terms of current APD bands so require some manipulation.

4. The realities of the aviation market also create a number of complications, particularly in relation to data on ticket types and prices. Air travel is not a single homogenous commodity but instead a series of interconnected overlapping markets and prices with different ticket classes, APD rates and travel purposes. Having multiple markets and products makes interpreting the available data more complex as well as introducing greater uncertainty into the analysis and results. This issue is discussed in more detail below.

Air Passenger Duty

5. Charged on most UK flights from 1994, since 2001 there has been a differentiation by price in respect of the class of ticket. If the entire flight is a single class, usually economy, then all tickets are charged APD at the reduced rate. Any tickets purchased for a higher cabin class – business or first are charged at an increased rate. A further higher APD class was introduced from 2013. The vast majority of tickets sold in the UK (90% or more) are charged at the reduced rate of APD.
**Aviation price elasticities**

6. Research suggests that the most inelastic, i.e. least price sensitive, trips are long haul business journeys followed by longer haul leisure trips. Short haul leisure travel – both domestic and international - tends to be the most elastic. Focusing in on the UK aviation market, DfT publishes estimates of price elasticity of demand for flights from the UK. These elasticities vary by travel purpose (broken down into business and leisure) and by destination (separated into short haul or long haul or level of economic development). The most recent DfT estimates were published as part of *UK Aviation Forecasts* in January 2013.

7. Table 1 below sets out the elasticity estimates used in this analysis. These elasticity values cannot be directly read from the 2013 DfT paper (the paper does not break down elasticities by APD band) so an explanation of how they were created from the DfT work is shown in Annex B.

<table>
<thead>
<tr>
<th>Price elasticity of demand</th>
<th>Domestic (leisure) – Band A</th>
<th>-0.7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Domestic (business) – Band A</td>
<td>-0.3</td>
</tr>
<tr>
<td></td>
<td>International (leisure) - Band A</td>
<td>-0.7</td>
</tr>
<tr>
<td></td>
<td>International (business) - Band A</td>
<td>-0.3</td>
</tr>
<tr>
<td></td>
<td>International (leisure) - Band B,C,D</td>
<td>-0.3</td>
</tr>
<tr>
<td></td>
<td>International (business) - Band B,C,D</td>
<td>-0.2</td>
</tr>
</tbody>
</table>

Source: own estimates from DfT analysis

8. No regional breakdown of the UK aviation market is provided within the DfT analysis. The similarities between Scottish and UK travellers and the numbers of airlines that fly within and to UK destinations might strongly suggest however that the Scottish price elasticities of demand for the different journey types will be similar to those for the UK as a whole. Ticket prices to international destinations are also likely to be very similar from airports within the UK, with the possible exception of the more southerly European destinations where flying from Scotland takes considerably longer relative to the time taken from airports in southern England.

**Ticket classification and travel purpose**

9. The definition of ‘business’ differs between ticket category and trip purpose. A ‘business’ airline ticket is used to distinguish the on-board service rather than purpose of trip. Thus leisure travellers can and do fly on a ‘business class’ ticket. Equally, people travelling for business often qualify for the ‘reduced’ APD rate because there is only one class ticket on the flight (which attracts the reduced rate of APD) or their company chooses not to pay for a business or first class airline ticket. For this assessment the distinction made was by ticket class rather than the purpose of trip. This ticket class difference can be identified in the APD data published by HMRC.
**UK passenger numbers and destinations**

10. The Civil Aviation Authority (CAA) count of passengers arriving or departing the UK by airport and destination allows for a passenger breakdown for Scotland as well as for the UK as a whole, by APD Band. Table 2 sets out this disaggregated data.

