

THE STILL-FLYING SCOTSMAN: TRENDS IN THE SCOTTISH CIVIL AVIATION MARKET SINCE JANUARY 2000

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INTRODUCTION

It has been said that change is exponential rather than linear. Things may not change overmuch in two years; they can change a great deal in ten. This is well-illustrated by seeing how the passenger flows within the Scottish airport environment have changed since January 2000. A growing economy translated into strong growth in patronage in the first half of the 2000s, just as the declining economy since has had the reverse effect. The timespan under analysis falls very much into two parts, that is, pre- and post-credit crunch. This helps us understand the relative changes in travel demand, although changes in fare levels have had an effect as well. In the last two years (calendar-2011 and -2012) the situation saw some improvement, although it must be stressed from the outset that this improvement was hardly uniform, either by market segment or even by airport.

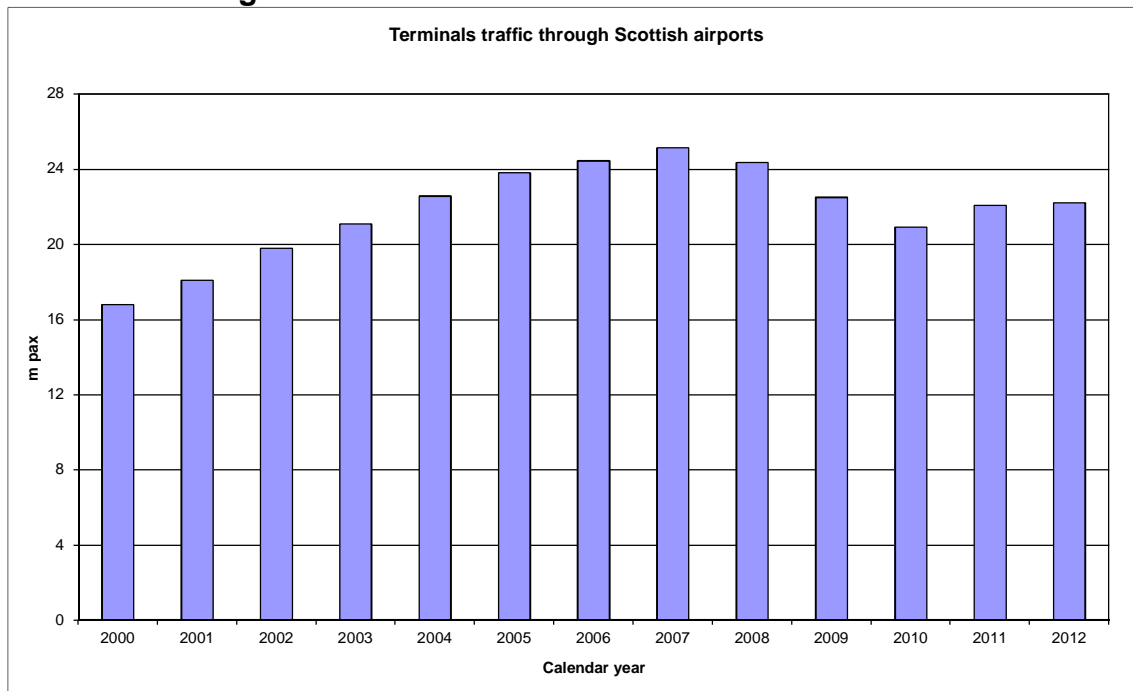
This paper is intended to contribute to a better understanding of the processes underlying the changes in the market over this period. It is structured in four parts. First, the overall factors behind the growth are identified, both in terms of the economy and also changes in fare levels. Second, a detailed analysis of the numbers looks at demand by individual market and individual airport and explains the changes, including in particular why the changes have been less than uniform. Traffic in the modes which compete with air is also noted, in order to come to a view on overall cross-border travel activity. Third, a summary of the overall changes, including that within the cross-border market as a whole, is provided. Fourth, from this analysis a variety of policy issues are identified, including access between Scotland and London Heathrow, and the landside access to the main Scottish airports. The paper also argues that a wider view can be taken of what comprises a “hub airport” for the UK.

The data used for this analysis are mostly from the Civil Aviation Authority, and thus are in the public domain, and with data from the Office of Rail Regulation as well. Disclaimer: this paper has been produced in a personal capacity; it is not an official Transport Scotland research project; and its views do not necessarily reflect official Transport Scotland policy.

1. THE OVERALL ENVIRONMENT

We start with the overall terminal flows, as reported in Table 8.1 of the *Scottish Transportation Statistics*, which uses CAA data. Chart 1 following shows the effects of the economic growth post-2000 on overall Scottish terminal traffic. After a peak in the 2007 calendar year, of over 25m passengers, a significant decline began, and 2010 was affected by the ash cloud and bad weather as well. By this stage, airport traffic was nearly twenty percent below the 2007 peak. The last two years, though have seen something of a recovery, and final traffic volumes were reported by the CAA at 22.05m passengers for calendar-2011, and 22.2m passengers for 2012, excluding transfers. This is some 3m passengers down on the peak in 2007.

Chart 1 Changes in terminal flows

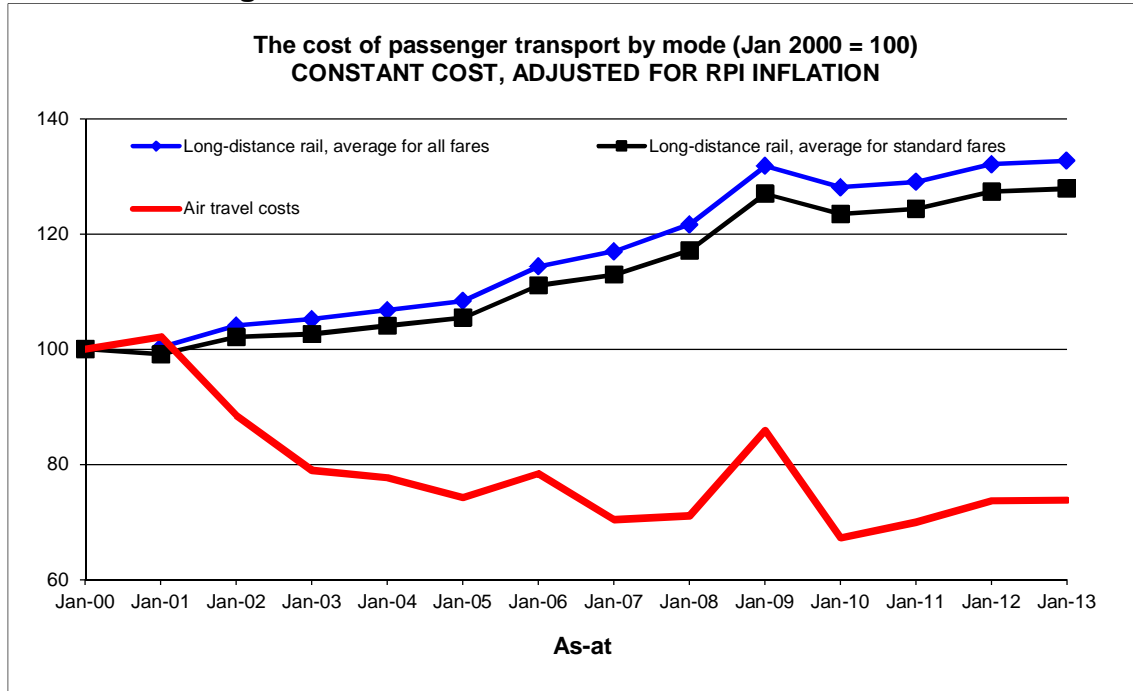


Total terminal volumes increased by nearly half in the years 2000-2007; then fell off 17 percent between 2007 and 2010; but increased 5.5 percent in 2011 before then levelling out in 2012. To provide some wider context for that growth, volumes doubled in the thirteen years 1994-2007, from 12.14m to 25.13m passengers. This overall trend probably reflects the effects of an extended period of economic growth which had begun after the end of the early 1990s recession in early 1992; it is now clear that this growth came to an end during the first quarter of 2008, and before the banking crisis later that year (refer Heywood, *et al.*, (2010), for more information). The levelling-out last year is certainly consistent with an economy which barely grew over that time¹.

There have also been significant changes by individual airport and market, and these will be discussed further in the paper.

The second important contributor to growth in the market was from changes in absolute and sometimes relative fare levels. Using a mix of ORR and ONS data, the trends in air and rail fares over this period is shown in Chart 2 following. Airfares are advised for “all routes”; while a separate breakdown of domestic and international airfares is not provided, this is still regarded as a satisfactory measurement.

Chart 2 Changes in fare levels – real-terms movements



By January 2010, airfares were in real terms, some thirty percent lower than where they were in January 2000. The increases since January 2010 reflect both higher fuel costs and higher levels of Air Passenger Duty, but airfares are still some twenty-five percent lower, in real terms, on where they were in January 2000 (the increase in nominal terms between 2000 and 2013 is slight, at about ten percent). The decrease in airfares certainly encouraged demand for international air services.

However, by January 2010, standard long-distance rail fares were some 23 percent higher in real terms than where they were in January 2000. By January 2013, those fares were some 28 percent higher in real terms than where they were in January 2000. When all long-distance rail fares are looked at (that is, including first class), they were some 28 percent higher in January 2010, and 33 percent higher in 2013, over where they had been in January 2000. This divergence in relative fare structures had a measurably negative effect on cross-border rail demand for at least a number of years, before other factors affecting rail and air demand came into play (Clark, 2008 and 2009).

2. MARKET ANALYSIS

We turn to the detail. Table 1 following shows the components of the Scottish aviation market, by year, beginning with an analysis of total terminal flows.

Table 1a – total terminal flows within the Scottish aviation market

Scottish terminals traffic: an analysis		All passenger counts in millions							
	calendar year -->	2006	2007	2008	2009	2010	2011	2012	Data source
[1]	Total reported:	24.44	25.13	24.35	22.50	20.91	22.07	22.21	CAA terminals data
[2]	Direct international	9.67	10.35	10.35	9.74	9.27	10.06	10.21	CAA int'l data
[3]	To the rest of the UK proper	12.96	12.87	12.07	10.89	9.83	10.12	10.12	As-advised by STS
[4]	Channel Islands/IoM	0.06	0.07	0.07	0.06	0.06	0.06	0.07	CAA domestic data
[5]	Northern Ireland	0.94	0.93	0.90	0.87	0.80	0.83	0.86	CAA domestic data
[6]	To the rest of GB	12.02	11.94	11.17	10.02	9.03	9.30	9.26	[3] - [5]
[7]	Scotland proper, inc oil rigs	1.74	1.83	1.86	1.81	1.75	1.82	1.81	[1] - [2] - [3] - [4]
[8]	Interlined	2.30	2.22	2.04	1.82	1.67	1.58	1.49	Modelled [Clark, 2008]
[9]	Restated international	11.97	12.57	12.39	11.56	10.94	11.64	11.71	[2] + [8]
[10]	Restated GB	9.73	9.72	9.13	8.20	7.36	7.72	7.76	[6] - [8]
[11]	Scottish airports to oil rigs	0.61	0.64	0.64	0.60	0.59	0.64	0.66	CAA int'l data
[12]	Scottish airports, internal	1.13	1.19	1.22	1.20	1.16	1.19	1.15	[7] - [11]

Table 1b – total terminal flows within the Scottish aviation market

Scottish terminals traffic: an analysis		All passenger counts in millions							
	calendar year -->	2006	2007	2008	2009	2010	2011	2012	Data source
[1]	Total reported:	24.44	25.13	24.35	22.50	20.91	22.07	22.21	CAA terminals data
[2]	Direct international	9.67	10.35	10.35	9.74	9.27	10.06	10.21	CAA int'l data
[3]	To the rest of the UK proper	12.96	12.87	12.07	10.89	9.83	10.12	10.12	As-advised by STS
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[12]	Scottish airports, internal	1.13	1.19	1.22	1.20	1.16	1.19	1.15	[7] - [11]

This table takes the total advised flows [1], and then breaking out the direct international flows [2], traffic to the rest of the United Kingdom proper [3] and that to the Channel Islands and the Isle of Man [4] ². Once the Northern Ireland traffic [5] is broken out of [3], we can see traffic to the rest of Great Britain [6], which needs to be known in order to understand the degree of competition from railway traffic. The traffic which is not moving either internationally, to the rest of the United Kingdom, or to the Channel Islands and the Isle of Man, is therefore travelling internally within Scotland, including the oil rigs traffic [7]. At this point we can account for the ‘interlined’ traffic market (that is, flying domestically between Scotland and London in order to fly further afield or vice versa). This is shown in [8]. The approach used for the derivation of the interlining numbers is explained further in Clark (2008) ³. These can then be added to the international numbers [9] and subtracted from the Great Britain numbers [10], in

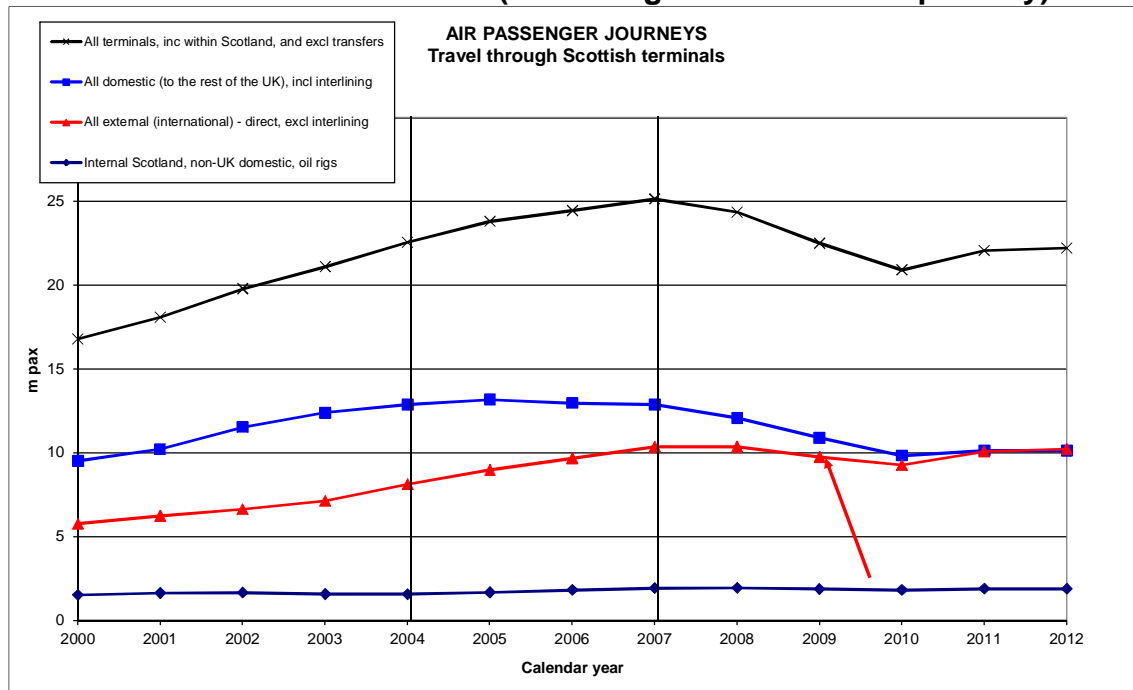
order to represent better the respective markets. A separate advice of the oil rigs traffic is also provided [11] – for some reason, they are reported within the ‘international’ statistics – with the residual [12] being the Scottish internal air traffic (more precisely, traffic between two Scottish airports, which is counted twice because, logically, two airports are involved).

2.1 The international market

The first issue worth looking at is the distinction between domestic and inter-national traffic. We start by taking chart 1 above, and with the data from table 1, disaggregate it into traffic elsewhere in the UK, and direct international traffic. The situation for Great Britain proper is covered later.

