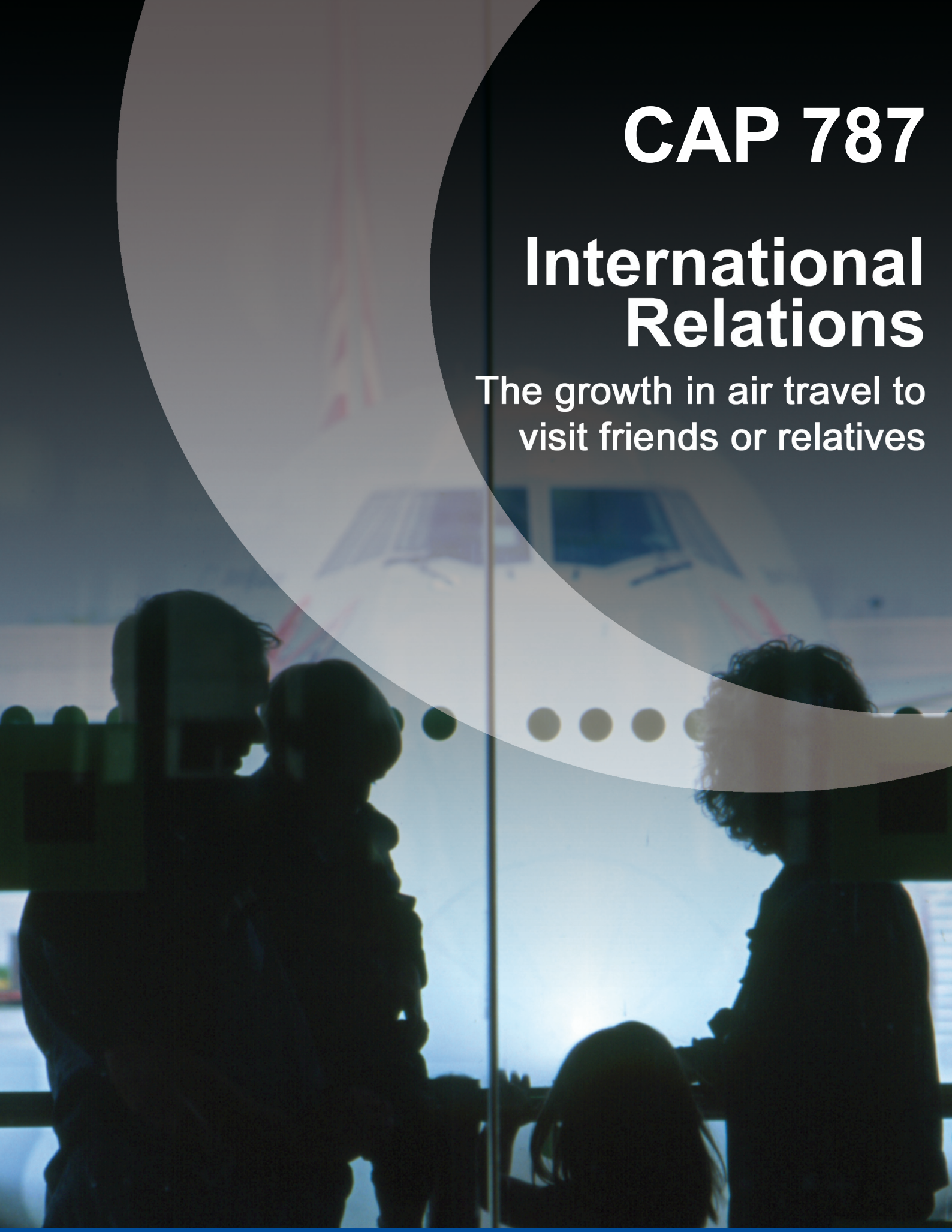
CAP 787

International Relations

The growth in air travel to visit friends or relatives



Civil Aviation Authority

Economic Regulation Group

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The Growth in Air Travel to Visit Friends or Relatives

September 2009

ISBN 978 0 11792 262 4

Published September 2009

Enquiries regarding the content of this publication should be addressed to:
Economic Policy and International Aviation, Economic Regulation Group, Civil Aviation Authority, K4, CAA House, 45-59 Kingsway, London, WC2B 6TE

The latest version of this document is available in electronic format at www.caa.co.uk/publications, where you may also register for e-mail notification of amendments.

Published by TSO (The Stationery Office) on behalf of the UK Civil Aviation Authority.

Printed copy available from:
TSO, PO Box 29, Norwich NR3 1GN
Telephone orders/General enquiries: 0844 477 7300
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Contents

Executive Summary

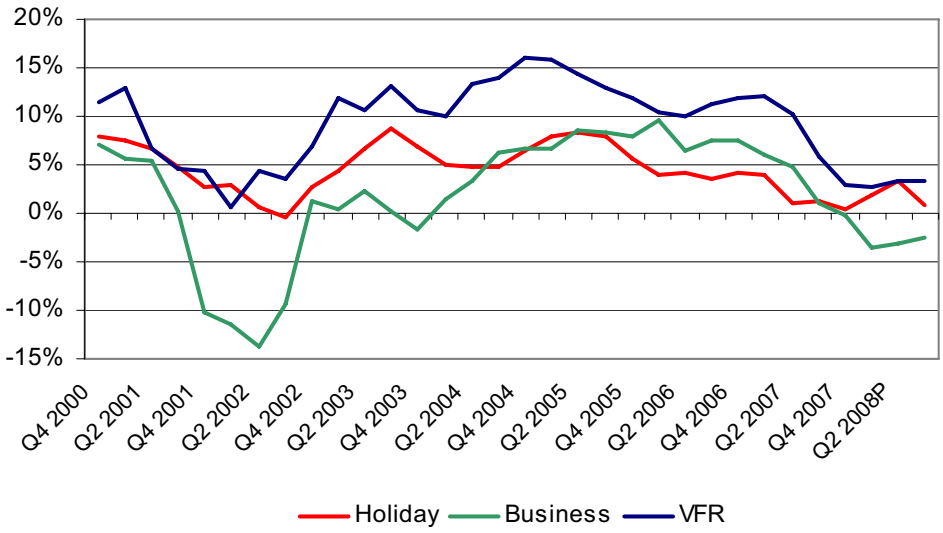
1 In recent years, an increasingly globalised world economy has led to a rise in labour mobility and migration, particularly within Europe. This movement of people has made social networks more dispersed, which in turn has meant growth in the potential market of people who need to travel by air if they wish to maintain close links with their friends or relatives. The concurrent relaxation of regulatory restrictions on aviation markets has encouraged increases in supply to meet this demand.