<table>
<thead>
<tr>
<th></th>
<th>UK</th>
<th>Scotland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Band A – domestic (UK)</td>
<td>16.9</td>
<td>52.0</td>
</tr>
<tr>
<td>Band A - international</td>
<td>61.5</td>
<td>43.7</td>
</tr>
<tr>
<td>Band B</td>
<td>15.1</td>
<td>4.2</td>
</tr>
<tr>
<td>Band C</td>
<td>5.5</td>
<td>0.2</td>
</tr>
<tr>
<td>Band D</td>
<td>1.3</td>
<td>-</td>
</tr>
<tr>
<td>Total passengers (millions)</td>
<td>228</td>
<td>23.3</td>
</tr>
</tbody>
</table>

Source: CAA and own calculations

11. The most obvious difference between the UK and Scottish data sets is the proportion of domestic flights under each heading. For the UK as a whole they account for one sixth of trips whereas in Scotland domestic trips account for over half of all trips. Otherwise, Band C and D accounts for 6.8% of all UK flights but only 0.2% from Scotland, all of which are in Band C.

**‘Typical’ airline ticket prices, currently and in 2009**

12. Due to the highly developed, competitive and atomised nature of the UK air market (multiple class of seats and prices, large number of airlines, airports and destinations along with seasonal variations in ticket prices) there is no readily available public information source providing ‘average’ current airline ticket prices by destination, or any equivalent price in previous years.

13. The ticket price estimates quoted in this analysis are therefore internal estimates based on popular destinations from the UK and Scotland using passenger destinations and numbers as a guide to this choice. Prices were estimated using an available price comparison site that recorded average monthly prices to the destination in question. Each monthly estimate provided was a point price figure and the yearly average provided is likely a straight un-weighted mean. This simple approach will hide the variance in ticket prices between airlines, destinations and time of year (modern airline ticket pricing systems allow prices to vary by ticket within a single flight giving potentially millions of data points for each route). Clearly using the available data without access to the primary

---

1. A return trip to London from Glasgow would count two passengers at Glasgow airport, once on departure and once on arrival.
2. 2009 has been chosen as the earlier year as it marks the introduction of the 4-band APD approach to APD in the UK.
3. CAA
information creates uncertainty in the analysis, but there are no readily available alternatives.

14. From these current price estimates an equivalent earlier estimate can be produced by deflating the current ticket prices using the UK sub category CPI index for air passenger transport. This is a single index so again it is necessary to apply a simplifying assumption that all ticket prices for all types of tickets and destinations have changed in line with this CPI estimate. According to the CPI series the cost of air travel has risen by just over 31% since 2009. The price estimates for both 2013 and 2009 are set out in the table below\(^4\). Annex C contains a link to the websites used along with the sources for other key data.

### Table 3 Estimated average return air fare by APD band by destination, 2013 and 2009 (reduced APD rate)

<table>
<thead>
<tr>
<th>Band A domestic (London- Scotland)</th>
<th>2013</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Band A international (Malaga)</td>
<td>£120</td>
<td>£91</td>
</tr>
<tr>
<td>Band B (Newark, New York)</td>
<td>£150</td>
<td>£118</td>
</tr>
<tr>
<td>Band C (Mexico)</td>
<td>£400</td>
<td>£305</td>
</tr>
<tr>
<td>Band D (Australia)</td>
<td>£600</td>
<td>£458</td>
</tr>
<tr>
<td></td>
<td>£800</td>
<td>£611</td>
</tr>
</tbody>
</table>

Source: own estimates based on CAA destination data, CPI and available price information

15. Each of these data sources has been developed independently and for different purposes. As such there is not a common factor linking them all together to enable direct comparisons\(^5\). However APD financial returns to HMRC\(^6\) show the overwhelming majority of all UK seats (90% plus) are charged the reduced rate of APD and surveys from the CAA show that, particularly for airports outside the London hubs the vast majority of trips are for leisure purposes – either holidays or visiting friends and family. The skewed nature of this distribution (and hence ticket prices) enables the main focus of the impact analysis to fall on one cabin class of prices and one purpose for travel.

**Aviation Emissions**

16. Aviation emissions are published as part of the UK emissions inventory. They are published in aggregate for the UK, and separately for Scotland. Aviation emissions can be disaggregated between domestic aviation (take off/landing, cruise and military) and international aviation (single category). This is a sufficient level of disaggregation for this analysis. Table 4 sets out the latest UK

\(^4\) These are popular airport destinations for Scottish passengers with the exception of Australia where there are no direct flights from Scotland. Australia is though a popular UK Band D destination. Prices are estimates averaged across a recent 12 month period. These are generated internally using available month by month price data from the source quoted in Annex C, and are rounded to the nearest £5. They are weighted to account for a small proportion of tickets sold that attract the standard rate of APD on Band B and above.