Key message #1: the Scottish aviation task is now more about international travel than travel to the remainder of the United Kingdom

Chart 3 The main traffic flows (interlining not identified separately)

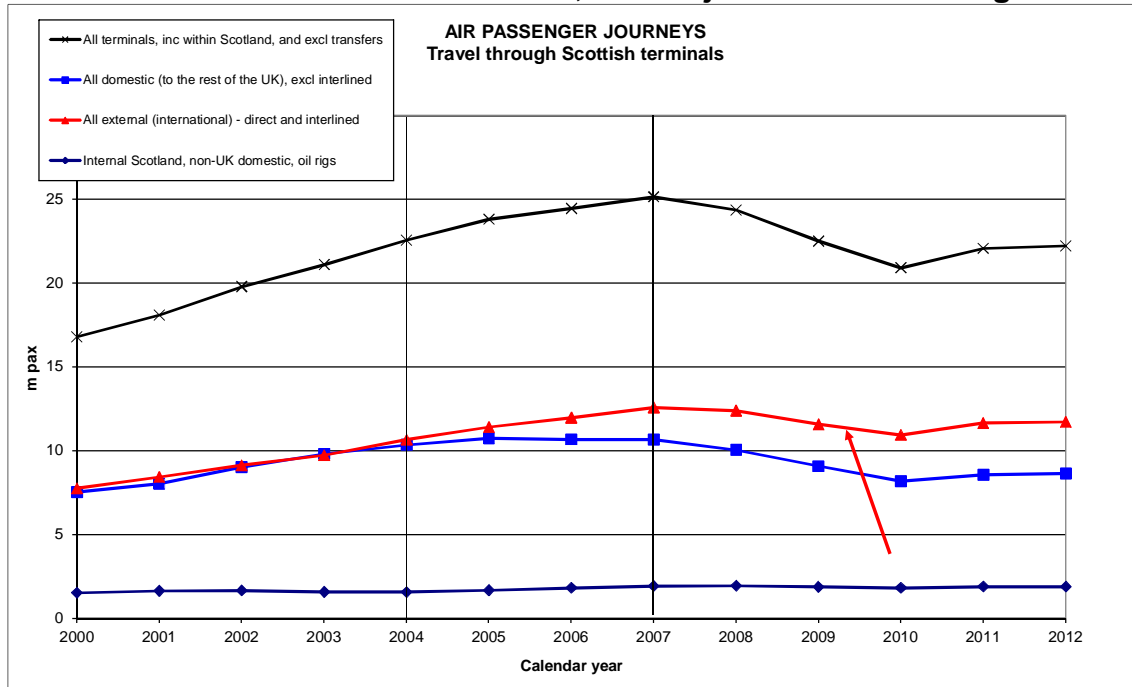


These are the air passenger journey data as-presented in Table 8.1 of the *Scottish Transportation Statistics* (Scottish Government, annually). On that basis, one might think that what we have seen since 2000 has been really about the UK and direct international markets (highlighted) growing together in magnitude. Certainly what is clear is the way in which the direct international market continued to grow after 2004, when it is now clear that the market to the rest of the UK had stopped growing. Also, direct international flows held up after 2007 much better than domestic flows did. Last year, though, domestic volumes increased slightly, after three years of decline – they are now somewhat higher than in 2001 – and international journeys showed more growth again.

The presentation of the data in this way does not factor in any interlining. If the interlining numbers are added into the international traffic and taken out of the UK traffic, we see that within the Scottish aviation task, there were similar volumes of

international and domestic journeys until 2004; this is also the consistent long-term picture from at the mid-1990s. However, from 2004, the international task kept growing when the domestic task had levelled out, to all intents and purposes, as shown below. Chart 4 following illustrates the effects of treating interlined traffic in this way.

Chart 4 The main traffic breakdown, now adjusted for interlining



What this market analysis also shows is that the international market declined by less than the market for travel between Scotland and Great Britain, and that decline started later; that is, traffic volumes held up quite well during 2008, at a time when the economy was clearly going into recession (refer chart 9a following). The falloff between 2007 and 2011 was by less than a million passengers (7%) for the international market, including interlining; but by over two million passengers (20%) for the domestic market. Relative to 2004, the international market has grown in size by about a million passengers per year in total, against a decline of nearly two million passengers for travel between Scotland and the remainder of Great Britain. It is clear that over the longer term there has been a significant re-orientation of the underlying market; Scots, as is true for other UK-based travellers, are now much more interested in travelling abroad than travelling domestically. International volumes are nearly back to where they were at the end of 2007, which stands in sharp contrast to domestic airline volumes.

A good way of illustrating the size of the international flows, is to put them alongside the larger domestic flows. When this is done, the size of the direct international travel tasks comes into better focus:

Table 2 – Scotland to the rest of the world ⁴

Scotland as a whole to:													
(000s)	Calendar year:												
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Heathrow	3,717	3,442	3,566	3,634	3,902	3,817	3,504	3,356	3,126	3,027	2,866	2,745	2,747
Gatwick	1,125	1,120	1,418	1,638	1,623	1,578	1,645	1,755	1,618	1,523	1,430	1,635	1,769
Amsterdam	700	892	1,057	1,036	1,021	977	1,019	1,074	1,070	981	1,002	1,137	1,246
Luton	1,101	1,249	1,287	1,232	1,191	1,187	1,107	1,089	954	855	709	781	755
Dublin	643	836	989	898	843	841	937	938	914	806	701	730	699
Stansted	960	1,402	1,542	1,599	1,487	1,462	1,401	1,324	1,163	957	856	822	675
Bristol	236	319	589	621	637	690	709	612	571	544	520	617	646
Birmingham	586	571	703	799	800	871	918	958	923	766	639	632	630
London City	252	241	184	194	242	283	364	481	524	483	486	526	525
Paris CDG	294	215	207	245	238	260	272	366	513	523	491	511	519
Tenerife	308	329	350	371	357	377	392	386	386	350	336	426	427
Palma de Mallorca	391	442	466	529	483	494	475	467	453	378	326	459	402
Alicante	208	245	243	278	349	381	404	425	433	374	306	394	397
Southampton	159	157	145	195	336	444	473	418	437	397	368	368	396
Manchester	404	442	487	518	539	593	584	543	556	414	335	363	390
Malaga	181	173	189	239	307	333	360	380	329	379	272	329	356
Dubai					99	168	193	231	241	244	269	275	315
Frankfurt-Main	107	110	141	173	158	176	189	178	166	135	131	175	281
Faro	139	141	153	175	191	209	246	257	262	207	190	252	246
Newark	112	117	123	128	188	242	261	293	267	261	266	256	239

Note that flows between Scotland as a whole and Amsterdam (1.25m pax in 2012) are larger than any equivalent domestic (UK) flow, except those between Scotland and Heathrow (2.75m in 2012) and Scotland and Gatwick (1.77m in 2012). Over the period in consideration, Scotland-Amsterdam has always been a major traffic; and Scotland-Dublin has been nearly as large.

Table 3 – Scotland to the rest of the world, by individual route

Scotland as a whole to:													
(000s)	Calendar year:												
By sector:	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
EDI-LHR	1,674	1,577	1,603	1,662	1,696	1,660	1,495	1,437	1,319	1,306	1,245	1,271	1,255
GLA-LHR	1,528	1,388	1,448	1,465	1,536	1,427	1,284	1,207	1,144	1,080	1,003	821	829
EDI-LGW	364	377	679	771	739	754	754	748	705	648	604	669	697
ABZ-LHR	516	477	515	507	624	664	673	659	656	641	618	653	664
GLA-LGW	358	356	338	388	397	372	433	571	522	515	489	566	607
EDI-AMS	288	448	458	474	461	417	457	502	466	453	495	559	567
EDI-DUB	242	381	509	414	349	356	418	445	450	445	377	406	399
GLA-AMS	228	264	407	351	330	319	286	291	315	274	260	299	372
EDI-STN	451	487	513	500	500	521	470	449	402	374	330	390	343
GLA-STN	68	287	334	378	397	436	462	448	359	305	302	343	332
EDI-BRS	111	161	298	324	326	330	318	261	250	235	227	287	296
EDI-BHX	287	289	335	373	384	471	495	435	401	336	288	289	286
ABZ-AMS	184	180	192	210	230	240	277	280	289	254	247	272	281
GLA-LTN	437	491	510	475	467	452	414	408	352	326	248	275	276
EDI-LTN	396	486	502	485	453	476	444	429	360	316	242	259	270
GLA-BRS	105	144	266	293	309	299	280	243	220	212	201	222	240
ABZ-LGW	246	236	241	255	240	217	217	215	148	136	130	178	234
GLA-BHX	285	278	316	361	345	324	326	347	337	269	213	212	208
ABZ-MAN	128	152	151	125	119	119	135	122	132	105	93	145	181
GLA-SOU	74	71	66	77	117	193	203	166	162	156	143	140	174
GLA-DUB	204	248	195	182	162	192	171	169	168	113	107	132	138
ABZ-LTN	160	159	164	159	156	157	149	150	139	127	129	148	120

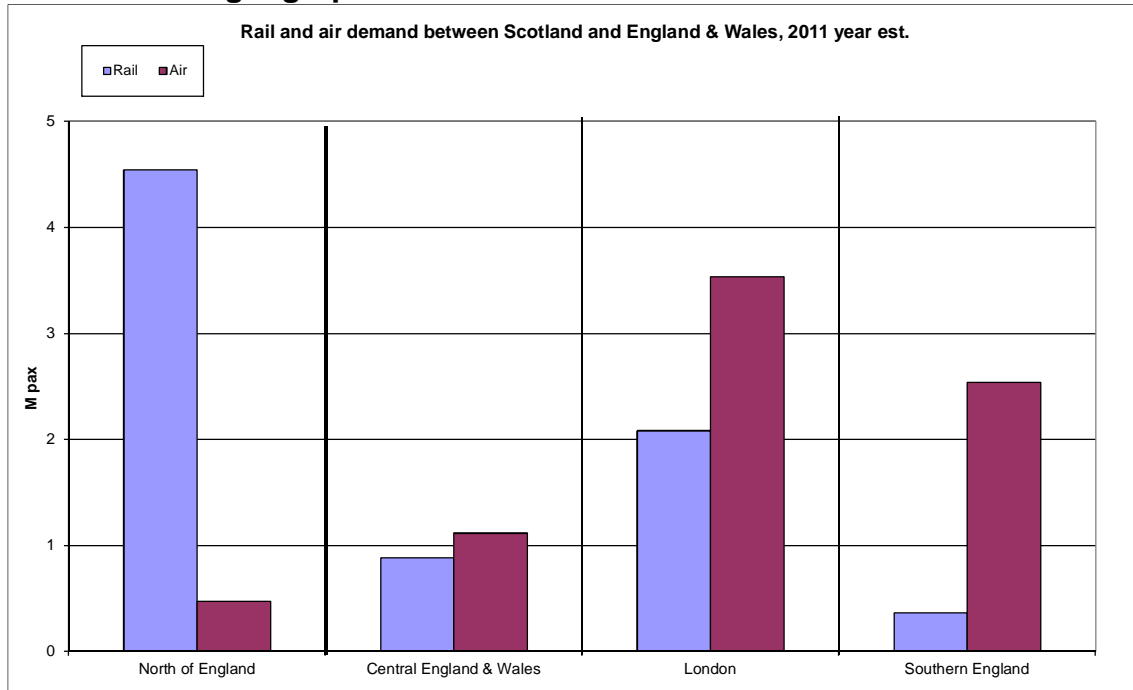
If the individual flows are considered, then Amsterdam was Edinburgh Airport's busiest journey pair in 2012 (567,000) after Heathrow (1.25m) and Gatwick (697,000); this individual traffic is also the sixth busiest by-airport flow between Scotland and the rest of the world, and the next in the list is Edinburgh-Dublin (399,000). The trend over time towards greater foreign travel is clear. Both of these tables are sorted by calendar-2012 demand. Amsterdam is also the third-biggest market for Glasgow and the second-biggest for Aberdeen.

2.2 Travel between Scotland and Great Britain

We now turn to the trends for domestic travel proper. Essentially, the market can be divided into travel between Scotland and the North of England, and then Scotland to the rest of Great Britain, as shown in Chart 5a. Rail travel data is introduced into the analysis at this stage because of the substantial competition rail provides for domestic airline services.

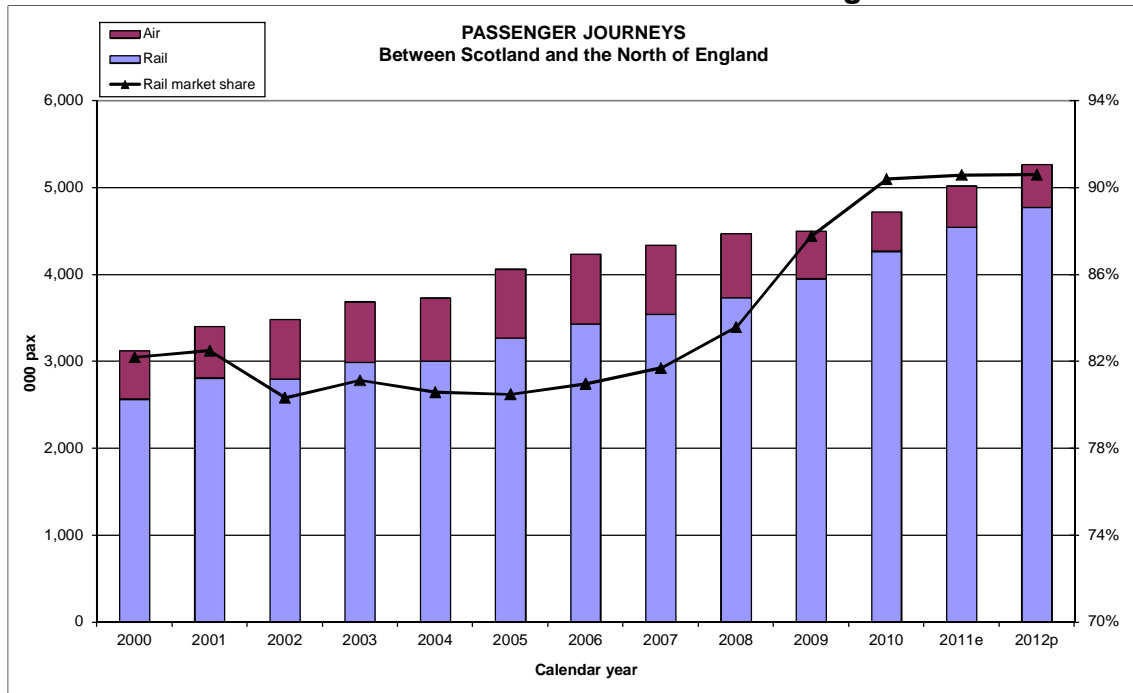
Over half the cross-border rail traffic is between Scotland and the North of England; and there is now very little airline traffic in the same market, which is why the market share values are also shown below with the north-of-England traffics excluded. The 2011 data are estimated (2011e) and the 2012 data are projected (2012p), meaning that a ‘health warning’ is in order for the rail data for these two years. Finalised 2011-12 data (equivalent for this analysis to calendar-2011) will be available from the ORR by August 2013, and this analysis will be updated at that stage.

Chart 5a The geographical distribution of cross-border traffic



The essential driver of rail’s modal market share is relative rail travel time. The evidence (Clark, 2008; Clark, 2009) is that at a rail journey of somewhat more than four and a quarter hours, its modal share vis-à-vis air travel is about equal; but it does not need much movement from that point, in either direction, for market share to change significantly. A specific analysis for travel between Scotland and the North of England is provided below.