2 'VFR' describes that subset of leisure passengers who travel for the purpose of 'Visiting Friends or Relatives' (as identified through passenger surveys[1]). In recent years, growth in leisure traffic visiting friends or relatives has been robust in comparison to other market segments – for example, growth of international holiday traffic to and from the UK has remained less than that of VFR traffic since 2002.

3 This study focuses on VFR passengers travelling to and from the UK. It therefore excludes domestic journeys and those passengers who have arrived in the UK for the sole purpose of catching an onward international flight. From hereon in, where the abbreviation 'VFR' is used, it is specifically referring to this restricted set of international passengers using UK airports.

4 Figure 1 shows how growth in international VFR traffic has remained several percentage points higher than growth in international business and holiday traffic over the last five years. This faster growth rate means that the proportion of international traffic travelling for the purposes of VFR has increased – from 18% in 2000 to an estimated 24%[2] in 2008 – and is thus an increasingly important segment of overall UK air passenger demand.

Figure 1 Rolling annual growth in international passenger traffic by journey purpose at all UK airports, 2000–2008



Source: International Passenger Survey (MQ6), ONS.
Notes: Q1–Q3 2008 data provisional.

1. Both the CAA Passenger Survey and the International Passenger Survey (IPS) conducted by the UK Office for National Statistics (ONS) collect these data. The IPS dataset is weighted to include all UK airports in every year, thus making it more appropriate for a time-series than the CAA Passenger Survey, where a subset of UK airports are surveyed each year and data weighted at a route-level to airport totals, thus making it more appropriate for destination-specific analysis.
2. As estimated by the IPS (provisional data only for Q1–Q3 2008). The IPS records a journey purpose of 'miscellaneous', which comprised approximately 5% of international passengers in 2007 and has been excluded when calculating proportions.

5 The robust growth of VFR traffic reflects societal trends such as increased labour mobility, migration and the ownership of second-homes abroad. Between 2000 and 2007, whilst total passengers to and from the UK grew by one-third, those travelling for the purpose of VFR increased by over three-quarters.

6 Looking forward, the current worldwide economic downturn is likely to impact upon VFR traffic, both through falls in UK GDP and changes in migration patterns. Changes in the flows of new migrants could affect the potential size of future VFR demand – but, even if there were to be a reversal of migration trends, there still remains an existing body of people who are either current migrants, or have at some time, been migrants. Different groups of migrants will stimulate air travel to a different degree, most likely depending upon the reasons behind their original move, the permanence with which they view their migration, and the duration of their migration thus far. For these people, demand for travel for VFR purposes is an indication of the desire to build and maintain relationships. Whether VFR growth continues at the same rate as historically will depend on the relative value that migrants place on these relationships as compared with other demands on their time and income, and the cost of trips.

7 The analysis in this study has been carried out using data which cover a period of significant change in terms of enlargement of the EU, the migration flows this enabled and concurrent liberalisation of the EU aviation market (giving rise to more affordable air travel). In light of these developments, it may not be realistic to assume continued growth of the same magnitude, however, a strong foundation for an enlarged passenger base has been established.

8 Thus, although falls in UK GDP are likely to impact on VFR passenger traffic, both directly and indirectly via the effect on migration, the extent of this impact cannot be estimated with any certainty. Provisional data for 2008 indicate that, although passenger numbers have fallen for the year, VFR traffic as a proportion of total traffic at UK airports is broadly the same as it was in 2007.

How is VFR traffic different to other air traffic?

9 VFR travel occurs as a result of dispersed social networks – in order to visit friends or relatives abroad, some form of temporary or permanent migration will generally have taken place. The ownership of second-homes abroad also adds to the pool of potential VFR passengers, not only through friends or family visiting, but also through the establishment of new relationships abroad. Although the owners of second-homes are not travelling on VFR themselves when travelling to their second-homes (rather, they would generally be classed as 'holiday' traffic), friends or relatives visiting them there would be classed as VFR[3].

10 Some key factors differentiate VFR travel from other leisure ('holiday') trips:

- the destination is less likely to be substitutable than in the case of international holiday travel, where a variety of destinations may meet passengers' needs;
- the cost of the trip is likely to be closer to that of the flight alone, with lower accommodation or living costs – because for many such trips, these costs may be met in whole or part by the friend or relative being visited; and
- the desire to travel is dependent on the prior dispersal of social networks.

3. Both CAA and IPS surveys determine journey purpose by presenting the passenger with a list of alternative purposes to choose from. Therefore, it is the interviewee who selects the journey purpose which they feel best fits their current trip.

Where do VFR passengers fly to?