\(^5\) For example, business or first class tickets are available to both business and leisure passengers and while this category is differentiated in APD rates reason for travel is not separately identified as a sub category of ticket purchase. Band A APD covers both domestic and international destinations

\(^6\) HMRC APD Returns 2014
and Scottish aviation emissions information having stripped out military aviation emissions.

Table 4: UK and Scottish Aviation Emissions MtCO$_2$e and emissions per passenger

<table>
<thead>
<tr>
<th></th>
<th>UK</th>
<th>Scotland</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2010</td>
<td>2011</td>
</tr>
<tr>
<td>Domestic Cruise</td>
<td>1.171</td>
<td>1.118</td>
</tr>
<tr>
<td>Domestic Take-off and Landing</td>
<td>0.455</td>
<td>0.434</td>
</tr>
<tr>
<td>International</td>
<td>31.63</td>
<td>33.17</td>
</tr>
</tbody>
</table>

Source NAEI and own calculations

17. Splitting passenger numbers between domestic and international flights can then generate an emissions per passenger figure for domestic and international flights and this estimate is shown in the final column of Table 4. While this is a simple approximation of the impact on emissions following an incremental change in ticket prices$^8$ it is a reasonable methodology to use when exploring aggregate impacts.

Estimated impact of 50% reduction in APD on Scottish passenger numbers and emissions

18. With all of the data now expressed in some form of APD banding it is possible to carry out a static analysis of the impact of reducing APD across each passenger category to generate an estimate of the likely change in passenger numbers by travel purpose and APD band. Bands B, C and D have been combined in the analysis and the ticket prices weighted by the proportion of passengers travelling to each band.

Methodology and results

19. Table 5 shows that applying a 50% reduction in APD in Scotland cuts the return ticket price by between 3.7% and 8.8% and increases passenger numbers by an estimated 742,000 – a rise of over 3%. Of these additional passengers, 724,000 or 98% are travelling on the reduced APD rate band and when combined with the information on journey purpose suggests that the majority of these additional

$^7$ The emissions per passenger figures should be seen as indicative rather than exact due to the uncertainties surrounding the use and allocation of aviation fuel between different flights and UK countries. This figure is also an internal calculation.

$^8$ The marginal impact of an additional passenger on an already scheduled flight will be significantly less than the average emissions figure for the flight as a whole, plus a change in demand might lead to a new flight to a new destination. Where this happens emissions will be ‘stepped’, driven by increases or decreases the number of flights.
passengers are travelling for leisure purposes. Internal UK travel makes up 446,000 or 60% of this total increase in passenger numbers.

20. Assuming a linear average relationship between passengers and emissions (total domestic/international emissions divided by total number of domestic/international passengers) suggests the reduction in APD could increase aggregate emissions by 34 KtCO$_2$e (0.034 MtCO$_2$e) over the course of a full year. This represents an increase in transport emissions of just over 0.25% over the current total. The vast majority of the increase in emissions comes from international passenger trips to or from Band A countries travelling at a reduced rate of APD.

Table 5: Estimated impact of a 50% reduction in APD from Scottish airports on ticket prices, passenger numbers and emissions.