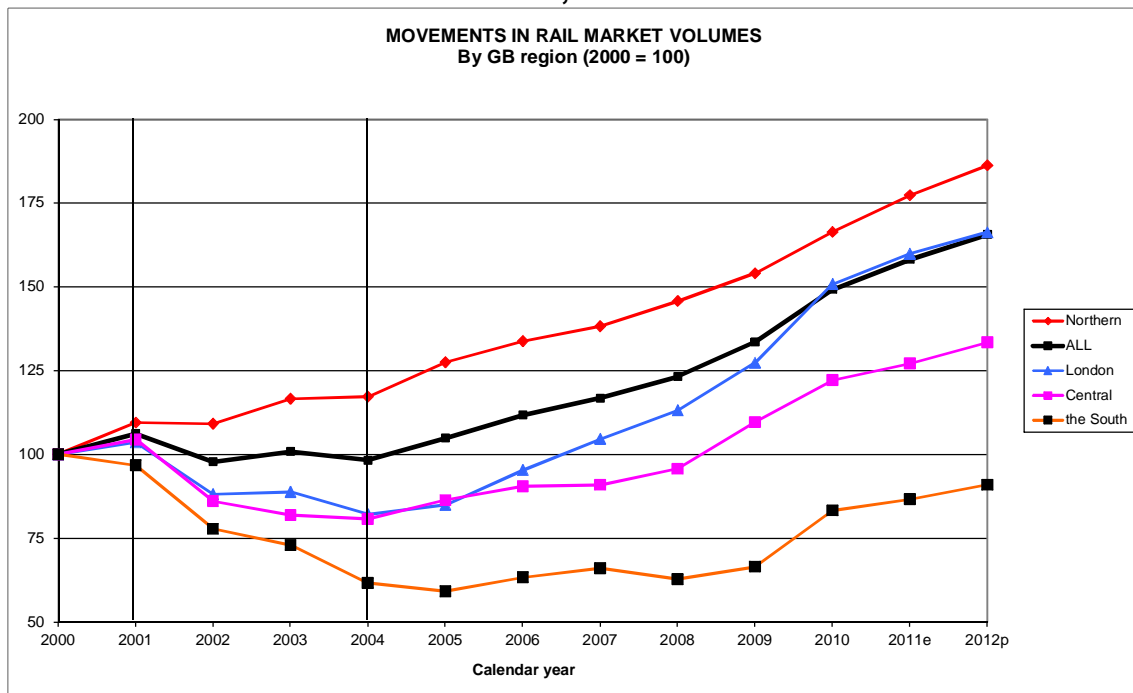
Chart 5b Traffic between Scotland and the North of England



The limited aviation traffic shown here is mostly to Manchester.

The overall trends in the various rail markets relative to 2000 is shown below. Note that after January 2001 the markets trended in some significantly different ways before the general recovery post-2004.

Chart 5c Movements in rail markets, relative to calendar-2000



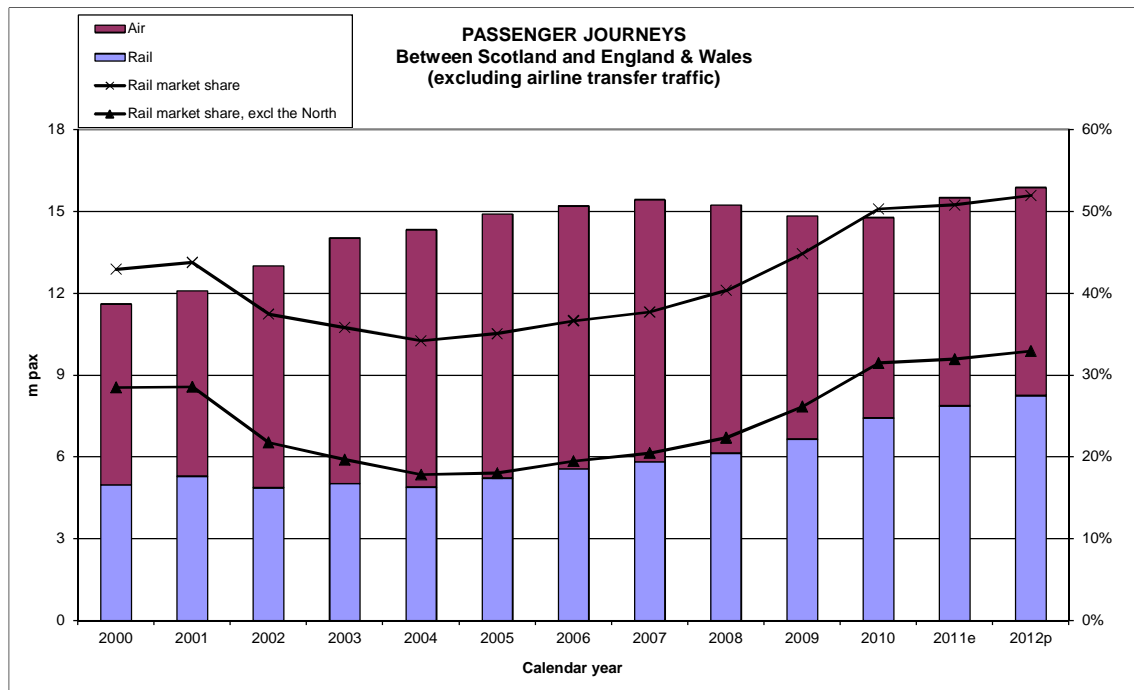
With that in place, we can now comment on the trends in the rail/air market.

Key message #2: rail has regained from aviation the level of market share it held at the start of the 2000s

The total market between Scotland and the remainder of Great Britain grew strongly between 2000 and 2007 and then saw the same sort of slump that was evident in domestic aviation. That said, though, rail's share of that market has gone through a full circle. The sharp decline in rail market share after 2001, which was part of a longer-term trend going back to the mid-1990s (Clark, 2008 & 2009), can be traced to the sharp decrease in air relative to rail fares at that time, coupled with the post-Hatfield performance problems. This both diverted traffic from rail to air and also generated new traffic for the airlines ⁵.

After 2004, though, the situation for rail began to recover. This was probably for two main reasons. *First*, the aviation sector as a whole was facing some significant problems in their service levels, notably from stricter security standards and those 'hardy perennials' of landside (surface) access and luggage. *Second*, there were some big improvements in rail's cross-border service offering: more trains to the North of England, which is the majority of the cross-border rail market as a whole; the improvements for the West Coast Main Line were completed; there were timetable improvements; and the rail booking websites actually became useable. Put together, these developments hiked rail's share of the market considerably, and the total market for travel between Scotland and the North of England even grew over the 2007-2010 period, when most other markets were in decline. This is illustrated in Chart 5b above. The importance of this analysis is that it provides some evidence for the Scottish Ministers' view that improvements in rail services will help to grow the total market as well as rail's share of that market.

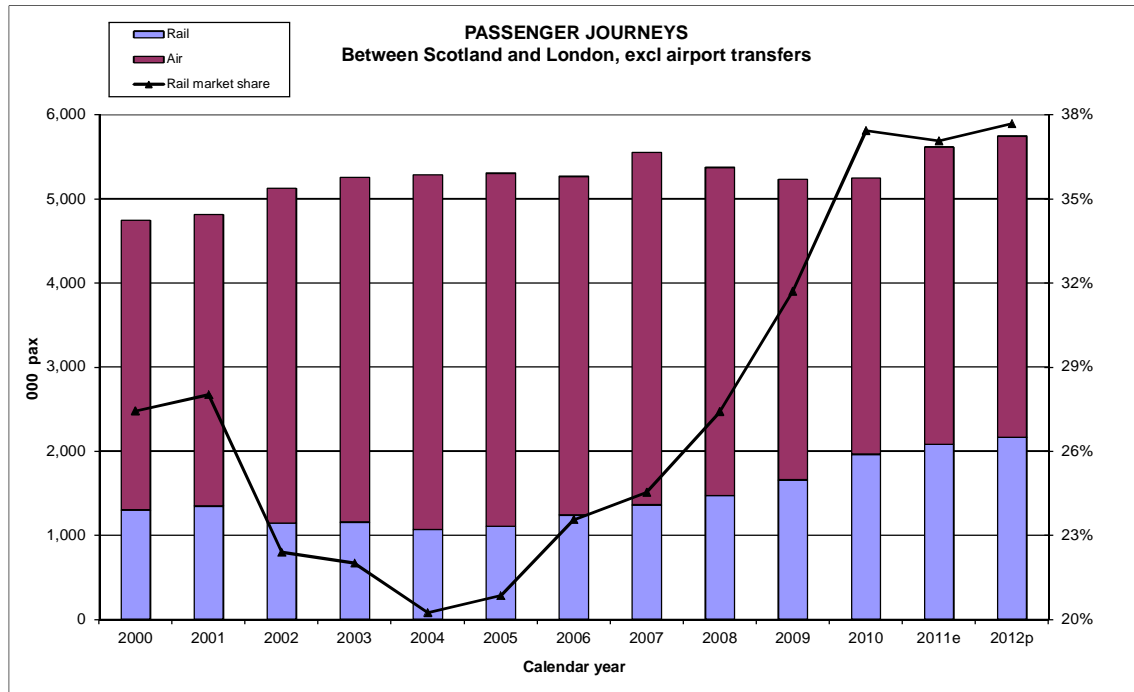
Chart 5d Traffic between Scotland and the remainder of Great Britain ⁶



One other aspect of the overall domestic market should be noted; essentially, that it has not grown at anywhere near the rate at which international traffic has grown. This means that while rail has done much better in terms of market share, it is being measured within a market that is itself not growing consistently.

We now turn to the specific market for travel between Scotland and London. This analysis is provided because this particular market is of strong interest to Scottish Ministers.

Chart 5e Travel between Scotland and London



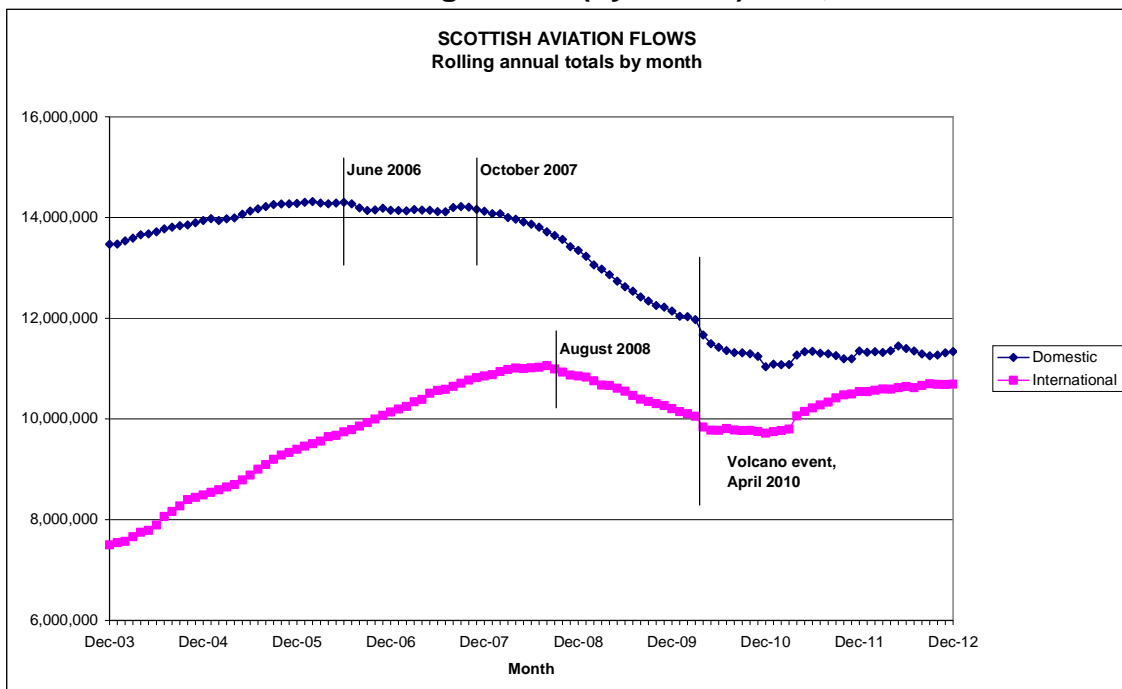
In this market, the improvement in rail’s market share has been stronger again, returning to levels not seen since the late 1990s. Here, the completion of the WCML improvements by the end of 2008 were a major factor, as they took a full hour off the journey time between Glasgow and London Euston, and the market responded accordingly. It should also be noted, however, that the domestic market *as a whole* did not grow that strongly in 2007 (+1.5 percent) and declined in the next two years (-4.0 percent); which stand in contrast to how the international market was trending over that year, even given a large real increase in airfares during that time.

A feature of the Scotland-London rail traffic is that it now has its own equivalent of interlining, in the form of traffic from Scotland which then joins Eurostar services at St Pancras to travel onwards to the Continent, and then in return. It was reported in early 2009 ⁷ that total traffic on Eurostar services, where the complete journey started or ended in Scotland, had increased some 40 percent in 2008, compared with the previous year (that is, from 57,000 to 80,000 journeys, or over five percent of the total Scotland-London rail market in that year). While this information has not been updated, it would imply that Eurostar has about 11 percent of the combined market for travel from Scotland to Paris CDG and Belgium (Brussels and Brussels-Charleroi airports). There is also a measure of rail traffic between Scotland and Manchester Airport, and even Scotland and Birmingham Airport. Data for these market pairs and for the aviation

(airline-to-airline) interlining between Scotland and either of these airports is not in the public domain.

The CAA also report data by month, for both “domestic” and “international” market sectors. The datasets are not quite comparable with the annual data presented, because domestic data includes movements within Scotland, to Northern Ireland, and interlined passengers, and international data includes oil rigs traffic. With that qualifier in mind, though, what it does help us understand is when, precisely, the changes happened. Scottish domestic travel peaked in mid-2005 and was in a slow decline after October 2007. This is also seen in the annual data shown in Charts 5d and 5e above. On the other hand, Scottish international travel grew very strongly to February 2008, and then remained stable through much of the rest of calendar-2008; these volumes went into significant decline only after August of that year. While both traffics had recovered by early 2011, international travel has continued to grow, if slowly; no clear trend is currently apparent for domestic volumes.

Chart 5f Trends in the rolling annual (by-month) data, to December 2012



In other words, this provides some more evidence of the effects of improved rail services on cross-border aviation. One would have expected a decline from the effects of the credit crunch, and that is clear, but the domestic sector has declined by much more than its international counterpart, and the decline also started earlier. If the effect has not been consistent, one must ask why. What is clear is that the aviation industry is losing interest in much of the domestic market⁸. Faced with higher (relative) domestic Air Passenger Duty (APD) – applied to both legs of a return domestic journey, not one as in the case of the international sector – competition from rail, and changes in travellers’ preferences, a number of airlines are refocusing their attentions. This is certainly what Flybe have said they are doing; and BMI Regional are refocusing their attentions on Europe as well⁹.

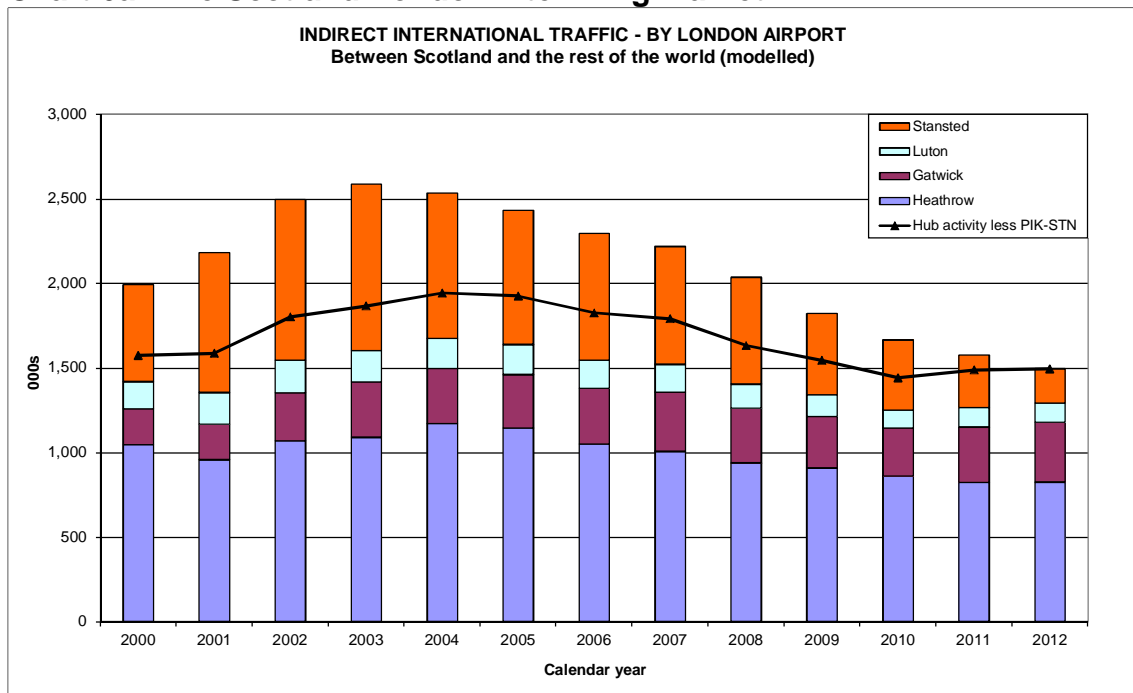
2.3 The interlining task

We now turn to the interlining task within the international market (that is, from Scotland to the rest of the world).