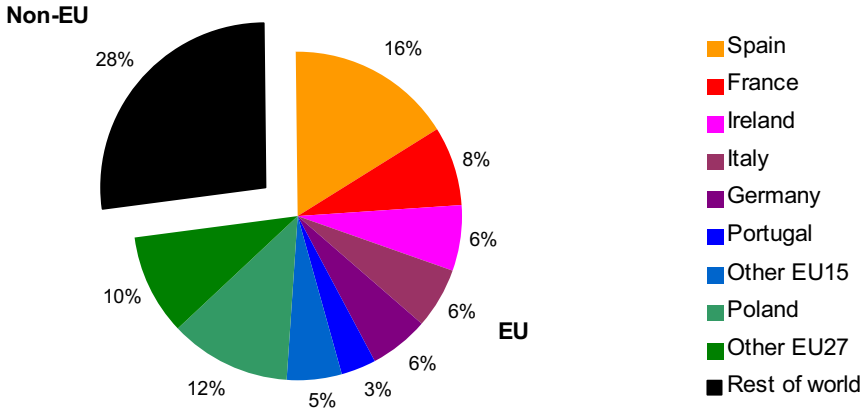
11 VFR passengers at UK airports fly to a mix of EU and longer-haul destinations, reflecting the current and historic associations between the UK and different parts of the world. The EU contribution to VFR over the last six years has grown particularly rapidly – this traffic constitutes nearly three-quarters of the growth in VFR passengers since 2000. Thus, the proportion of VFR traffic represented by these trips has increased from 50% in 2000 to 60% in 2007, indicating how increasing numbers of EU citizens – both UK and non-UK nationals – are travelling to and from the UK for VFR purposes, against a background of greater liberalisation of aviation markets and increasing use of the freedoms of work and movement available to EU citizens.

12 This increase in VFR traffic is a reflection of closer relationships developing across the EU, both at an individual and a country level. Single market legislation has made possible social and economic movement of individuals across the EU and this movement, even if only temporary, leaves permanent social networks of the sort which underpin VFR travel. Whilst living in a foreign country, a migrant may wish to return home for family occasions or holidays, and their family and friends may come to visit them in their new home. However, the migrant may also establish new social (or family) networks in the country of their stay, some of whom will travel to visit the migrant on their return or vice versa.

13 Although not growing at the same rate, there is still substantial VFR traffic between the UK and non-EU destinations – of which approximately one-quarter was travelling to and from the US in 2007. Other key destinations are Australia, Canada, India and South Africa.

14 Figure 2 illustrates how VFR traffic to and from the UK has grown by destination. It shows how the ten EU countries which joined in 2004 have accounted for almost as great an increase in passengers between 2000 and 2007 as all the non-EU countries combined.

Figure 2 Contribution to growth of international VFR passengers at the main UK international airports, 2000–2007



Source: CAA Passenger Survey, excluding international-to-international connectors.
Notes:

- *Airports included are: Heathrow, Gatwick, Luton, Stansted, Manchester, Birmingham, Bristol, Liverpool and East Midlands taking the nearest survey years to 2000 and 2007* [4].
- *'Other EU15' countries are: Austria, Belgium, Denmark, Finland, Greece, Luxembourg, Netherlands and Sweden.*
- *'Other EU27' countries are: Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Romania, Slovakia and Slovenia.*

4. As the regional airports are not surveyed every year by the CAA, the nearest survey years to 2000 and 2007 are used and scaled appropriately using CAA Airport Statistics. The actual survey data used are as follows: Bristol – 2000, January – June (provisional data) 2008; East Midlands – 1999, 2006; Liverpool – 1999, 2007; Birmingham – 1999, 2006; all other airports – 2000, 2007.

15 Data from the largest international airports[5] in the UK indicate that:

- VFR traffic to and from Poland has increased from 100 thousand in 2000 to nearly 2.5 million in 2007, and to and from the other EUA8[6] countries from 200 thousand in 2000 to 1.7 million in 2007. By 2007, the EUA8 countries accounted for 9% of all international VFR traffic.
- Over the same period, VFR traffic has also increased between EU15[6] countries and the UK. The EU15 represented nearly half of all international VFR traffic to and from the UK in both 2000 and 2007.

Where do UK VFR passengers fly from?

16 The nine largest UK airports in terms of international passenger numbers, each of which handled over 4.5 million international passengers in 2007, accounted for 85% of total international passengers at UK airports. In total, passengers to and from the UK at these nine airports (for all purposes) grew by almost one-third, to reach nearly 140 million in 2007. However, survey data indicate that VFR passengers travelling to and from the UK at these airports have grown by over three-quarters over this period[7].

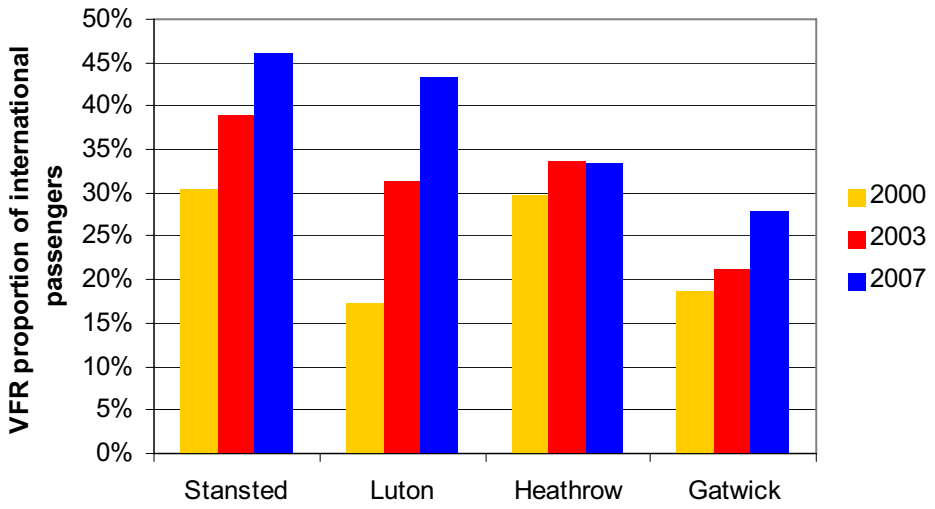
17 These nine airports also all demonstrate an increased proportion of international passengers travelling for VFR from 2000 to 2007. However, growth in VFR traffic is not spread proportionately across the airports – it has grown more rapidly at some than at others. For instance, although Heathrow accounts for the greatest number of international VFR passengers at any single UK airport, international VFR traffic there has grown by only 16% since 2000. Although regional[8] airports have played a key role in the VFR market, London[9] airports still underpin the bulk of VFR demand to and from the UK, accounting for nearly 90% of those passengers. Stansted and Luton have gone from handling a very small proportion of London's international passengers in 1990 to nearly one-quarter of the total in 2007, and over a third of VFR passengers travelling from London airports.