<table>
<thead>
<tr>
<th></th>
<th>Return Ticket (est.)</th>
<th>APD (from 2015)</th>
<th>50% reduction in APD</th>
<th>Reduction in ticket price</th>
<th>Increase in passenger numbers</th>
<th>Increase in emissions (MtCO$_2$e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Band A domestic</td>
<td>£120</td>
<td>£13</td>
<td>£6.50</td>
<td>-5.4%</td>
<td>434,000</td>
<td>0.0035</td>
</tr>
<tr>
<td>(reduced)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Band A domestic</td>
<td>£200</td>
<td>£26</td>
<td>£13.00</td>
<td>-6.5%</td>
<td>12,000</td>
<td>0.0001</td>
</tr>
<tr>
<td>(standard)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Band A international (reduced)</td>
<td>£150</td>
<td>£13</td>
<td>£6.50</td>
<td>-4.3%</td>
<td>266,000</td>
<td>0.0275</td>
</tr>
<tr>
<td>Band A international (standard)</td>
<td>£350</td>
<td>£13</td>
<td>£13.00</td>
<td>-3.7%</td>
<td>5,000</td>
<td>0.0005</td>
</tr>
<tr>
<td>Band B, C, D</td>
<td>£410</td>
<td>£71</td>
<td>£35.50</td>
<td>-8.7%</td>
<td>23,000</td>
<td>0.0024</td>
</tr>
<tr>
<td>(reduced)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Band B, C, D</td>
<td>£810</td>
<td>£142</td>
<td>£71.00</td>
<td>-8.8%</td>
<td>1,000</td>
<td>0.0001</td>
</tr>
<tr>
<td>(standard)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>742,000</td>
<td>0.0341</td>
</tr>
</tbody>
</table>

**Ticket Price Sensitivities**

21. With the large number of assumptions necessary to create this estimate it is appropriate to carry out some sensitivity analysis around the ticket price charged. If ticket prices are 10% lower than the above price estimates the forecast increase in emissions relative to the situation without the reduction in APD rises to 38 KtCO$_2$e. Ticket prices 10% above the levels suggested above reduces the forecast emissions increase relative to the base position to 31 KtCO$_2$e.

**Discussion: alternative assessments of the impact of APD on emissions**

**UK 2009 APD Impact Assessment**

22. While not undertaken on the same proposition as is being analysed here, an APD Impact Assessment (IA) carried out by DfT analysts in 2009 can be used to ‘benchmark’ this assessment of the impact of the 50% reduction in APD in Scotland.
23. The DfT work assessed the impact of the change to the APD scheme announced in the 2009 UK budget statement. This change was a complex one in that the assessment had to consider the impact of moving from two to four APD bands as well as raising the rate of tax for each band in the following year. The IA estimated that the changes to the scheme and the increase in APD would reduce UK annual aviation emissions by 0.6MtCO\textsubscript{2}e in 2011-12, relative to where emissions would otherwise have been. No more detailed workings were published alongside this overall impact assessment, nor was the assessment broken down by the four countries of the UK.

24. A straight pro rata by population of this 2009 UK DfT estimate suggests the APD increase announced in 2009 reduced Scottish emissions by 0.05 MtCO\textsubscript{2}e. Basing the impact instead on the split in aviation emissions between Scotland and the UK, and adjusting the ticket prices shown for 2009 in Table 3 for the APD change, increases domestic ticket prices by 2% international ticket prices by 6% and reduces Scottish emissions by 0.026 MtCO\textsubscript{2}e.

25. The work in this paper suggests a 50% reduction in APD in Scotland reduces current domestic ticket price by 5%, international prices by 4% and together this generates an estimated increase in emissions of 0.034 MtCO\textsubscript{2}e. A slightly larger percentage price reduction produces a slightly larger increase in emissions.

26. Applying the static methodology developed in this paper to the 2009 UK APD change generates an emissions reduction estimate for the UK as a whole of 0.61 MtCO\textsubscript{2}e and a fall in passenger numbers of around 3.4 million or 1.7%. This result is very similar to the 0.6MtCO\textsubscript{2}e reduction estimate from the DfT model. This provides some confidence that the estimated impact generated in this paper of a 50% cut in APD in Scotland is reasonable.

**Passenger switching**

27. On top of the increase in demand from Scottish residents in response to the fall in airline ticket prices there is also potential for passengers in the north of England who currently use Newcastle and Manchester (as well as some Scottish residents who do likewise) to switch to Scottish airports to take advantage of the lower air fares. This assumes of course that the airports provide the same routes and flight timings are similar.