Key message #3: both the volume and the process of interlining is changing

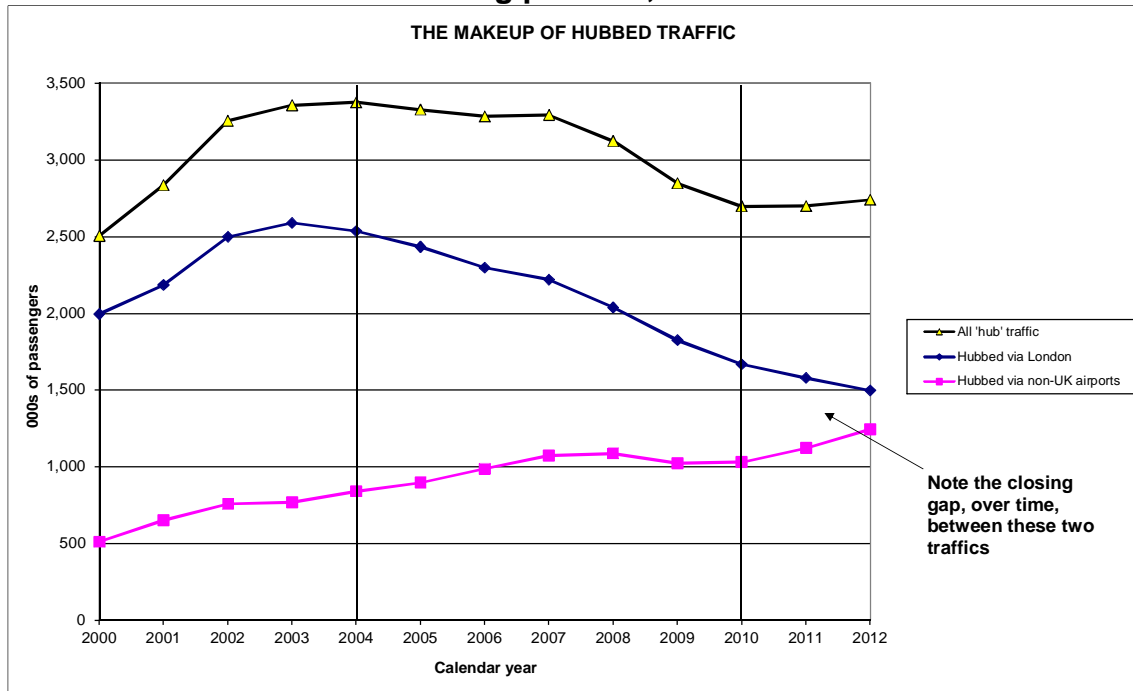
Chart 6a following shows the overall interlining flows since 2000. The volumes of interlining traffics have fallen off, which is not surprising given the growth in direct flights between Scotland and the rest of the world. While the share of the interlining traffic through Heathrow has fallen, the big decline has been the traffic through Stansted and especially the Prestwick-Stansted route (see Chart 9a below). Ryanair reduced this particular service significantly as the volume of their direct flights from Scotland increased, and the service was cancelled completely from November 2011¹⁰.

Chart 6a The Scotland-London interlining market



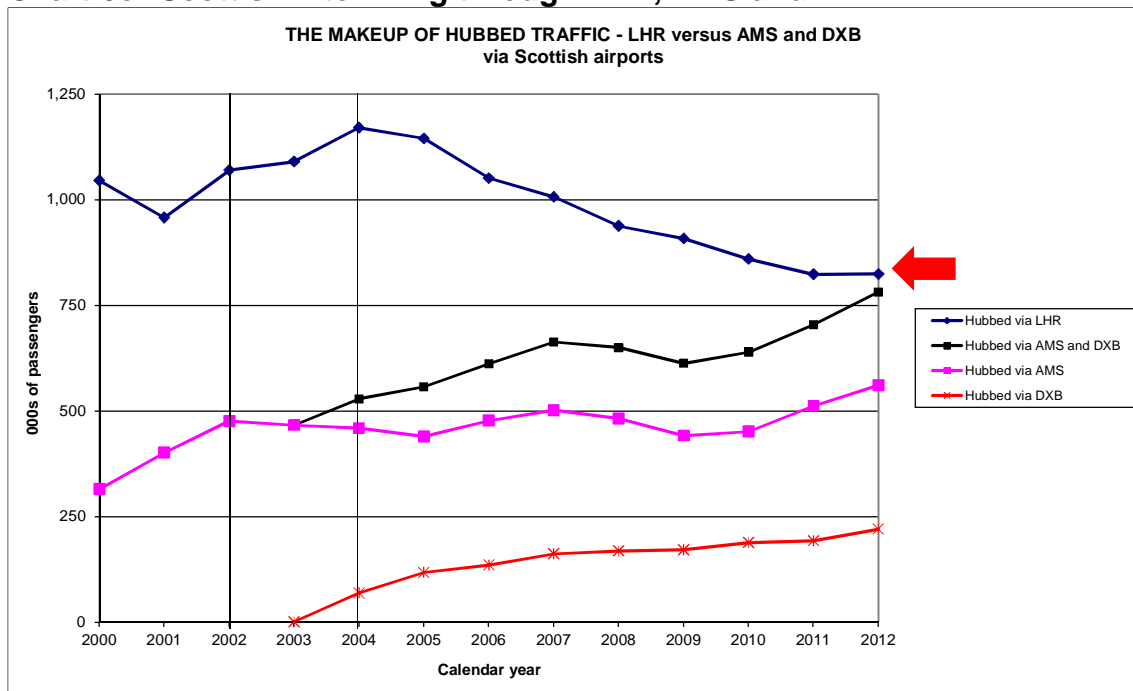
However, as Chart 6b following shows, there's more going on than a decline in the London interlining market. The other key consideration is that Scottish interlining at airports *outwith* the United Kingdom doubled between 2000 and 2007, and collectively is now close in size to the interlining task for London as a whole. About half of this traffic is via Amsterdam, but Dubai is rapidly growing in importance for it as well. The other airports included in this analysis are: Frankfurt, Paris CDG, Newark (for travel to the USA) and even Dublin: Aer Lingus has been seen to advertise its services between Dublin and Scotland on the basis that one can connect through Dublin to a variety of destinations in North America.

Chart 6b The Scottish interlining process, overall



Now, if we focus in on the specific interlining through Heathrow, Amsterdam and Dubai, which are the major airports involved, some specific market challenges facing Heathrow become apparent. In 2004, the year in which Glasgow-Dubai services commenced, the interlining through Dubai and Amsterdam in total was about half the size of the equivalent Scottish flow through Heathrow (it is reported that about 70 percent of the Glasgow-Dubai market is interlined; refer endnote 32 below). In 2012, it was almost as much as Heathrow. The total interlining through these three airports is stable at about 1.6m passengers per year.

Chart 6c Scottish interlining through LHR, AMS and DXB



For the UK as a whole, it has been reported that, “...people outside London, are as likely to use Schiphol to get to their final global destination as they are to use Heathrow”. The passenger flows are currently around 2m passengers per year in either case ¹¹. Given that Scotland has better access to Heathrow than some other areas in Great Britain, one would thus expect its use of Amsterdam for interlining purposes to be less, if not much less. The magnitude of the changes over time are striking. Furthermore, the trends are such that in time the volumes of Scottish interlining specifically through Amsterdam proper ¹² could be greater than those specifically through Heathrow ¹³.

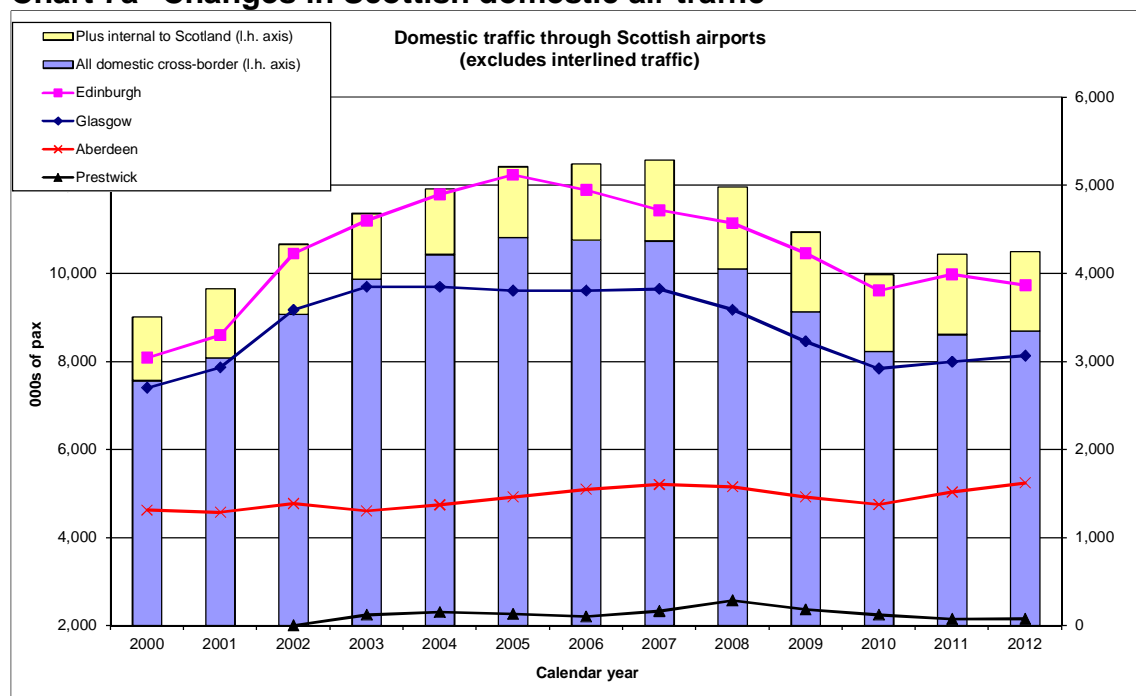
2.4 Changes within Scotland

Finally, there have been considerable changes within the Scottish airports market as a whole, and the changes have not been uniform – either by market segment or by airport itself.

Key message #4: Scottish domestic aviation has declined significantly

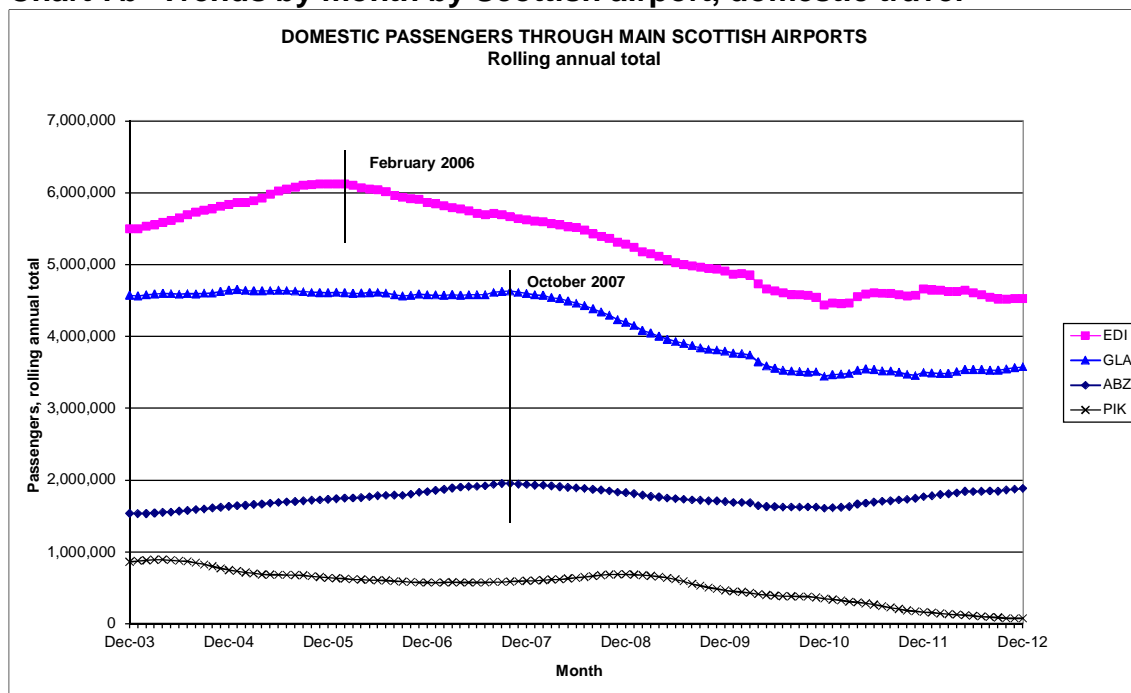
We start by looking at the changes in Scottish domestic air traffic, where the decline (discussed at length above) has been fairly consistent.

Chart 7a Changes in Scottish domestic air traffic



The ‘domestic’ traffic for Prestwick excludes its Stansted sector as-was, as most of this traffic was interlined, to all intents and purposes. Oil rigs traffic is excluded from these numbers as well. To provide another view from related data, Chart 7b below shows the trends in the domestic part of the market, including Scottish internal traffic (see below in Section 2.6). This lets us identify more accurately when the changes were occurring in the market.

Chart 7b Trends by month by Scottish airport, domestic travel



The decline in this market is clear, both in total volumes and when one looks at the airports themselves. We see: Edinburgh’s domestic traffic in a consistent decline from mid-2005; Glasgow’s in decline, but only from the end of 2007; and Aberdeen’s domestic demand has nearly recovered to pre- credit crunch levels. Aberdeen’s volumes have held up better, which helps us understand the effect of improved rail services on the cross-border markets as a whole; this is because Aberdeen’s cross-border rail services are not really in a position to compete significantly with air because of uncompetitive journey times and lower frequency. To reconcile this chart back to Chart 5f above, note that the declines at EDI were offset by continued growth at ABZ.

Key message #5: Edinburgh is now the international airport for Scotland

What Chart 8a below makes clear is that the real change has been in the international market and its services. There, it is quite clear what has happened; Edinburgh and Glasgow have changed places in terms of their market role. Edinburgh is now handling more international traffic than Glasgow was at the height of its growth (the 2006 year). More information is shown in Chart 8b, which compares Edinburgh and Glasgow, and also shows the makeup of Edinburgh’s traffic.