18 Overall, between 2000 and 2007, the CAA survey estimates that there was an increase of 14.5 million international VFR passengers travelling through the London airports, bringing the total to 35 million in 2007. Around 40% of this increase comes from Stansted, the remainder being split between Luton, Heathrow and Gatwick.

19 Figure 3 shows how the proportion of VFR passengers at the London airports has changed since 2000. Luton and Stansted show the highest proportions of VFR passengers within the London airports – both over 40% of the airport's passengers in 2007. This proportion has been growing at the same time as the rapid growth in total passenger numbers at the two airports.

5. These nine airports are the Continuous Survey airports of Heathrow, Gatwick, Luton, Stansted and Manchester plus the next four largest international airports: Birmingham, Bristol, East Midlands and Liverpool. This group of nine airports are referred to in this study as the 'main UK international airports'.
6. See Annex C for details of EU Member States and definitions of country groupings.
7. 'In Focus – Enhancing Social Networks Across Europe' preliminary findings document, CAA, November 2008, quoted "two-thirds", this figure was based on Heathrow, Gatwick, Luton, Stansted and Manchester (the Continuous Survey airports) – the extended sample's growth rate was higher.
8. Throughout this study, 'regional' in the context of airports is generally taken to mean outside the London area. This means that parts of the text referring to UK regions, will include, for convenience, Northern Ireland, Scotland and Wales, whereas these would normally be more properly referred to as nations.
9. For the purposes of this study, London City airport (which is not surveyed on a continuous basis) is not included in the 'London airport' totals. An estimated 700 thousand VFR passengers used the airport in 2008.

Figure 3 VFR passengers as a proportion of total passengers to and from the UK at the four main London airports, 2000, 2003 and 2007



Source: CAA Passenger Survey, excluding international-to-international connectors.

20 At Stansted, between 2000 and 2007 there was a doubling of passenger numbers to and from the UK. Of the 10 million increase, 6.2 million was accounted for by VFR passengers. Almost two-thirds of the growth in VFR traffic at Stansted came from passengers travelling to EU15 countries and one-quarter from passengers to the remaining EU27 countries, where VFR traffic has grown from just under 80,000 passengers in 2000 to nearly 1.8 million in 2007. Of these 1.8 million, half were travelling between the UK and Poland. The growth of VFR traffic at Stansted over this period has happened alongside the expansion of no-frills airlines at the airport.

21 Similarly, Luton has grown rapidly between 2000 and 2007. Growth of almost 90% (3.8 million) over the period means that 8.1 million international passengers used the airport to travel to and from the UK in 2007. The proportion of this increase which related to VFR traffic (nearly three-quarters) is even more pronounced than at Stansted. Half of the VFR increase was split between three destination countries – Poland, Spain and Ireland. As with Stansted, Luton airport has also seen rapid growth of no-frills operations which have serviced the increased demand.

22 For those airports where VFR growth has been particularly rapid, this has happened alongside an increase in UK–EU services, closely related to changes in the air passenger market prompted by the rise of no-frills airlines, and the consequent expansion of route networks throughout the EU. Outside London, UK–EU VFR traffic has grown most strongly at those regional airports that have become no-frills bases (Bristol, East Midlands and Liverpool). For longer-haul destinations, VFR growth has occurred at Heathrow and Gatwick, but also as new long haul services have been established at regional airports like Manchester, Birmingham and Glasgow.

23 The UK's regional airports have seen strong general passenger growth over recent years and now serve 35% of the UK's international air passenger traffic. Previous CAA studies[10] have attributed this growth to the liberalisation of EU air services and the resulting emergence of no-frills airlines looking for opportunities for rapid expansion, which, in turn, unlocked latent demand from passengers keen to travel from their local airport. Simultaneously, regional airports adopted a more commercial approach,

10. CAP 754 – UK Regional Air Services: A Study by the Civil Aviation Authority, CAA (February 2005) and CAP 775 – Air Services at UK Regional Airports: An Update on Developments, CAA (November 2007).

actively seeking a network of services. A large component of this growth has been an increase in VFR passengers. To consider the development of VFR traffic against a background of local social changes, this study looks in more detail at two regional airports, Bristol and Birmingham, and finds that migrant links, whether historic or more recent, have played their part in the development of VFR traffic at the airports.

24 Alongside no-frills airlines, there has also been some blurring in the business models of established airlines seeking to compete in the low-fares market. Some carriers now provide seat-only fares[11] on charter flights or operate scheduled flights which carry a mix of seat-only and inclusive tour passengers. Such airlines tend to concentrate on 'sunshine holiday' route networks that cater to the traditional inclusive tour market but may also have particular appeal to second-home-generated VFR passengers (as opposed to economic migrant-type VFR passengers) who are UK residents.

Who is travelling on VFR trips?

25 Survey data[12] show that VFR passengers to and from the UK tend to make more frequent trips than holiday passengers, with over 40% of passengers taking three or more leisure trips in a 12 month period. And, as might be expected, VFR passengers are characterised by more frequent travel to the same destination – 36% of VFR passengers make all their leisure trips in the year to the same destination, compared with 28% of holiday passengers.

26 With (potentially) no hotel bookings to worry about and more flexibility about when to travel[13], VFR passengers are less likely to take a standard length of holiday. Therefore a larger proportion of VFR passengers either take short (less than five days) or long (greater than two weeks) trips than holiday passengers. An estimated 25% of VFR passengers take trips longer than two weeks compared with only 12% of holiday passengers.