28. Without a fully integrated passenger demand model it is not possible to completely account for the extent of passenger switching. An earlier HMRC paper did however look at the impact of an APD cut in Scotland and suggested that reducing APD in Scotland by 50% might lead to up to 300,000 passengers switching from airports in Northern England (principally Newcastle and Manchester) to Glasgow and Edinburgh.

29. Using this figure and a similar distribution of passenger destinations to the national Scottish picture suggests that this switching impact might add a further 0.017 MtCO\textsubscript{2}e to the overall impact calculated above. In reality this estimate is likely to be an underestimate because passengers flying domestically from the north to the south of the UK (e.g. Newcastle to Gatwick or Manchester to
Heathrow) would be unlikely to travel too far in the opposite direction to a
different airport to catch a cheaper flight as this increases their overall travel
time. In reality proportionately more of the ‘switchers’ are likely to be travelling
further afield than the Scottish average. As international aviation flights have a
significantly higher per passenger emissions estimate than domestic travellers
the emissions estimate from switching may be low. Using a split more in keeping
with this outcome\(^9\) generates a higher estimate of the increase in emissions of
0.025MtCO\(_2\)e.

30. This additional impact on Scottish emissions does of course rely on the price
differential between the airports remaining. Were this price difference to erode
(either through the cutting of ticket prices or a similar reduction in APD for
northern English airports) then this additional emissions impact from switching
would not materialise.

**Additional destinations**

31. One other consequence of a reduction in APD might be the start-up of additional
destinations from Scottish airports. This analysis takes no account of this
possibility. Should there be an extension of the route network to destinations in
Band C and beyond, particularly for charter flights, then this would add to the
total impact on emissions.

**Conclusions**

32. Reducing APD on flights departing from Scotland is likely to lead to relatively
lower airline ticket prices and a particularly marked increase in demand for short
haul leisure seats. The impact is estimated to lead to an additional 742,000
seats being sold, most of which attract the reduced rate of APD. These extra
trips are forecast to generate an increase in emissions of around 0.034 MtCO\(_2\)e.
While different air fares can and will affect passenger numbers and emissions,
the sensitivity analysis carried out suggests the estimated impact on emissions
will not change markedly either way from this point estimate.

33. Adding in the potential of passengers switching from northerly English airports to
Scottish airports in response to lower air fares from Scottish airports, (estimated
by HMRC to possibly be up to 300,000) raises the emissions impact estimate to
between 0.05 MtCO\(_2\)e to 0.06 MtCO\(_2\)e.

34. The estimates generated in this paper should be seen in the context of the
uncertainties within the available data. The data were produced for other
purposes and adjustments and assumptions have had to be made. That said,
benchmarking the results of this analysis against the earlier DfT analysis
suggests that the estimate, including the switching effect, is of the right order of
magnitude.

---

\(^9\) Rather than the 50:50 split in Scottish passenger destinations the split used is 80:20 in favour of international travel
Table 6: Summary of estimated annual impact on Scottish passenger numbers and emissions following a 50% reduction in APD

<table>
<thead>
<tr>
<th>Impact</th>
<th>Passengers</th>
<th>MtCO$_2$e</th>
</tr>
</thead>
<tbody>
<tr>
<td>50% reduction in APD (central estimate)</td>
<td>742,000</td>
<td>0.034</td>
</tr>
<tr>
<td>Impact on central estimate if ticket price is 10% higher</td>
<td>-67,000</td>
<td>-0.003</td>
</tr>
<tr>
<td>Impact on central estimate if ticket price is 10% lower</td>
<td>+82,000</td>
<td>+0.004</td>
</tr>
<tr>
<td>Impact from switching</td>
<td>Up to 300,000</td>
<td>0.017 to 0.025</td>
</tr>
<tr>
<td>Total impact under central estimate and with switching</td>
<td>Up to 1,042,000</td>
<td>0.05 to 0.06</td>
</tr>
</tbody>
</table>

Transport Analytical Services
Transport Scotland
September 2014
Annex A

Evolution of and changes to UK Air Passenger Duty 1994 - 2015

Introduced in 1994 APD rates were initially differentiated by whether the destination was within or outside the then European Economic Area (EEA). At that time the EEA consisted of the European Community member states – 12 countries - and the 7 members of the European Free Trade Association. As the European Union expanded so member states were included in the EEA.