Chart 8a Changes in Scottish international air traffic

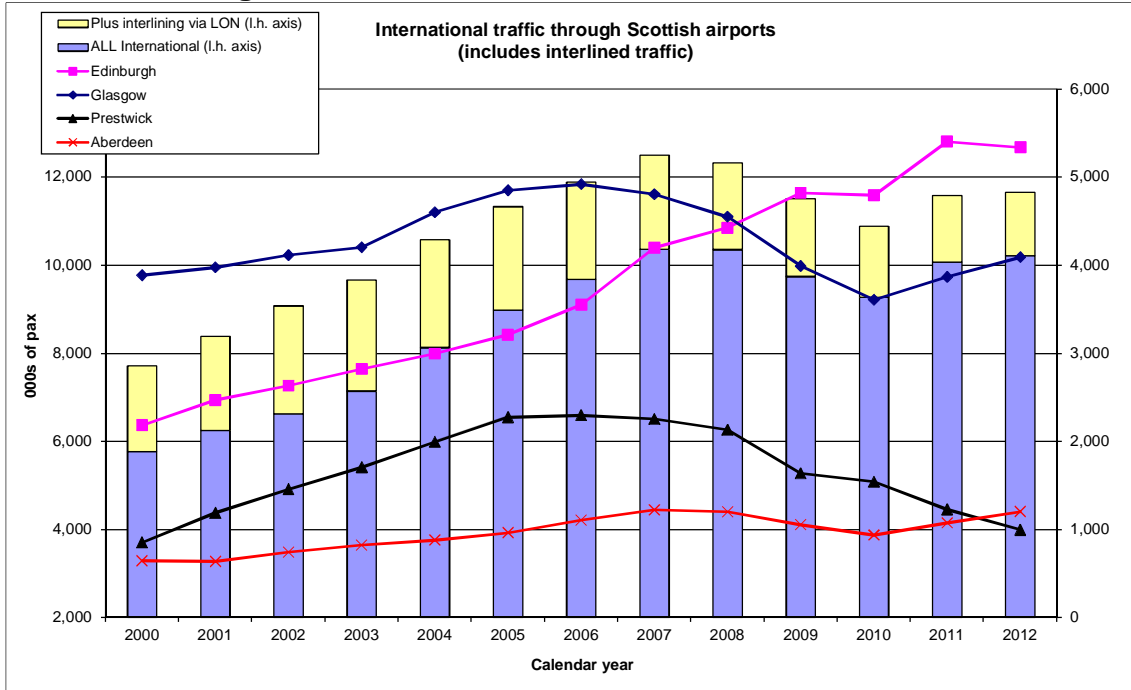
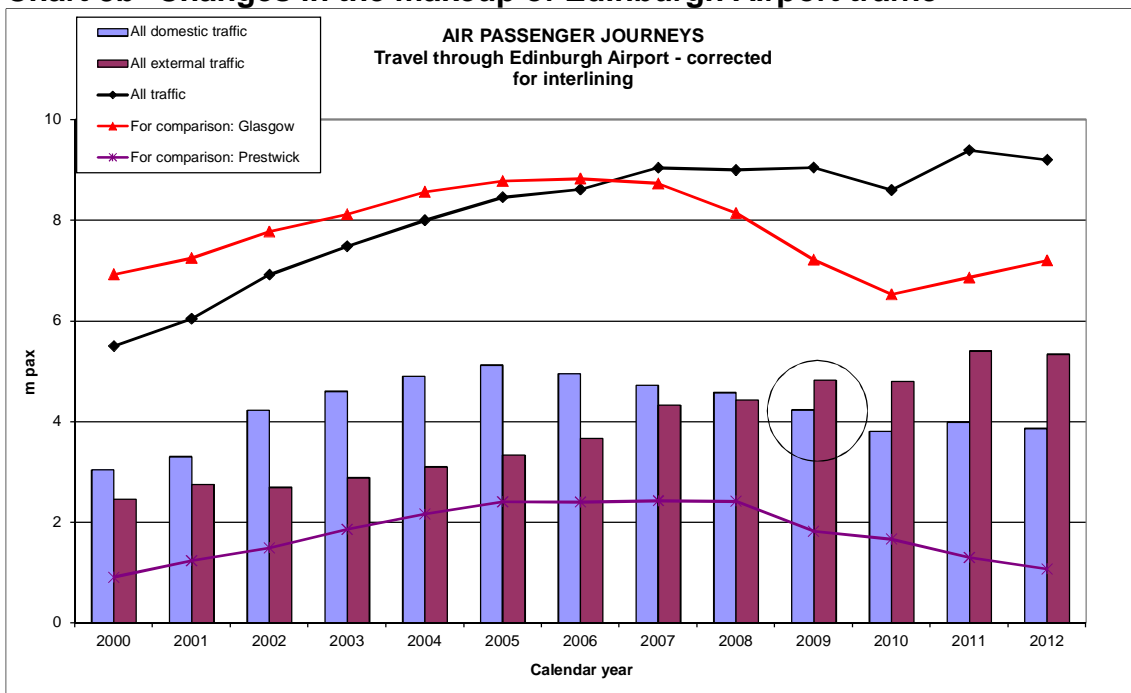
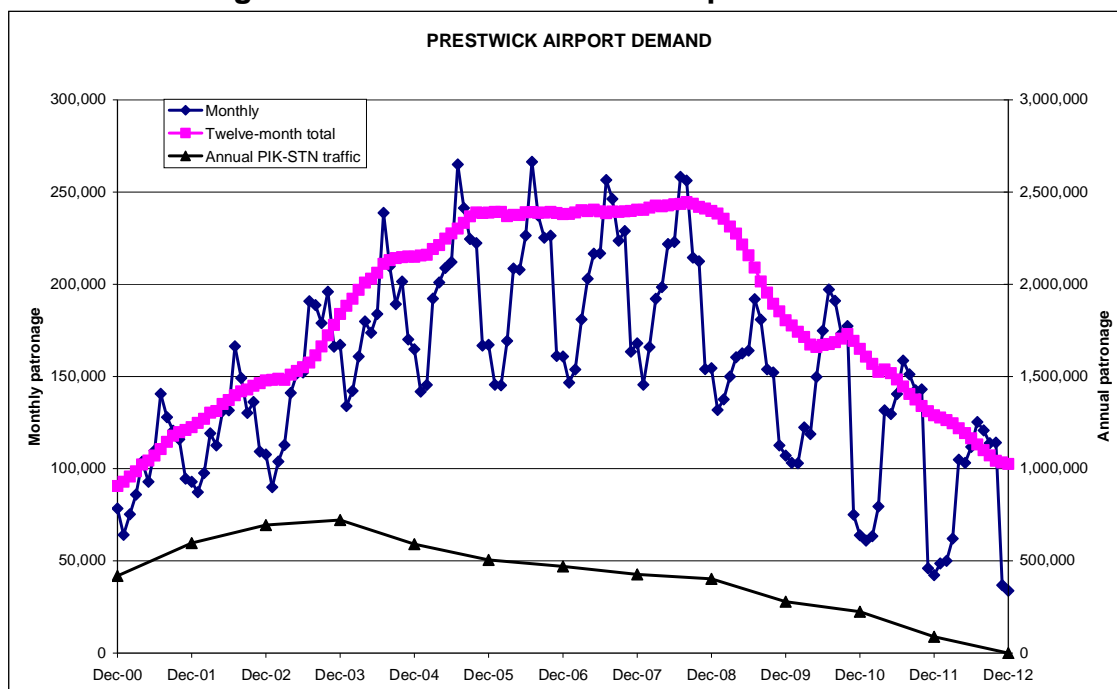


Chart 8b Changes in the makeup of Edinburgh Airport traffic



2009 is highlighted because this was the year in which the airport became more of an international than a domestic airport. In total volumes, by 2011 it was busier than at the height of the market in 2007 – it had a much better recession than the west of Scotland. The growth in Edinburgh’s international traffic in 2011 accounted for two-thirds of the growth in Scottish terminal traffic (789,000 out of 1.16m passengers). Also of note is that three-quarters of the growth at Glasgow in 2011 was from international traffic ¹⁴. However, there is a sharp contrast provided by the situation at Prestwick Airport:

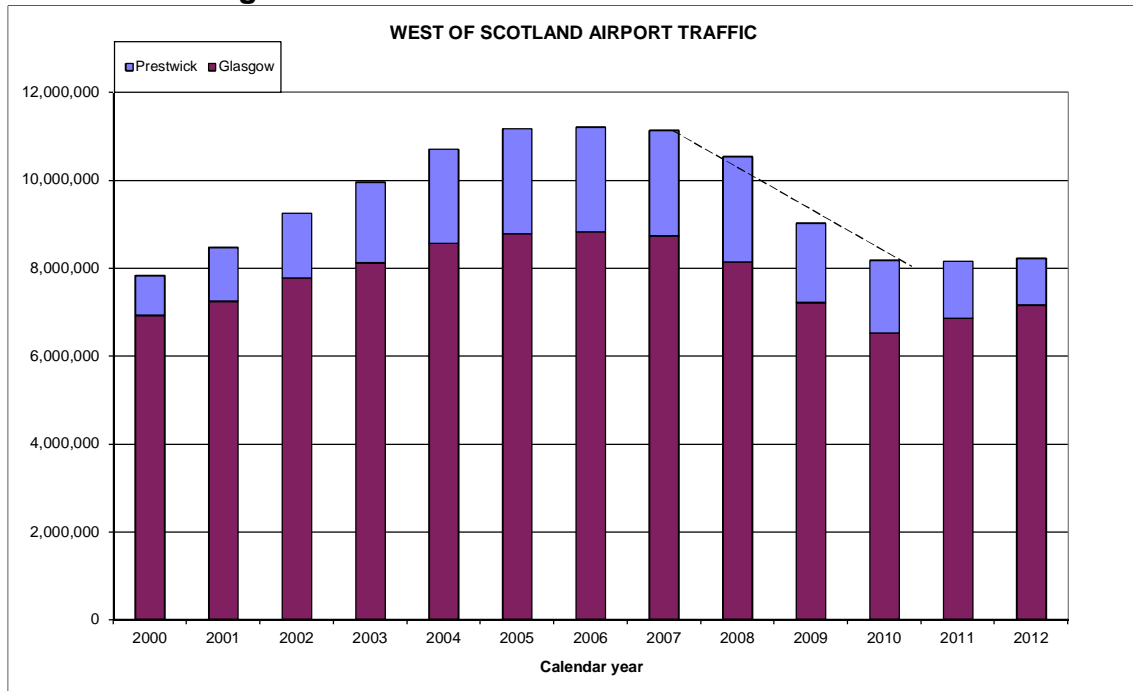
Chart 9a Changes in demand at Prestwick Airport



In four years, the airport has lost over half its traffic. This decline is for several reasons. Some of it can be explained from the demise of the charters market, some of the rest from Ryanair's refocus on Edinburgh over this period, some by the general decline in the West of Scotland proper, and the balance from the departure of the other low-cost carriers who used to fly to Prestwick specifically. The decline can also be how to have begun consistently after August 2008 (see Chart 5f above). This is in line with the trends in the international market for Scotland as a whole. Given that the airport's traffic was (and is) mostly international in nature, this provides further evidence of a shift over time in travellers' preferences towards international travel.

Chart 9b following provides the context, that of the West of Scotland seen as a whole; and this confirms that not only has the market in the West of Scotland declined, Prestwick's share of that market has declined further. The total traffics through the two west-of-Scotland airports declined 27 percent between 2007 and 2010, which might mean that the recession and its market effects were more severe in the west of Scotland than elsewhere. The total traffic through Edinburgh Airport only declined 5 percent over those three years. Also, and here excluding interlining: air traffic between Glasgow and London fell 22 percent between the end of 2008 and the end of 2010 with the completion of the WCML improvements; the decline in the equivalent Edinburgh-London air traffic over this time was only 15 percent, and only 7 percent for the equivalent Aberdeen-London air traffic. The change in the Aberdeen-London traffic is also on a par, it can be noted, with the change in the traffic over this time between Northern Ireland and London (see section 3.1 following).

Chart 9b Changes in demand in the West of Scotland

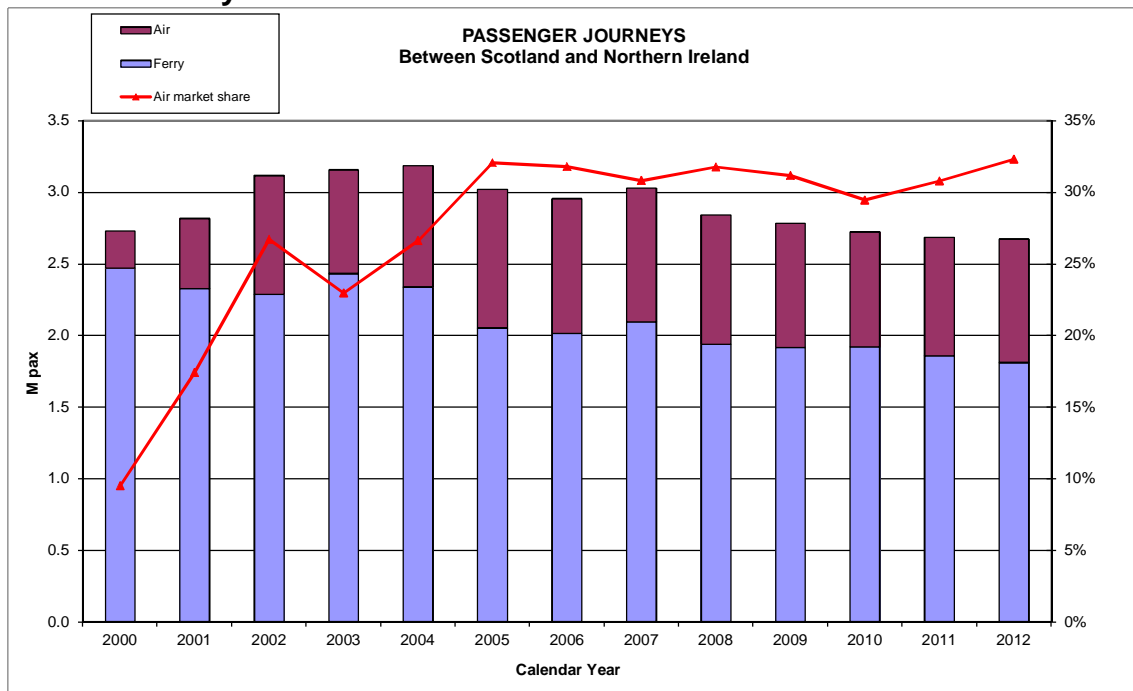


Very tentatively, the differing trends in the different international airport flows may be reflecting differing pressures in the distinct Scottish regional economies.

2.5 Northern Ireland traffic

Air traffic between Scotland and Northern Ireland can also be broken out of the overall UK domestic numbers.

Chart 10 Ferry and aviation traffic between Scotland and Northern Ireland



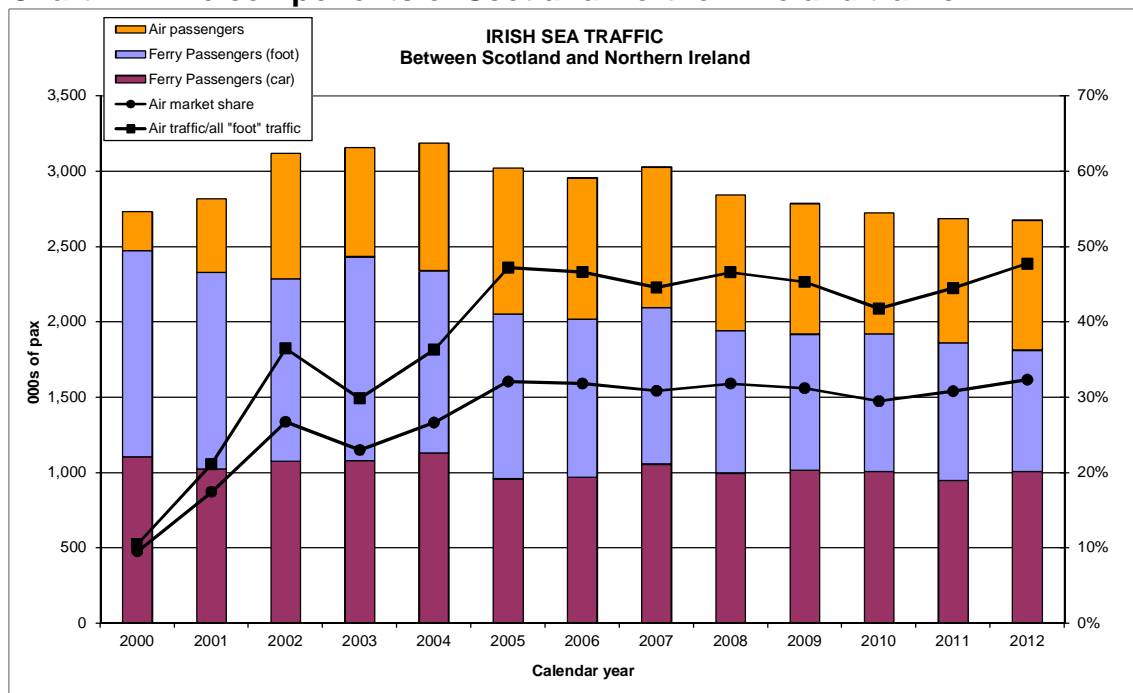
The sharp increase in airline market-share post-2000 can probably be explained by the sharp *decrease* in airfares at that time. What was seen in the Scotland-England & Wales market, was seen in the Scotland-Northern Ireland market as well. However:

Key message #6: analysis of this particular aviation market (Northern Ireland) is within the context of an overall market in some decline

While the economy has been in recession for some time, the decline in this market has been going on for longer, and the decline has been deeper as well. As a share of the overall Scottish cross-border transport task, this market has fallen from 15 percent of the total cross-border traffic in the mid-1990s to around 10 percent today. Given that over this time, the Scottish domestic market (that is, rail and air) has grown, and the international market has grown significantly, this is noteworthy, and probably reflects significant changes over the longer term in travel preferences. This chart also illustrates that problems in one sector (in this case, aviation) do not translate into more demand for a competitor unless that competitor can offer a time-competitive product. In this respect the compare-and-contrast which the Irish Sea ferries market provides, is useful for providing a compare-and-contrast to the Scottish Ministers' own efforts to promote cross-border rail services.