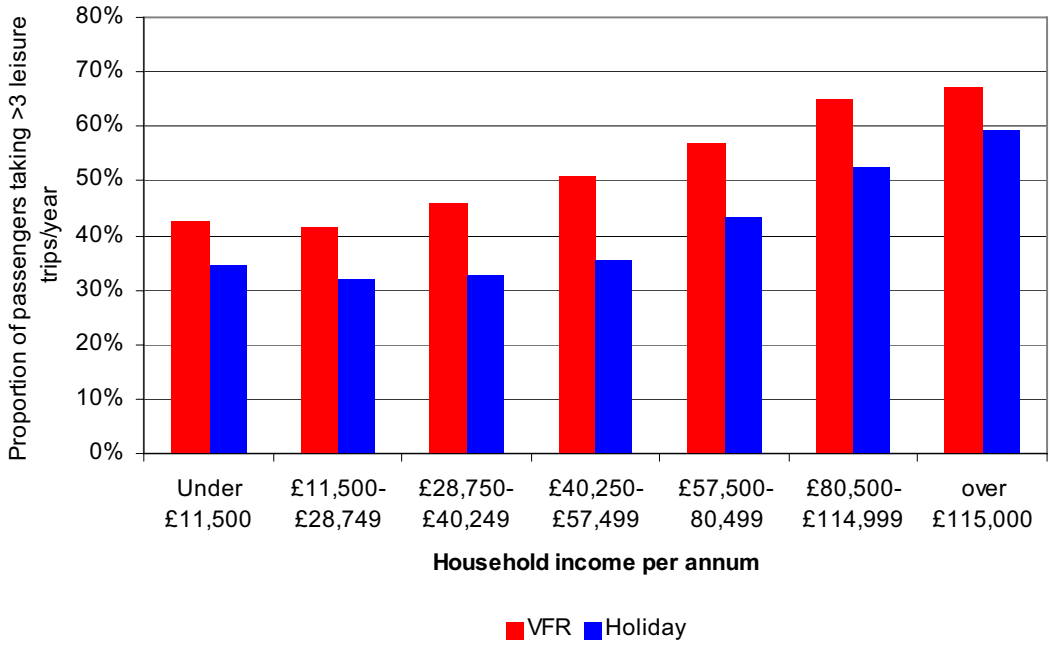
27 VFR passengers differ from holiday passengers in other ways too. For example, for UK residents, the modal age band is younger – 25–44 compared with 45–64. There are also differences in household type – almost one in three VFR passengers live in a single-person household, compared with less than one in five holiday passengers.

28 In addition, VFR passengers tend, on average, to have lower incomes than holiday passengers, indicating that the international nature of social networks that drive VFR travel open up flying to more of the population, since the cost of the trip is likely to be closer to the cost of travel than for other journey purposes. For example, whilst 27% of UK resident holiday passengers have a household income of less than £28,750, this proportion rises to 41% for VFR passengers.

29 The impact of income on trip frequency appears to be similar for both VFR and holiday passengers, in that, as income rises, the proportion of passengers taking more than three trips a year also rises. However, as Figure 4 shows, this proportion is consistently higher for VFR passengers than for holiday passengers.

11. Seat-only refers to the sale of airline tickets only, rather than a full-package holiday including accommodation.
12. CAA Passenger Survey data, July–December 2007 at the Continuous Survey airports – questions regarding frequency of leisure trips (as opposed to any type of trip) were only asked from July 2007 onwards.
13. Although the trip may be more time-specific, such as visiting family at Christmas, the length of trip will be less constrained by charter flights or hotel bookings, for instance.

Figure 4 Proportion of international leisure passengers taking more than three leisure trips per year at the Continuous Survey airports, 2007



Source: CAA Passenger Survey, excluding international-to-international connectors.

30 The different characteristics of holiday and VFR passengers suggest that passenger segments are also likely to differ in their price sensitivity. However, conflicting arguments can be made concerning the price sensitivity of VFR passengers.

31 On the one hand, it is likely that the air fare for VFR passengers will make up a greater proportion of overall trip cost than for holiday passengers, which could potentially make VFR passengers more price sensitive. On the other hand, given that VFR passengers are likely to be destination-specific they may be less price sensitive. Price sensitivity for a marginal VFR trip is also likely to depend on the frequency of trips taken, with some passengers travelling far more frequently than others, and thus, potentially, more willing to forego a single trip.

Why the increase in VFR air trips?

32 The geography of the UK means that travel to international VFR destinations is typically by air. A combination of both increased demand and increased supply of air services means that, in recent years, overall VFR traffic volumes have increased substantially, whilst air fares have generally fallen.

33 General economic factors, such as changes in GDP or consumer expenditure, will impact on VFR demand, as they will on air travel more generally. Similarly, changes in the supply of air services, such as decreases in fare levels and extension of route networks brought about by increased liberalisation, will be beneficial to all passengers. However, VFR travel crucially requires the existence of a friend or relative overseas, and therefore demand is also likely to be sensitive to social factors.

34 These factors are all inter-related – for instance, economic growth in the UK is likely to be both stimulated by and to stimulate migration, and the attraction of second-home ownership will have been influenced by the lowering of fares and increased accessibility of many destinations. This study looks at the impact of each of these factors individually on the growth of demand for VFR traffic, and the influence on them of changes to the EU single market.

Economic growth

35 The growth in UK resident VFR traffic over the last few years appears to be positively related to growth in UK GDP but with a time lag of around one to two quarters. This is a shorter time lag than that exhibited by UK resident holiday traffic, but the relationship is not as strong, which indicates the presence of other significant drivers affecting the level of demand for VFR traffic.