In 2001 the APD exemption applying to a return leg of a domestic flight was removed, the rates were increased for all destinations and new standard and reduced rates of duty were introduced as shown in Table A1 below. The standard rate was applied to any higher class of ticket than the lowest class on that flight. It took almost a further six years for the rates of APD to be increased again.

In 2009 a four destination band structure was introduced based on geographical distance from London to the capital of the destination country. The four bands are defined as follows:

Band A 0 – 2,000 miles
Band B 2,001 – 4,000 miles
Band C 4,001 – 6,000 miles
Band D over 6,000 miles

The complete history of APD charges is set out in table A1 below.

All domestic and European flights fall within Band A, along with some North African (e.g. Libya) and near Asian countries west of the Urals such as Belarus and Ukraine. Band B covers North America, stretches to Central Africa and to the Middle East. China, India and South Africa are in Band C. For a full country by country breakdown by APD band see the HMRC website.

APD Proposal and Banding

In considering the picture for Scotland, it has been assumed that the same ‘capital to capital distance forms the basis of the banding and that the other details of the scheme remain as formulated under the current UK policy. Further, it is assumed that there is no change in banding for any destination when measured from Edinburgh rather than London.
### Table A1: Rates of APD since 1994

<table>
<thead>
<tr>
<th>Date of Change</th>
<th>Lower Rate</th>
<th>Higher Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>01/11/1994</td>
<td>5.00</td>
<td>10.00</td>
</tr>
<tr>
<td>01/11/1997</td>
<td>10.00</td>
<td>20.00</td>
</tr>
</tbody>
</table>

The lower rate applied to domestic passengers and passengers travelling within the European Economic Area and closely connected destinations. All other destinations attracted the higher rate.

<table>
<thead>
<tr>
<th>EEA</th>
<th>Reduced Rate</th>
<th>Standard Rate</th>
<th>Non EEA</th>
<th>Reduced Rate</th>
<th>Standard Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>01/04/2001</td>
<td>5.00</td>
<td>10.00</td>
<td>20.00</td>
<td>40.00</td>
<td></td>
</tr>
<tr>
<td>01/02/2007</td>
<td>10.00</td>
<td>20.00</td>
<td>40.00</td>
<td>80.00</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Band A</th>
<th>Reduced Rate</th>
<th>Standard Rate</th>
<th>Higher Rate</th>
<th>Band B</th>
<th>Reduced Rate</th>
<th>Standard Rate</th>
<th>Higher Rate</th>
<th>Band C</th>
<th>Reduced Rate</th>
<th>Standard Rate</th>
<th>Higher Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>01/11/2009</td>
<td>11.00</td>
<td>22.00</td>
<td>45.00</td>
<td>90.00</td>
<td>50.00</td>
<td>100.00</td>
<td>110.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01/11/2010</td>
<td>12.00</td>
<td>24.00</td>
<td>60.00</td>
<td>120.00</td>
<td>75.00</td>
<td>150.00</td>
<td>170.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01/04/2012</td>
<td>13.00</td>
<td>26.00</td>
<td>65.00</td>
<td>130.00</td>
<td>81.00</td>
<td>162.00</td>
<td>184.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01/04/2013</td>
<td>13.00</td>
<td>26.00</td>
<td>52.00</td>
<td>67.00</td>
<td>134.00</td>
<td>268.00</td>
<td>332.00</td>
<td>94.00</td>
<td>188.00</td>
<td>376.00</td>
<td></td>
</tr>
<tr>
<td>01/04/2014</td>
<td>13.00</td>
<td>26.00</td>
<td>52.00</td>
<td>69.00</td>
<td>138.00</td>
<td>276.00</td>
<td>340.00</td>
<td>97.00</td>
<td>194.00</td>
<td>388.00</td>
<td></td>
</tr>
<tr>
<td>01/04/2015</td>
<td>13.00</td>
<td>26.00</td>
<td>52.00</td>
<td>71.00</td>
<td>142.00</td>
<td>284.00</td>
<td>284.00</td>
<td>71.00</td>
<td>142.00</td>
<td>284.00</td>
<td></td>
</tr>
</tbody>
</table>
Annex B

Price Elasticity of Demand

The most disaggregated price elasticity of demand data found was at the UK level, and the latest available estimates were published in the January 2013 DfT publication of UK aviation forecasts10.