Chart 11 below provides more information on the makeup of the ferries market. Although the overall market has declined, the numbers of cars carried, and therefore, we may assume, car passengers, has remained stable; quite logical, given that moving cars across the Irish Sea is the ferries' comparative advantage ¹⁵.

Chart 11 The components of Scotland-Northern Ireland traffic



The decision to shift to the Cairnryan port from Stranraer must be considered in this light; it has reduced motorists' travelling time from the port to Glasgow by at least thirty minutes if not more, on top of the decrease in sailing time. Initial indications are the market has responded to this improvement in service with nine percent growth on the previous year reported for the first full twelve months of its operation ¹⁶. Thus, the share of car passenger traffic as a share of all traffic, has been increasing. This also means that the modelled volumes of foot traffic have fallen by almost half; that the net decline has been in the combined airline-plus-foot traffic market; and that the airlines' share of the non-car (air-plus-foot traffic) market is reasonably stable, and has been so from 2005 onwards. As a cross-check, it is worth noting that the aviation market between the Republic of Ireland and the United Kingdom declined 19 percent between 2005 and 2010, and showed only a 2 percent increase from 2010 to 2011 ¹⁷. In 2012 it declined back to 2010 levels (9.5m passengers per year).

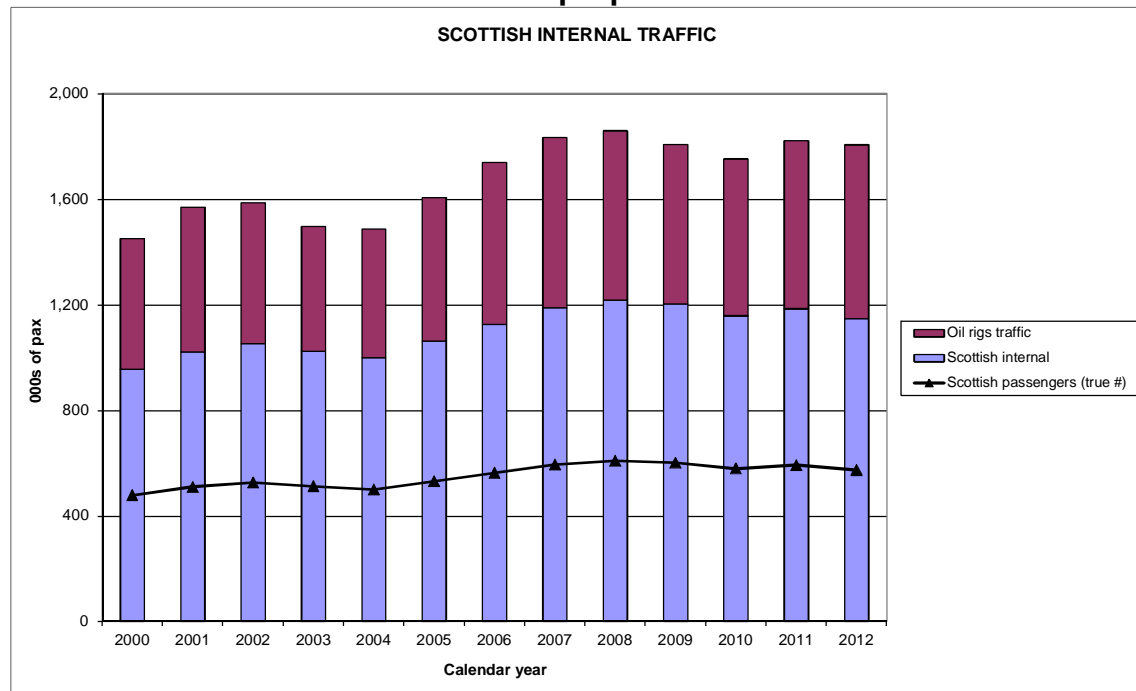
2.6 Internal Scottish traffic

Scottish internal traffic is the remaining contributor to terminal flows. The total numbers of passengers within Scotland proper (remembering that an internal passenger flight creates two terminal movements within Scotland, one departing, one arriving) can be derived from the overall terminal statistics. Also worth noting is that these data include the air traffic from the mainland, mostly Aberdeen, out to the oil rigs: it is a fairly substantial traffic in its own right. Each of these journeys is counted as one movement in the Scottish terminal statistics.

Key message #7: internal Scottish traffic is trending in line with other markets

What we see here is that traffic within Scotland has shown the same sort of trends as elsewhere: a slight decline over the 2007-2010 period, contrasted with some growth in 2011.

Chart 12 Air traffic within Scotland proper



2011 saw a seven percent overall growth in oil rigs traffic, and 5.5 percent in the internal traffic.

3. THE OVERALL MARKET CONTEXT

The overall context for the aviation task is the Scottish cross-border travel task as a whole. Between 2000 and 2007 the overall cross border task (defined as: aviation plus cross-border rail plus ferry services less domestic aviation, and excluding car travel) grew 37 percent. It then declined 10 percent in the next three years, but increased by over 4 percent in 2011. The long-term trend is for more of the task to be made up of international journeys, which are now nearly forty percent of the overall cross-border task, up from a third of the task in the mid-1990s. This is shown in Table 4 below ¹⁸.

Table 4a – the cross-border travel task

[passenger flows in millions]	2000	2001	2002	2003	2004	2005	2006
Air travel to GB	6.62	6.80	8.14	9.00	9.43	9.67	9.63
Direct international travel	5.76	6.24	6.63	7.13	8.12	8.97	9.67
Northern Ireland - air	0.26	0.49	0.83	0.72	0.85	0.97	0.94
London interlining	1.99	2.18	2.50	2.59	2.53	2.43	2.30
Channel Islands/IoM	0.07	0.06	0.06	0.07	0.07	0.05	0.06
Rail	4.97	5.28	4.86	5.02	4.89	5.22	5.56
Northern Ireland ferry	2.47	2.33	2.28	2.43	2.34	2.05	2.02
International ferry	0.01	0.01	0.11	0.21	0.21	0.19	0.12
Other	0.63	0.74	0.05	0.07	0.07	0.09	0.10
Total -->	22.79	24.12	25.45	27.24	28.50	29.65	30.39
Change on previous year:	0.8%	5.9%	5.5%	7.0%	4.6%	4.0%	2.5%
International markets	7.76	8.43	9.23	9.93	10.86	11.60	12.09
As share of all traffic	34.1%	34.9%	36.3%	36.5%	38.1%	39.1%	39.8%

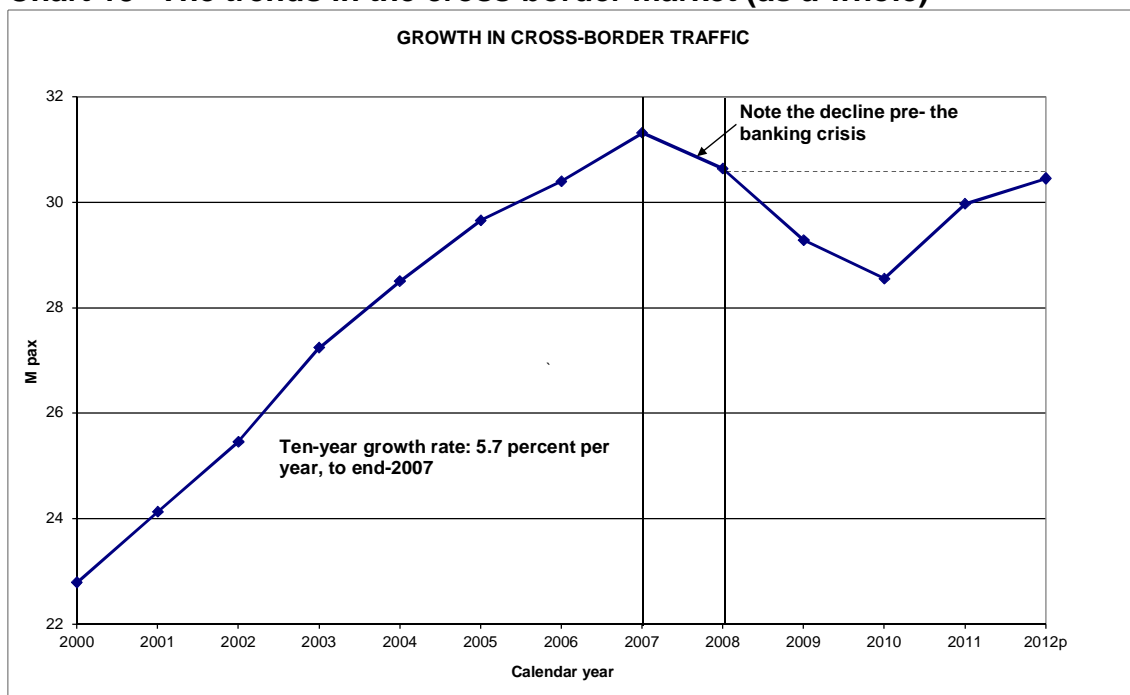
Table 4b – the cross-border travel task

[passenger flows in millions]	2006	2007	2008	2009	2010	2011	2012
Air travel to GB	9.63	9.61	9.08	8.18	7.34	7.66	7.63
Direct international travel	9.67	10.35	10.35	9.74	9.27	10.06	10.21
Northern Ireland - air	0.94	0.93	0.90	0.87	0.80	0.83	0.86
London interlining	2.30	2.22	2.04	1.82	1.67	1.58	1.49
Channel Islands/IoM	0.06	0.07	0.07	0.06	0.06	0.06	0.06
Rail	5.56	5.81	6.13	6.64	7.42	7.86	8.24
Northern Ireland ferry	2.02	2.09	1.94	1.92	1.92	1.86	1.81
International ferry	0.12	0.11	0.08	0.03	0.05	0.00	0.00
Other	0.10	0.11	0.05	0.02	0.02	0.06	0.13
Total -->	30.39	31.31	30.63	29.28	28.55	29.97	30.44
Change on previous year:	2.5%	3.0%	-2.2%	-4.4%	-2.5%	5.0%	1.6%
International markets	12.09	12.68	12.46	11.59	10.99	11.64	11.71
As share of all traffic	39.8%	40.5%	40.7%	39.6%	38.5%	38.8%	38.5%

What this means is that the cross-border market *as a whole* is now, more or less, back to the levels it was at the end of 2008. The share of it which is international has fallen somewhat since 2008, as the internal rail markets have strengthened from some independent growth, possibly related to improved service levels. For analytical purposes, the overall cross-border market provides the context for understanding changes in the airline market – both in terms of the effects of competition (rail or ferry), or alternatively, changes in market preferences (where people want to travel to).

Certainly, the growth to 2007 and decline thereafter can both be probably explained by the relative strength of the economy over those periods. That a four percent decline in the real economy after 2008¹⁹ translated into a seven percent decline in demand for cross-border travel is by no means an unrealistic explanation of the evidence. Demand for most transport is income-elastic, sometimes strongly so; and while there are a variety of factors underpinning the demand for transport, income is generally recognised as being one of the most important ones²⁰.

Chart 13 The trends in the cross-border market (as a whole)



We can report that the cross-border market has returned to about 2008 levels of activity. This is because of stronger activity in the rail market compared with its aviation equivalent. However, there is still some way to go before the total traffic is back to the levels of end-2007.

3.1 Change in the domestic markets post the credit crunch

Because 2011 saw a turnaround in the domestic market situation, it is worth looking at in more detail.

Overall domestic cross-border traffic, including interlining, grew by 2.8 percent. After correction for interlining, which declined slightly, the scaled domestic volumes grew by 3.9 percent (+288,000 trips). By sector:

- Traffic between Scotland and the North of England grew slightly, on balance, but most of this was on the Aberdeen-Manchester sector. Edinburgh-Manchester fell 6 percent and Glasgow-Manchester fell 28 percent, showing the effects on both markets of improvements in rail service, notably frequency. Over time, the volume of airline traffic between Scotland and the North of England has fallen, in relative terms, by much more than the traffic between Scotland and the other regions in Great Britain.

- Traffic between Scotland and Central England & Wales declined slightly, and that between Scotland and the South of England grew slightly. There were no distinctive increases or decreases, except perhaps for Edinburgh-Bristol, which increased by 26 percent.
- Including interlining, the traffic between Scotland and London grew slightly, but this was not at all consistent by either Scottish airport or London airport. Aberdeen-London grew very strongly (over twelve percent), and Edinburgh-London by about seven percent. Glasgow-London did not grow at all, and the traffic between Prestwick and London (that is, to Stansted), fell by over sixty percent; it was cancelled in November of that year.. This change was from a refocus in Ryanair's operations.
- When interlining is excluded, traffic between Scotland and London grew net by eight percent (this does not include any of the Prestwick-Stansted traffic). Within that, though, a lot of change is apparent. In particular, there is less traffic between Heathrow and Scotland, and a lot more between Gatwick and Scotland.
- Overall interlined traffic via London fell somewhat, although this was not evenly distributed: the traffics via Edinburgh and Aberdeen grew, but that via Glasgow fell somewhat, and that via Stansted fell by more.

In terms of the international market, direct international volumes grew by about eight percent (831,000 passengers, 8.5 percent; or if interlining is included, 741,000 passengers or 6.5 percent. Edinburgh grew by 566,000 passengers with interlining included, or 14 percent. On the same basis: Glasgow grew by nearly 300,000 passengers, or 9 percent. Aberdeen grew an additional 156,000 passengers, or 14 percent. Prestwick's international market fell by about ten percent, or about 170,000 passengers.

The picture is thus of growth, but not consistently by airport, with some doing much better than others. By any consistent measure, Edinburgh is performing more strongly than Glasgow, both in the growth in international traffic (for which some competition is possible), but also in the domestic sectors, for which competition is quite unlikely. The comparison over time is even more striking; by every measure available, Edinburgh's domestic traffic has done better than Glasgow's; and internationally, the comparison is even more profound (perhaps reflecting the share of the Glasgow international market in 2000 which was staying in Edinburgh; Edinburgh can now support a lot more of its own services). Apart from a realignment in international travel patterns, we may also argue that the local Edinburgh economy has done better over the years than Glasgow's and this has, not surprisingly, translated into travel volumes.

3.2 Summary

We can also provide a summary analysis of the changes, especially over the 2000-2007 period, when the Scottish economy was growing fairly strongly. The changes are shown to end-2010, at which point the effects of the current recession were beginning to ease. Table 5 below shows the sorts of changes which happened in the different traffic and modal sectors, reported in thousands of passengers:

Table 5 – changes in the overall markets

Sector - air travel	Year			Changes:		
	2000	2007	2010	2000-07	2007-10	2000-10
Within Scotland	1,450	1,833	1,752	26%	-4%	21%
Scotland-Great Britain	6,622	9,615	7,342	45%	-24%	11%
Interlining via London	1,993	2,218	1,666	11%	-25%	-16%
Scotland-Nth Ireland	259	932	801	260%	-14%	209%
Residual traffics	482	387	603	-20%	56%	25%
UK cross-border	9,508	12,873	9,830	35%	-24%	3.4%
All direct international	5,761	10,355	9,269	80%	-10%	61%
All terminals traffic	16,787	25,132	20,907	50%	-17%	25%
Direct international + interlining	7,754	12,572	10,935	62%	-13%	41%
Cross-border rail	4,974	5,807	6,922	17%	19%	39%
Cross-border ferry	2,470	2,094	1,920	-15%	-8%	-22%
Rail/ferry/UK x-border	16,952	20,775	18,672	23%	-10%	10%
Rail/UK x-border	14,482	18,681	16,752	29%	-10%	16%

If the airport terminals felt a lot busier in the period 2000-2007 it's because they were busier – over seven years the traffic they were handling went up by about half. Even allowing for the decline in the following three years, they were still handling twenty-five percent more passengers in 2010 than they were in 2000. Of importance is what sort of passengers they are handling; UK cross-border traffic volumes as a whole have increased only 10 percent over where they were in 2000 and are well down on where they were in 2007, which came after a long period of sustained growth.