Supply of air services

36 Recent years have seen improved access to air travel, brought about by increased route networks and lower fares. UK–EU air traffic growth has been supported by significant change in the EU air passenger market since the early 1990s with the adoption of the 'Third Package' of aviation liberalisation measures. This legislation created a single market for aviation in the EU, meaning that airlines flying within the EU were free of restrictions on routes, the frequency of flights, and the setting of fares. These conditions facilitated the rapid expansion in size and number of airlines, mainly no-frills operations, flying in and out of the UK to EU destinations. The business model of these airlines, along with the competitive response to their entry into the market, has led to:

- an increased number of routes being served: carriers have been able to connect regional points as well as capital cities throughout the EU. Notable increases include Poland – four scheduled routes[14] operated between the UK and Poland in 2001, increasing to over 30 in 2007 – and Spain where the increase was from 43 in 2001 to 144 in 2007[15].
- a lowering of fares: increased competition, particularly within Europe, has encouraged airlines to innovate, bring forward new business models and drive down the costs of air travel. This means that many more destinations in Europe are now accessible by air, with greater flexibility of travel[16] and relatively low travel costs facilitating passenger growth. VFR passengers are likely to incur lower accommodation and living expenses on their trip than traditional leisure passengers, and so the overall cost of their trip is likely to be much more closely related to the cost of the flight. CAA Passenger Survey data indicates that between 2000 and 2007, estimated fares between the UK and EU15 countries fell by over a quarter in real terms, and between the UK and EUA8 countries by 40%.

37 On 1 May 2004, just over a decade after the creation of the EU single market in transport, the EU expanded to include the EU Accession Eight (EUA8) countries, along with Malta and Cyprus. This increased the population within the EU by almost 75 million[17] to a total of almost 500 million. The freedom of labour and capital to move throughout the EU meant that the potential market for VFR travel grew at the same time as the means of servicing it became cheaper and more accessible.

38 However, increased accessibility to travel has not been restricted to the EU. Although long haul travel has not, in recent years, seen the same kind of structural change as the growth of no-frills operations on short haul, there has been increasing liberalisation on long haul routes. This means a reduction in bilaterally agreed restrictions on flights between the UK and other countries, for example on routes

14. Defined as airport pairs averaging more than three return services per week in the year – this definition potentially means that some seasonal services will be excluded.
15. Spain including the Canary Islands. Part of the increase in routes represents a shifting from charter services to scheduled services. However, even considering charter and scheduled destinations in total, the number of routes has increased from 122 in 2001 to 181 in 2007.
16. For example, removal of the requirement for cheaper fares to span a Saturday night.
17. Approximately half of which was in Poland.

operated, frequency of flights, and setting of fares by airlines. Where markets are liberalised, with the provision of increased supply and greater competition, there is generally evidence of lower fares and increased accessibility of flights. New routes and improved connections may also reduce passenger journey times, particularly to secondary cities.

39 A recent example of such liberalisation is the air services agreement between the UK and India. This was the subject of a CAA study in 2006[18], which found that the loosening of previous regulatory constraints triggered a rapid increase in the number of passengers carried by airlines from both countries. Increases in capacity and competition led to significant reductions in fares between the UK and India. Survey data estimates that a higher than average proportion of passengers between the UK and India are travelling for VFR purposes.

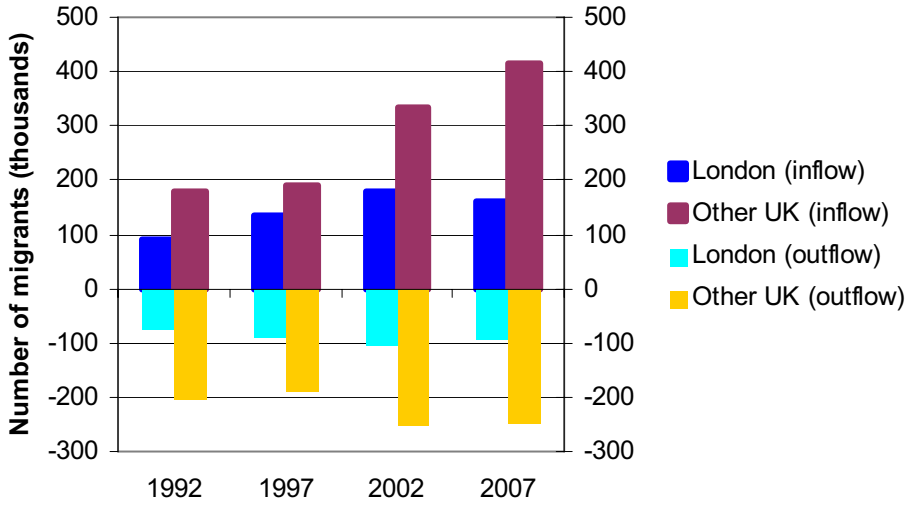
Social factors

40 Of particular relevance to VFR travel between the UK and other countries within the EU single market, EU enlargement has led to increased labour and capital mobility over a wider area. Not only has this generated potential demand for travel, but the geographical proximity of EU countries to the UK means that flights cost less and travel to visit friends or relatives is more affordable in terms of both time and money than to longer-haul destinations.

41 In contrast, although there are significant social links between the UK and Commonwealth countries, trips to and from these countries tend to be more costly. This is partly a result of distance (such countries are generally further afield) but may also be due to the more restrictive air services agreements – potentially constraining supply – in place as compared with the single market for aviation across the EU.

42 Migrant flows both into and out of the UK have been growing over time, with the most pronounced growth outside London. Figure 5 shows total London and regional immigrant and emigrant flow figures for the UK for selected years since 1992.

Figure 5 International migrants to and from London and the UK regions, 1992–2007



Source: ONS, Total International Migration.