Table B1: Long run price and income elasticities of UK air passenger demand

<table>
<thead>
<tr>
<th>Sector</th>
<th>2008 share of passenger traffic</th>
<th>Sector PED</th>
<th>Market PED</th>
<th>Sector YED</th>
<th>Market YED</th>
</tr>
</thead>
<tbody>
<tr>
<td>UBW</td>
<td>6%</td>
<td>-0.3</td>
<td>-0.2</td>
<td>1.3</td>
<td>1.2</td>
</tr>
<tr>
<td>UBO</td>
<td>1%</td>
<td>0.0</td>
<td>1.0</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>UBN</td>
<td>0%</td>
<td>0.0</td>
<td>-0.2</td>
<td>1.3</td>
<td></td>
</tr>
<tr>
<td>UBL</td>
<td>1%</td>
<td>0.0</td>
<td>1.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ULW</td>
<td>33%</td>
<td>-0.7</td>
<td>-0.7</td>
<td>1.3</td>
<td>1.4</td>
</tr>
<tr>
<td>ULO</td>
<td>5%</td>
<td>-0.3</td>
<td>1.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ULN</td>
<td>1%</td>
<td>-0.6</td>
<td>1.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ULL</td>
<td>6%</td>
<td>-0.9</td>
<td>1.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FBW</td>
<td>5%</td>
<td>-0.2</td>
<td>-0.2</td>
<td>1.1</td>
<td>1.0</td>
</tr>
<tr>
<td>FBO</td>
<td>1%</td>
<td>-0.2</td>
<td>0.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FBN</td>
<td>0%</td>
<td>0.0</td>
<td>0.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FBL</td>
<td>1%</td>
<td>0.0</td>
<td>0.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FLW</td>
<td>10%</td>
<td>-0.8</td>
<td>-0.6</td>
<td>1.2</td>
<td>1.0</td>
</tr>
<tr>
<td>FLO</td>
<td>3%</td>
<td>-0.3</td>
<td>0.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FLN</td>
<td>0%</td>
<td>-0.2</td>
<td>0.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FLL</td>
<td>1%</td>
<td>-0.3</td>
<td>0.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DMB</td>
<td>7%</td>
<td>-0.3</td>
<td>-0.5</td>
<td>1.0</td>
<td>1.7</td>
</tr>
<tr>
<td>DML</td>
<td>8%</td>
<td>-0.7</td>
<td>1.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I to I</td>
<td>10%</td>
<td>-0.7</td>
<td>-0.7</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>Overall</td>
<td>100%</td>
<td>-0.6</td>
<td></td>
<td>1.3</td>
<td></td>
</tr>
</tbody>
</table>

This publication provides a breakdown of elasticities for both price and income, by different trip purpose and length. In this particular analysis the only concern is the price elasticity of demand (PED) and further still, only UK passenger demand. In the table above this demand is prefixed with a 'U' for international trips and 'DM' for domestic flights and these are highlighted in brown.

10 UK Aviation forecasts
The other categories in the sectors are as follows:

‘B’ - business
‘L’ - leisure
‘W’ - Western Europe
‘O’ - OECD countries except those in Western Europe
‘N’ - newly industrialised countries
‘L’ - Less Developed Countries

UBO covers UK based passengers travelling on business to OECD countries, ULW UK passengers travelling on leisure to western European countries and DML are UK passengers flying within the UK for leisure purposes.

As the analysis required in this paper needs these categories mapped onto the UK APD bands several adjustments are needed.