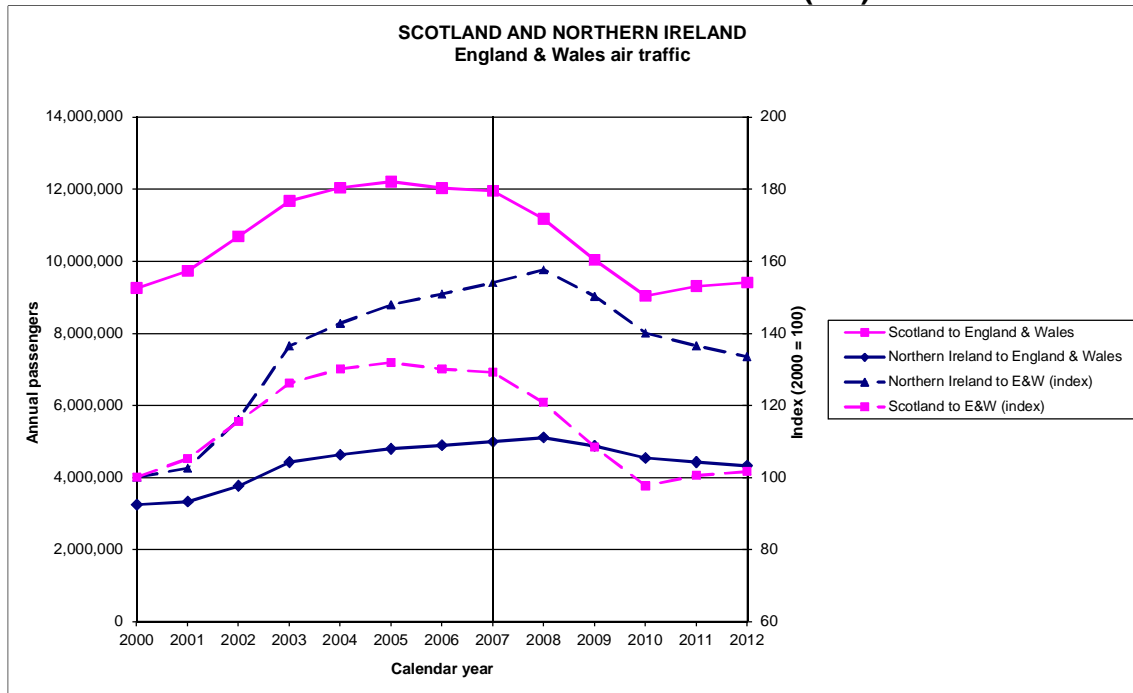
On the other hand, direct international traffic increased eighty percent in the seven years to 2007, and even after the decline was still 60 percent higher than where it was in 2000. Including the interlining traffic, international movements went up over sixty percent in the period to 2007, and 41 percent in the ten years 2000-2010 (this lower value is because over this period some interlining trips were being converted to direct international trips). This sits in what in my view is a striking contrast, even when the rail numbers (the final two rows of the table) are added to the numbers for UK cross-border aviation. The period 2000-2010 only showed a 13 percent growth in UK cross-border travel by all modes; this value falls to 8 percent if the Northern Ireland ferries market is included.

3.3 The Scottish domestic market: the Northern Ireland comparison

One might suggest that the decline in aviation's position in the market for travel between Scotland and the remainder of Great Britain, can be explained as much by a change in the aviation industry's focus as anything that rail was doing. On this basis, airlines realised some time ago that the overall market was slowly moving away from its domestic focus, so they retrenched their involvement to concentrate on that part of the domestic airline market on which they could genuinely make money, rather than aim to secure market share for its own sake. As they also put in additional international capacity, they quite deliberately compressed their involvement in the domestic market as well, including London; there were bigger fish to fry elsewhere.

However, the ‘control’ evidence provided by the equivalent market for Northern Ireland does not quite bear out this hypothesis, as illustrated in Chart 14 below:

Chart 14 Scotland and Northern Ireland – domestic (GB) air travel



This market declined 8 percent between 2007 and 2010, on a par with the direct international markets for both Scotland and Northern Ireland, and indeed on a par with the *overall* market for travel between Scotland and the remainder of Great Britain. It is the Scotland-Great Britain air market whose decline post-2007 (best shown by the pink dotted line on the chart below) is the exception to the overall trend.

Accordingly, it would be much more realistic to argue that the problems in the airline service environment only resulted in modal switch where there was a decent rail alternative in place (there certainly wasn't much growth in Irish Sea ferries traffic apparent from the problems in the airline sector, and note the comparator provided by Aberdeen as well). Furthermore, the 2011 data showed the two markets diverging; Scotland showed signs of recovery, international traffic included; Northern Ireland is still in some decline.

What the longer-term trends also provide is more evidence as to their underpinnings. If demand for foreign travel were more income-elastic than demand for domestic travel, we would expect that in the recession, it would have fallen by much more than domestic travel, analogous to the way in which it grew over the period. However, the fall in international air travel was on a par with the fall in demand for domestic travel as a whole, and domestic air travel where it did not face competition from the railways. This suggests that what we have seen over time is a fundamental re-orientation in people's travelling preferences; the Scottish market would much rather travel to Rome, Warsaw or Budapest than Reading, Wolverhampton or Brighton.

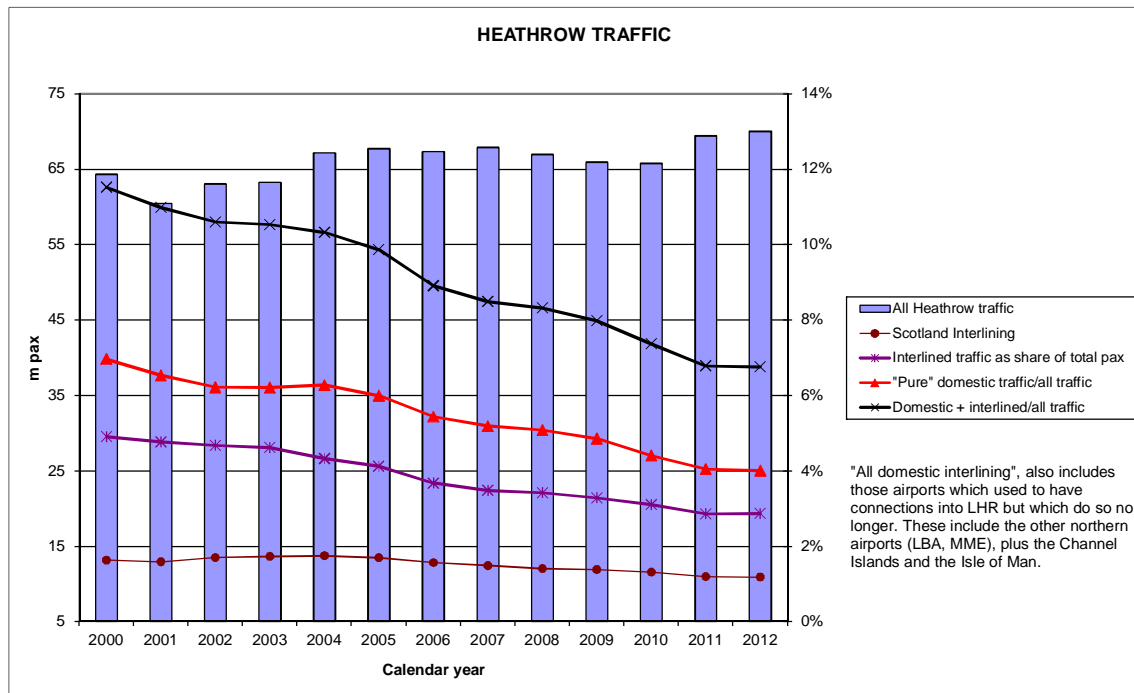
4. MARKETS AND POLICY

Much transport policy in Scotland works in a situation in which the policy determines the market. We have a policy of providing ferry services to the Outer Isles; we have another policy of providing a railway system; and neither transport service would be provided if we were having to rely on solely ‘market’ mechanisms to do so. But the aviation market is not in this situation; here, the market determines the policy. The bus industry is in a not-dissimilar situation.

4.1 London (LHR) access

A concern for Scottish transport policy is access to London Heathrow. Every time there is a threatened cutback in access, concerns will be raised to ensure that Scotland retains this access. This sometimes includes calls for Scottish services to be ‘guaranteed’ access to the airport ²¹. For example: for many years, the Highlands local authority ran a campaign, ultimately unsuccessful, to be given a Heathrow slot, once BMI as-was had decided that it had much better uses for that particular resource ²². The trends in overall Heathrow demand are shown in Chart 15 below: in 2012, total domestic traffic was around 4.8m passengers, of which 1.9m or so were domestic-to-international transfers or vice versa. The decline in domestic volumes over even the medium term is quite clear.

Chart 15 Domestic air travel to LHR: the context



Although this isn't made clear often enough, the particular concern is for access to interlining services. There are a significant number of travel pairs which are far better provided via LHR than via other European hub airports, and it is acknowledged that Scottish business needs access to those services. However, the markets analysis presented in this paper does raise the question as to whether, over time, this situation is changing. There are a number of reasons for this:

First, Scotland (and the other regions within the United Kingdom) have growing access to other hubs, especially Amsterdam (section 2.3 above). For example, KLM is now advertising in Scotland its services to Asia via Amsterdam, and recently were claiming dominance of the long-haul market in Scotland ²³. Figure 1 below shows the direct distances between the main Scottish airports and Amsterdam, with the distances to Heathrow included for comparison.

Figure 1 – Scottish access to Amsterdam ²⁴



The distances:

EDI-LHR, 331 miles; EDI-AMS, 415 miles; GLA-LHR, 345 miles; GLA-AMS, 447 miles; ABZ-LHR, 402 miles; ABZ-AMS, 438 miles; LHR-AMS, 231 miles. This figure is generated by www.gcm.com.

Traffic flows from Scotland to Amsterdam have always been strong, but it has developed further over the years, to the point that the flows between Scotland as a whole and Amsterdam are now stronger to anywhere in the British Isles except Scotland-Heathrow and Scotland-Gatwick. Congestion in the London air traffic control system is such that it takes no longer in time terms to fly to Amsterdam than to Heathrow. Inverness now has a link to Amsterdam which began in September 2011; thus giving it the access to a major hub ²⁵ that it had wanted for some time.

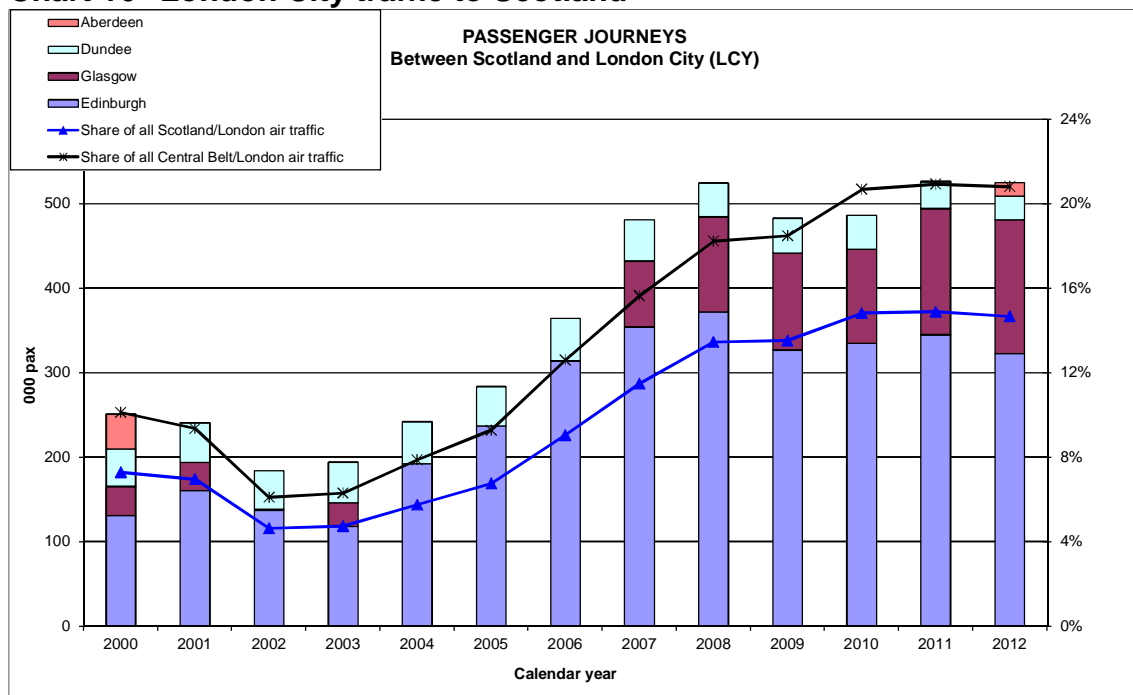
It is a commonplace to say that the UK only has one hub airport. It might be more accurate to say, given that the volume of interlining through Amsterdam from the UK regions is as great as that through Heathrow, that in fact the UK does have two hub airports. The only quibble is that one of them isn't in the UK. Certainly, BAA's management regard Amsterdam as their principal rival. One recent example relevant to Scotland: Heathrow has access to three airports in China, a market showing major economic growth; Amsterdam has access to eight airports in China ²⁶, meaning that for a Scottish traveller, a transit through Amsterdam may be the more convenient option.

Thus, it is this use of Amsterdam and other hubs which makes it necessary for us to rethink what we mean by access to a 'hub airport', both for Scotland and indeed for the other UK regions. In particular is the growth of Emirates' services between Glasgow-Dubai; they have gone from providing one rotation per day with an A340 to two B777 services per day, and the bulk of this traffic is transfers-based. This service provides

onwards access to a variety of growth markets. For example, a conference in Glasgow in 2011²⁷ discussed the situation for connectivity between Scotland and LHR without, it seems, discussing access via these other airports; yet this is where much of the growth in Scottish international travel has been happening. It is also worth noting that more direct international air links are taking at least some of the pressure off the London system.

In terms of the domestic market which has used Heathrow, rail services are now more important for domestic travel, especially for the Central Belt. That said, it is acknowledged that access to Heathrow from Aberdeen is in a different market environment from the access to Heathrow from the Central Belt – rail, for example, is not really a feasible option for most Aberdeen-London journeys – and this was acknowledged in the regulatory requirements under which the sale of BMI to BA proceeded. Finally, London City Airport (LCY) now has a more important role to play for travel between Scotland and London proper:

Chart 16 London City traffic to Scotland



LCY now handles about fifteen percent of the travel between Scotland and London proper as a whole, and about twenty percent of the travel between the Central Belt and London proper. BA commenced a service between Aberdeen and London City during 2012²⁸. LCY is also blessed with probably the best landside (surface) access of any of the London airports, in terms of combined frequency and journey time, via the Docklands Light Rail system. Because LCY has spare capacity and now has the right to handle more flights than previously, its scope for growth is substantial²⁹.

Discussion

This analysis raises wider questions as to how Heathrow should be managed. As Chart 15 illustrates, Heathrow is now so full that a logical step might be to let it concentrate on being an international airport with domestic (UK) interlining, but no originating or terminating domestic traffic. At an industry conference in 2009, I asked if one option

would be this *dirigiste* approach of not using Heathrow for domestic flights, unless those flights were dedicated to carrying interlining passengers. I was told that that wouldn't be legally practical, and not that operationally practical either. But, four years on, this seems to be what is happening anyway, with BA concentrating on carrying interlining passengers through LHR because the overall margins are higher, and the London-origin or -destination traffic being encouraged to use London City. This would seem a much better use of runway resources, because of the additional flightpaths that LCY was given in 2009³⁰. Other traffics would still go through Gatwick, Luton or Stansted, as at present, and Easyjet certainly see opportunities for their own operations between Scotland and these airports³¹.

There is certainly plenty of scope for allowing other (non-UK) hub airports to take more of the 'strain' in terms of providing international connections for the UK regions³², as well as encouraging more direct connections. The main problem is that even with this sort of rebalancing the London airport system will eventually run out of capacity, quite apart from the capacity issues now*. That said, a freed-up pricing regime for LHR³³ would attend to a lot of the congestion issues, and would also provide further encouragement for the regional UK to look for other hubs to fly through³⁴. Alternatively a differential APD would have the same effect³⁵.