18. UK–India Air Services: A case study in liberalisation, CAA (November 2006).

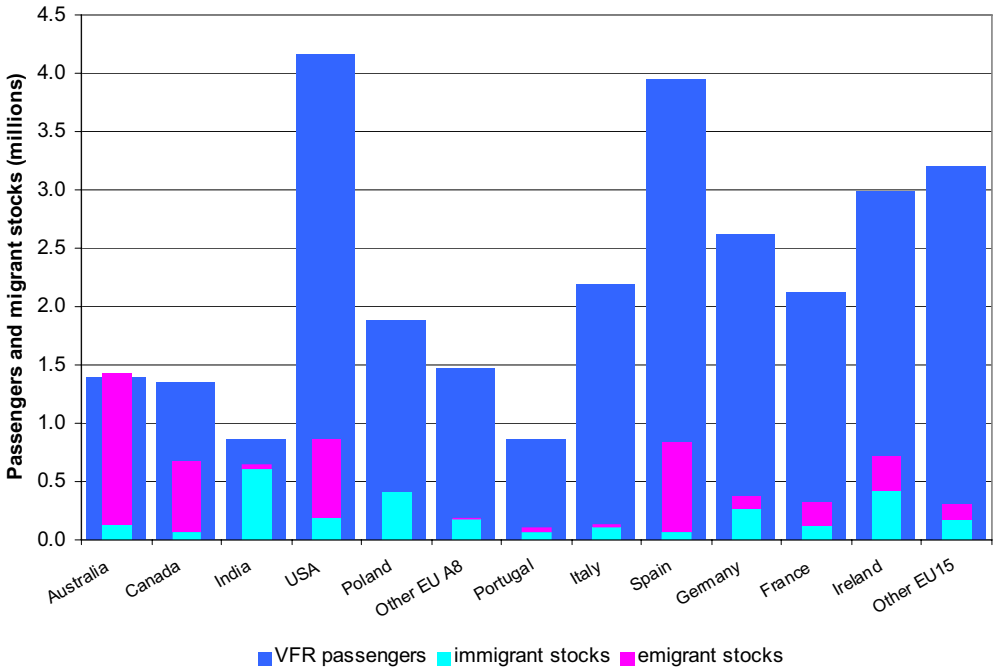
43 Analysis of the full set of migration data shows:

- total flows of migrants across the UK's borders[19] rose by over 50% between 1997 and 2007;
- before 2001, the total flows of international migrants to and from the UK regions in a year was never more than half a million – by 2007 it had risen to almost 700 thousand;
- net international migration in the UK regions for the period between 1992 and 1997 was a few thousand – between 2002 and 2007, it was over 700 thousand; and
- in large part, the increase in migrant flows since 2002 has been due to migration between the UK and other EU countries.

44 Whilst migrant flows may indicate how new cross-border social networks can be generated, the UK has many existing immigrant and emigrant communities which are constantly fluctuating in size. However, the effect of migration on relationship networks is not confined solely to current migrants: the experience of migration is likely to create some ongoing demand for VFR traffic even if the migrant returns home after some period of time.

45 The origin/destination of immigrant and emigrant stocks gives some indication of where VFR travel may occur. For the main countries with which the UK has significant links, Figure 6 compares the relative magnitude of these links by an estimated total 'migrant stock'[20] figure and the VFR traffic between the country and the UK in 2007.

Figure 6 Summary of VFR passengers at the main UK international airports by country compared with current immigrant and emigrant stocks, 2007



Source: CAA Passenger Survey, excluding international-to-international connectors; Annual Population Survey 2007, ONS; IPPR 'Brits Abroad' 2006.

Notes:

- *'Other EUA8' countries are: Czech Republic, Estonia, Hungary, Latvia, Lithuania, Slovakia and Slovenia.*
- *'Other EU15' countries are: Austria, Belgium, Denmark, Finland, Greece, Luxembourg, Netherlands and Sweden.*

19. Combining the flows of immigrants and emigrants.
20. The total of foreign-born immigrants from the country in the UK plus the total of UK-born emigrants residing in the relevant country.

46 This figure illustrates that:

- for a given migrant stock balance, destinations closer to the UK generate more traffic than longer-haul destinations; and
- EU destinations generally show higher VFR traffic where migrant stocks are higher.

47 There are forms of more temporary migration which can also lead to the development of social networks, the maintenance of which will require VFR travel.

- Education – the UK remains a popular destination for students and had approximately 350 thousand[21] foreign-born nationals in higher education in 2006/7. It is likely such students will visit and be visited by friends or relatives whilst studying, but also that they will build friendships which may lead to continued travel even after their course of study is completed. Although a growing number come from outside the EU, in 2006/7 one-third of such students were EU citizens.
- Second-home ownership – increasing levels of second-home ownership are closely related to migration and VFR travel. In recent years, the number of British households owning a second-home overseas has increased rapidly to approximately 250 thousand[22] in 2006/7. Of these second-homes, over three-quarters are located in the EU. Although people visiting their own second-home are not categorised as travelling for VFR, friends or relatives travelling to visit them are.

Statistical analysis

48 Regression analysis provides supporting evidence for the relationships between VFR traffic and various potential drivers discussed above. However, due to limitations and restrictions in the data available, the results are likely subject to a high degree of uncertainty and any inferences drawn from them should be treated cautiously. Key limitations to the data are the time period covered (a period where the time-varying factors considered have shown an upward trend), the countries included, and the reliance on survey data.

49 The results obtained support the view that the experience of migration and growth in income are both positively related to changing levels of VFR over time. Further exploratory analysis on the relative levels of VFR by country indicates that factors such as income and population, distance from the UK and social/cultural ties all have an impact. UK–Spain stands out as being a particularly large VFR market, most likely due to a combination of factors that make it a particularly attractive leisure destination – for example, its climate, coastline and historical popularity as a leisure destination.

Outline of the study

50 The remainder of this study is structured as follows:

- Chapter 1: Introduction – sets out the aims, background and context for the study.
- Chapter 2: UK Airports and International VFR Traffic – considers how international VFR traffic has developed across UK airports in recent years, looking at differences between the regional and London airports, destinations served and airlines operating. Two detailed case studies on Bristol and Birmingham airports are included.

21. Higher Education Statistics Agency – note these students are a subset of overall immigrant stocks.
22. Housing Statistics Summary 027: Survey of English Housing: Preliminary Results – 2006/07, Communities and Local Government.

- Chapter 3: Characteristics of International VFR Passengers – considers how these passengers differ from other leisure (holiday) passengers in terms of demographics and frequency of travel.
- Chapter 4: Factors Influencing International VFR Traffic Growth – looks at possible drivers behind increased demand, how the supply of air services has facilitated growth, and investigates available data for evidence, including some statistical supporting work.
- Annexes: Further detail behind the statistical analysis summarised in Chapter 4, and EU country-group definitions used.