For domestic flights, both leisure and business flights map directly across to Band A domestic leisure and Band A domestic business. For Band A international, the assumption made is that this category is made up of group UBW and ULW. All of these categories would fall into the short haul category. As most of the remaining flights from Scotland in bands B and C are to North America UBO and ULO are used for all bands beyond A.

Taking this approach leads to the following elasticities and categories for use in the analysis

Table B2: Elasticities based on trip purpose and APD banding

<table>
<thead>
<tr>
<th>Category</th>
<th>Price Elasticity of demand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic (leisure)</td>
<td>-0.7</td>
</tr>
<tr>
<td>Domestic (business)</td>
<td>-0.3</td>
</tr>
<tr>
<td>International (leisure) - Band A</td>
<td>-0.7</td>
</tr>
<tr>
<td>International (business) - Band A</td>
<td>-0.3</td>
</tr>
<tr>
<td>International (leisure) - Band B, C, D</td>
<td>-0.3</td>
</tr>
<tr>
<td>International (business) - Band B, C, D</td>
<td>-0.2</td>
</tr>
</tbody>
</table>
Annex C

Aviation data sources

<table>
<thead>
<tr>
<th>Data</th>
<th>Source</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aviation Price Elasticity of Demand</td>
<td>Elasticities</td>
<td>UK aviation forecasts paper (January 2013). Categories used shown in the DfT paper Table A25</td>
</tr>
<tr>
<td>UK Passenger Numbers and Destination</td>
<td>CAA</td>
<td>CAA data is available, by destination. This can be mapped onto HMRC APD Bands</td>
</tr>
<tr>
<td></td>
<td>HMRC</td>
<td></td>
</tr>
<tr>
<td>Scottish Passenger Numbers and Destination</td>
<td>STS</td>
<td>CAA data for Scotland is published in Scottish Transport Statistics</td>
</tr>
<tr>
<td>Ticket Prices 2009</td>
<td>CPI</td>
<td>There is no available 2009 price data so it has been deflated using the CPIH Table 25 Index L54F</td>
</tr>
<tr>
<td>Ticket Prices 2013</td>
<td>Prices</td>
<td>Estimate of average annual return price for 1 adult to popular destinations from the UK.</td>
</tr>
<tr>
<td>Aviation Emissions</td>
<td>GHG  emissions</td>
<td>Taken from the National Inventory database</td>
</tr>
</tbody>
</table>

Price Elasticity of Demand

There are numerous ways to generate price elastic of demand values. Often these take a grouping approach such as European, North American, EU or OECD over a country specific set of estimates. Further disaggregation into leisure or business travel or domestic, short or long haul often doesn’t get included at this regional level either. Instead the focus is on an overall price elasticity of demand.

At individual country level analysis this further disaggregation is often present and this is the case with the UK data. The most frequent and comprehensive assessments come from the DfT, with the latest estimates published in January 2013.

UK and Scottish Passenger Numbers

The Civil Aviation Authority provides annual data on passenger numbers broken down by UK airport and destination airport and country. As it is possible to directly map the HMRC APD banding directly across to the country level and airport level data from the CAA it is possible to bring the two datasets together and produce a passenger breakdown by APD band for both the UK and specifically for Scotland.

Airline Ticket Prices

There is no independent publicly available data source for airline ticket prices. That said, there are many price comparison sites so information is available and
collectable, albeit it is not possible to be certain about the accuracy and completeness of the data contained within these searches, or the validity of all of the prices quoted. The comparison site used in this analysis provides a monthly average price over a calendar year from which internal analysis has estimated an annual average and the price of a business class ticket relative to this average standard class ticket price. This average ticket price is likely to be un-weighted but the paper carries out some sensitivity analysis around the point average price for each destination in order test the importance of price to the overall outcome.

No data source could be found for 2009 prices so the only possibility available was to deflate the 2013 price. Rather than use the broad measure of CPI the analysis instead uses the sub category 7.3 Transport Services and within that *Passenger Transported by Air*. This shows that over the last four years prices have increased by 31%. The analysis assumes that this increase takes account of the change in APD as part of this overall change in price recorded in the CPI index.