4.2 Landside (surface) access

This market trends analysis also identifies other areas in which the Scottish Government may need to address:

If Edinburgh's volumes increase much beyond 10m passengers per year, then something will have to be done about the two-lane access road which was perfectly adequate when the current terminal was opened in 1977, when the airport was handling less than 1m passengers per year. Demand in 1987 was still less than 2m passengers per year³⁶. Now: the volume of traffic in calendar-2012 was 9.2m passengers, with a throughput of nearly 1m passengers per month in the peak (summer) months. So, the road landside access is going to need investment in the next few years³⁷, even with the very high use of the main airport bus service. This service handles over thirty percent of the access task; this is one of the best uptake rates for airport public transport in the UK, outside London, and better than a lot of airports with rail access. The introduction of the tram might allow extended park-and-ride facilities for the airport to be developed near Edinburgh Park and the South Gyle³⁸, as well as meeting the national rail network at two points close to the airport (that is, at Edinburgh Park and Edinburgh gateway). Road access has been identified as an issue for Aberdeen Airport as well³⁹.

* One option which has been discussed, is opening up RAF Northolt, some six miles north of London, to domestic (UK) aviation. I understand that there are significant air traffic control issues in using the airport in this way, and any landside transfer from this airport to the main Heathrow campus would be long-winded, but there may be no other feasible options. For more details, refer: "RAF Northolt may be sold to raise defence funds", *The Guardian*, 25 January 2012. Web reference: <http://www.guardian.co.uk/uk/2012/jan/25/raf-northolt-may-be-sold>. See also: "Setback for RAF Northolt runway plan", *The Telegraph*, 7 April 2012. Web reference: <http://www.telegraph.co.uk/finance/newsbysector/transport/9192426/Setback-for-RAF-Northolt-runway-plan.html>

On the other hand, for Glasgow and Prestwick, the current transport arrangements appear to be satisfactory for the moment ⁴⁰. This is in the context of the declines in demand at both airports over the last few years. For Prestwick specifically, it is probably unnecessary at the moment to do anything further to develop the rail access beyond that which is being done for the line as a whole ⁴¹.

4.3 Other issues

In passing, there are other issues which need to be kept in mind:

Rail fares policy

Cross-border rail service provision, and the fares charged, is managed by the Westminster government, not the Scottish Ministers, although the Ministers are consulted. A significant fares increase for Scottish rail services would be a challenge for their market competitiveness; although the response of the aviation industry might not so much be to increase the numbers of passengers they carry, as to make more money from their remaining customer base. In January 2012, some long-distance fares increased by much more than the policy of “RPI inflation plus one percent” ⁴², and this growth over time in real fare levels is very likely to continue. Although future fares increases ⁴³ may be managed in such a way that the effect on Scottish travel is less than for markets which don’t face airline competition, any growth in cross-border rail demand may well be affected; especially if airlines can keep control of their cost base and therefore the fares they have to charge. ⁴⁴

High-speed rail

The idea of extending high-speed rail to LHR is often discussed, as a solution to some of the interlining problems outlined above ⁴⁵. The idea is that high-speed rail would remove the need for most domestic air connections, thus freeing up ‘slots’ for more international services, if not reducing the number of flights altogether. It would be practical for the Midlands and Wales, but there is a real question as to whether Scottish-origin or -destination traffic would be prepared to travel between Scotland and LHR by train, even if it took only three hours to do so, when they can fly to somewhere else in a reasonably seamless transfer instead – and not have to worry about luggage either. The sheer distance from Heathrow, and the presence of a growing number of alternative transit options, does not suggest that any high-speed rail link to it would get much Scottish use. Thus, total interlining volumes would probably not be sufficient to justify direct trains.

At the very least, discussions of the potential use of high-speed rail to reduce demand for short-haul air journeys need to keep in mind the use made in the UK regions of these air direct links through to other hubs, as well as other short-haul journeys; and if the technical issues facing a direct train service between London and Amsterdam can be ironed out, this will provide some additional travel options as well.

CONCLUSION

Markets analysis

The trends in the aviation market reported in this paper must be seen in the context of how the overall economy has trended, and this is true for understanding all cross-border traffic as well; as the overall flows are not yet back to their pre-recession level. There is evidence that over time there has been a shift within the market's exogenous preferences towards international journeys, which are almost all by air, and away from domestic journeys; for which competition from either rail or ferry services is an issue for the airlines.

Policy analysis

Scottish Ministers' policy over this time has been consistent, committed to ensuring that Scotland has appropriate transport access to the rest of the United Kingdom and beyond⁴⁶. For the cross-border market, the policy of Scottish Ministers is to promote the use of rail where that is feasible, and the growth in rail demand over the last few years, as well as its share of the market, is clear. Internationally, Scottish Ministers' policy recognises the need for both direct and via-LHR connectivity. However, over the period in question, the change in the Scottish aviation market, both to the rest of the UK and also beyond, has been significant. The need is to recognise specifically that while the goals of maintaining access to and from Scotland stand, the dynamics of the market mean that flexibility is needed as to how the goals might be met in practice. Heathrow could become less important for the Scottish travel task as rail, access to London City Airport, direct international air services, and better connections to other hub airports, continue to grow in importance in their different Scottish markets.

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Endnotes

¹ “Economy grew more than thought in 2012”, *BBC News*, 27 February 2013. Web reference: <http://www.bbc.co.uk/news/business-21598509>

² Technically, the Channel Islands and the Isle of Man are dependent territories of the United Kingdom, rather than being part of the United Kingdom proper.

³ Clark, Ross (2008), “Examining the wider context of rail-air competition between Scotland and England & Wales”, presented at the 4th *Scottish Transport Applications and Research* (STAR) Conference, Glasgow, April 2008.

⁴ The values reported in Tables 2 and 3 include the interlined traffic via the London and foreign airports.

⁵ Discussed at length in Clark, 2008, and Clark 2009.

⁶ The rail data are confirmed only for the 2010/11 year (equivalent for the purposes of this work to calendar-2010). Beyond that point they have to be estimated, based on the ORR’s advice as to overall passenger numbers on the long-distance franchises. The most up-to-date data can be found at: <http://dataportal.orr.gov.uk/>

⁷ <http://www.dailyrecord.co.uk/news/business-news/2009/01/14/exclusive-scots-passenger-numbers-using-channel-tunnel-hits-record-high-86908-21039570/>

⁸ “Flybe to invest in international routes only”, *The Guardian*, 8 November 2012. Web reference: <http://www.guardian.co.uk/business/2012/nov/08/flybe-invest-international-regional-tax>. Refer the following endnote and the discussion in the paper at section 3.1 about the Scotland-Northern Ireland traffic.

⁹ “The Interview: Cathal O’Connell, BMI Regional”, *Buying Business Travel*, 28 December 2012. Web reference:

<http://buyingbusinessstravel.com/feature/2820178-interview-cathal-o%E2%80%99Connell-bmi-regional>

¹⁰ “Ryanair to cut London-Glasgow route”, *Business Traveller*, 14 July 2011. Web reference: <http://www.buinessstraveller.com/news/ryanair-to-cut-london-glasgow-route>

¹¹ Joe Lynam, “Could airport hub capacity see UK lose out to rivals?”. Reported at: <http://www.bbc.co.uk/news/business-21275784> (1 February 2013). This judgement is supported from a worked example, available from the author. The equivalent volume of transfers at Dubai from the regional UK is probably a further million passengers per year.

¹² The total share of traffic going through Amsterdam which is transfer traffic is reported to be 45 percent (British Chambers of Commerce, 2009), which is the value used in the modelling for the specifically Scottish traffic as well. It is also known that 70 percent of the KLM traffic using Amsterdam, as a whole, is transfer; refer, http://userpage.fu-berlin.de/~jmueller/gaprojekt/downloads/gap_papers/finalreport.pdf. For Heathrow, it is assumed that 30 percent of the Scottish volumes using the airport are interlining (refer Clark, 2008).

¹³ Details on the assumptions used in these calculations are available directly from this paper’s author, either at his work e-mail address or directly at: holyhobbit@hotmail.com

¹⁴ “Airport lands 10,000 extra passengers”, *Evening Times*, 14 February 2012. Web reference: <http://www.eveningtimes.co.uk/news/airport-lands-10-000-extra-passengers-1.1147893?localLinksEnabled=false>.

¹⁵ The number of passengers travelling with their cars, as distinct from walk-on or “foot” passengers, is based on the cars moved times 2.2. The actual data are not in the public domain but this ratio is based on the author’s experience as a business analyst for

the rail ferry company in New Zealand: it faces operational and market characteristics similar to the Stena Line operations between Scotland and Northern Ireland.

¹⁶ “Luxury ships boost numbers for Stena”, *Herald Scotland*, 27 April 2012. Web reference: <http://www.heraldscotland.com/news/transport/luxury-ships-boost-numbers-for-stena.17426628>. Refer also to, “Stena Line celebrates first anniversary of new ferry route”, <http://www.whatsonni.com/news/?p=5227>. In the first year of operation of the new route, passenger volumes have grown 9 percent, also aided by new vessels on the route. Another consideration for Stena’s activity and investment is a purely commercial one: the financial margins on transporting cars are much stronger than those arising from carrying the passengers in those cars, or the passengers on foot.

¹⁷ The airline industry regards travel between the UK and the Republic of Ireland as behaving in a way which is much closer to the patterns of the UK domestic market, rather than the international market as a whole.

¹⁸ Another part of cross-border travel services is that of the long-distance coach service market, most of whose traffic is between Scotland and the North of England, and then Scotland-London. There are no data in the public domain as to the scale of their activity but a count of the number of cross-border coach services suggests there are at least 400,000 passengers per year using these services.

¹⁹ “Ernst & Young Item Club says decline in Scotland’s economy like Spain’s” *BBC News*, 3 December 2012. Web reference: <http://www.bbc.co.uk/news/uk-scotland-20574465>

²⁰ If a four percent decline in economic activity by itself brings about a seven percent decline in demand, this means that the elasticity of demand with respect to income is around 1.8, holding everything else equal. The *Passenger Demand Forecasting Handbook* used in the railway industry uses a value of 1.5 for modelling this process.

²¹ Two examples, of many: when BA bought out BMI in December 2011, it was reported that, “... businesses and politicians have demanded assurances that a deal to sell ailing airline BMI to British Airways's parent company will not lead to fare hikes or damage services between Heathrow and Scotland”. “Concern for Scots air routes after BA buys BMI”, *HeraldScotland*, 23 December 2011. Also: “MPs refer BMI sale to watchdog” *HeraldScotland*, 31 January 2012. Web references:

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²² Reference: “Airline to terminate London link”, *BBC News*, 3 January 2008, URL: http://news.bbc.co.uk/1/hi/scotland/highlands_and_islands/7169480.stm

²³ “KLM claims long-haul dominance in Scotland”, *The Scotsman*, 13 September 2012. In terms of transfer traffic, the sums reported in this paper for 2012 assumed some 560,000 transfer passengers through Amsterdam, and a further 220,000 for Emirates through Dubai. Web reference: <http://www.scotsman.com/business/management/klm-claims-long-haul-dominance-in-scotland-1-2522444>. Also: “Schiphol claims to operate Heathrow’s third runway”, *The Telegraph*, 7 November 2012. Web reference:

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²⁴ Figure generated from the website www.gcmap.com. More precisely:

<http://www.gcmap.com/mapui?P=gla-lhr%0D%0Aedi-lhr%0D%0Aedi-ams%0D%0Agla-ams%0D%0Aabz-ams%0D%0Alhr-ams&MS=wls&DU=mi>

²⁵ Reference: “Boom predicted with new Inverness flights to Amsterdam”, *Inverness Courier* 17 May 2011. Web reference: <http://www.inverness-courier.co.uk/News/Boom-predicted-with-new-Inverness-flights-to-Amsterdam-17052011.htm>

²⁶ “Europeans threaten Heathrow hub”, *Daily Telegraph*, 17 February 2013; and see also, “South-east ‘losing out’ to Amsterdam Airport, warns boss”, *BBC News*, 26 February 2013. Web references:

<http://www.telegraph.co.uk/finance/newsbysector/transport/9875444/Europeans-threaten-Heathrow-hub.html>; <http://www.bbc.co.uk/news/uk-england-21577634>

²⁷ Refer: “Call to promote Scotland’s air connections”, *HeraldScotland*, 15 February 2012. Web reference:

<http://www.heraldscotland.com/business/opinion/scotland-would-benefit-from-the-extra-flights-a-bigger-heathrow-airport-would-bring.2012029386>

²⁸ “New link in air between oil capital and London”, *Aberdeen Press & Journal*, 25 April 2012.

²⁹ Refer: “Cityjet announces Scottish base and sets sights on BA”, *The Scotsman*, 9 January 2012. Web reference: <http://www.scotsman.com/the-scotsman/business/cityjet-announces-scottish-base-and-sets-sights-on-ba-1-204422>

[6](http://www.aberdeenairport.com/about-us/media-centre/press-releases/new-aberdeen-to-london-city-route-launched). In the event, BA commenced a service on this sector in September 2012; refer, <http://www.aberdeenairport.com/about-us/media-centre/press-releases/new-aberdeen-to-london-city-route-launched>

³⁰ Refer: www.en.wikipedia.org/wiki/London_City_Airport, footnotes 23-25, for more information.

³¹ Refer “Easyjet to trial new business traveller incentives in Scotland”, *Air & Business Travel News*, 11 April 2012: web reference:

<http://www.abtn.co.uk/news/1115640-easyjet-trial-new-business-traveller-incentives-scotland>

³² For example: in June 2012, Emirates Airlines added a second daily flight between Glasgow and Dubai, with a near-50 percent increase in seated capacity. In January 2013 the aircraft used on the second daily flight was upgraded to a B777 – hence, an effective doubling in capacity on the situation twelve months previously, and a tripling in capacity on when the service commenced in 2004. In the news item announcing the service, Dubai was described as “Heathrow Terminal 6”, with Emirates’ UK general manager saying that as a result, “... Scots would be less reliant on flying via the London hub”. (Heathrow T6 would have served the third runway, had that been approved). 70 percent of the passengers on this route are transiting to further afield. Refer: “Emirates to add second daily flight to Dubai”, *Herald Scotland*, 11 January 2012. Web reference: <http://www.heraldscotland.com/news/transport/emirates-to-add-second-daily-flight-to-dubai.16422641>

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³⁴ There is a measure of the Scottish via-Heathrow international traffic which could not easily be served through Schipol or Paris, because the Heathrow services are much more frequent.

³⁵ “Tax rise at Heathrow and Gatwick ‘will force flyers to use provincial airports’”, *The Guardian*, 29 December 2012. Web reference:

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³⁹ Refer: "We need better roads to help achieve airport plans", *Aberdeen Evening Express*, 5 April 2012.

⁴⁰ It is outside the scope of this paper, but the main causative driver of public transport use to airports is, in fact, the proportion of the airport's market which is inbound or foreign resident (Clark, 2012). Edinburgh has a much higher proportion of foreign residents or tourists in its passenger task than what Glasgow does, and this translates into the much higher use made of its bus service. The same is true of Prestwick and the use made of its railway and bus links.

⁴¹ One proposal 'on the table' would be to extend the operating hours of the current Ayr trains in order to cater for passengers using Prestwick either very early in the morning or very late at night. However, there is an existing coach service which already caters for this traffic, and it has the flexibility as well to be held for any late-running flights; additional rail services would not be able to do this. This particular service also connects Prestwick directly through to Edinburgh, and on its return leg from Edinburgh, provides access to the very-early-morning departures from Prestwick for which rail access is not feasible.

⁴² Refer: "Fare fury – rail passengers hit hard", *Sunday Mail*, 1 January 2012.

⁴³ Refer: "Rail fares to rise up to 8% above inflation in next two years", *The Guardian*, 20 January 2012. Web reference:

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⁴⁴ For example, "Cross-border passengers braced for price hike", *The Scotsman*, 25 April 2012. Web reference:

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⁴⁵ Refer "Submission to the Airports Commission", *Greengauge 21* (2013). Web reference: <http://www.greengauge21.net/wp-content/uploads/Greengauge-21-Davies-Commission-Submission-February-2013-final.pdf>.

⁴⁶ Refer: *Scotland's National Transport Strategy* (2006), paras. 40ff and 94ff. Web reference: <http://www.scotland.gov.uk/Resource/Doc/157751/0042649.pdf>