Acknowledgements

51 The CAA would like to thank all those from the aviation industry who contributed to the discussions that helped inform the development of this study.

Chapter 1 Introduction

Chapter Summary

This Chapter sets out the objectives and scope of this study. It begins by providing background on passengers travelling to and from the UK for the purpose of Visiting Friends or Relatives (VFR), and why this particular subset of traffic is of interest.

International VFR traffic differs from other leisure traffic in that it requires some previous overseas dispersal of friends or family, which creates potential demand for travel to specific destinations and a total trip cost which is likely to be different from other leisure traffic in that accommodation costs may be lower.

Between 2003 and 2007, VFR traffic grew strongly relative to other passenger segments, with rolling annual growth of more than 10% each year, accounting for an increasing proportion of total passengers. Provisional data for 2008 indicate that, although passenger numbers have fallen for the year, the proportion travelling for VFR purposes at the Continuous Survey[23] airports remains broadly the same as it was in 2007.

Who are VFR passengers?

1.1 Air passengers travel for many different reasons, but for simplicity are often segmented into Business or Leisure passengers according to purpose of travel. Within the leisure segment there are a number of different types of trips being made, such as weekend breaks, gap-year trips, or annual two-week holidays. However, trips to visit friends or relatives are different from the others in a number of ways.

- The destination is less likely to be substitutable than in the case of international holiday travel, where a variety of destinations may meet passengers' needs.
- The cost of the trip is likely to be closer to that of the flight alone, because of lower accommodation or living costs – for many such trips, these costs may be met in whole or part by the friend or relative being visited.
- The desire to travel is dependent on the prior dispersal of social networks.

1.2 In recent years, an increasingly globalised world economy has led to a rise in labour mobility and migration. This movement of people has made social networks more dispersed, which has meant growth in the potential market of people who need to travel by air in order to maintain close links with their friends or relatives. The relaxation of regulatory restrictions on aviation markets has encouraged increases in supply to meet this demand.

1.3 Of particular relevance to VFR travel between the UK and other countries within the EU single market, EU enlargement has led to increased labour and capital mobility over a wider area. Not only has this generated potential demand for travel, but the geographical proximity of EU countries to the UK means that flights cost less and travel to visit and relatives is more affordable in terms of both time and money than to longer-haul destinations.

23. The Continuous Survey airports refers to those airports that the CAA surveys on a continuous basis. These are Heathrow, Gatwick, Luton, Stansted and Manchester.

1.4 In contrast, although there are significant social links between the UK and Commonwealth countries, trips to and from these countries tend to be more costly. This is partly a result of distance (such countries are generally further afield) but may also be due to the more restrictive air services agreements – potentially constraining supply – in place, as compared with the single market for aviation across the EU.

1.5 In early 2008, the CAA published a study investigating recent UK air traffic growth trends[24]. This study noted how growth rates have varied for different passenger segments, and identified segments where growth had slowed in the previous two to three years (mainly domestic traffic and UK resident international holiday traffic).

1.6 The study also noted that the segment displaying the most consistently strong growth in recent years was passengers travelling internationally to visit friends or relatives (VFR). International VFR traffic showed rolling annual growth of over 10% from Q1 2003 until the middle of 2007. Although growth had slowed to 5% in Q4 2007, this was still higher than other passenger segments. International VFR passengers are therefore increasingly significant to the overall UK passenger market. Provisional data for 2008 indicates rolling annual growth of around 3% in Q3 2008. These figures are influenced by the growth still evident towards the end of 2007 and early 2008 – quarterly data shows a decline in all passenger segments starting in the second half of 2008.

1.7 The aim of this study is to provide a greater understanding of this growing segment of the air passenger market in the UK through examining:

- how international VFR traffic has grown in recent years, and how this differs from other passenger segments;
- how this traffic has grown differently across UK airports;
- the characteristics of VFR passengers (and how they differ from other leisure passengers);
- potential drivers behind the evident growth in demand, and how they differ from those for holiday traffic – if the drivers of international VFR traffic growth are significantly different from those of other leisure traffic (typically GDP growth and exchange rates), the increased significance of VFR traffic may have an impact on future air demand and predictions for it;
- how changes in the supply of air services have been beneficial in servicing this demand; and
- the future prospects for this traffic segment – the weakening of the UK economy could potentially affect VFR traffic growth through lower consumer spending, but may also have an impact on migration, which would affect the size of the potential VFR market.

1.8 The study draws heavily on the CAA's extensive database of statistical, survey and other information on airports and airlines to understand more clearly how this passenger segment has developed in recent years. By identifying relevant trends, the drivers of those trends and the implications for the industry and consumers, and then publishing this information for the benefit of the industry and policymakers, the CAA is fulfilling a wider remit to facilitate the long-term sustainability of the industry through a wider understanding of the air passenger market in the UK.

24. Recent Trends in Growth of Air Passenger Demand, CAA (January 2008).

Methodology

1.9 Data from various sources were used in this study, including CAA air traffic statistics, the International Passenger Survey (IPS) carried out by the Office for National Statistics (ONS), the CAA's own Passenger Survey, and other available data on migration and the UK economy.

1.10 Proportions of VFR traffic as reported by the CAA and IPS surveys have been compared. Although the CAA Passenger Survey tends to record a consistently higher proportion of VFR passengers than the IPS[25], both surveys demonstrate an upward trend in growth in the proportion of VFR traffic, for both UK and non-UK resident passengers, at UK airports.

1.11 This study generally uses the CAA Passenger Survey, where possible, as the interviews are weighted at a route level and connecting passengers can be identified, making it more appropriate for this type of analysis[26]. However, where a time-series for all UK airports is needed, the IPS data have been used as the CAA only surveys the largest UK airports on a continuous basis (and, as demonstrated in Chapter 2, the smaller regional airports have also played an important role in the growth of VFR traffic).

1.12 Discussions were also held with various interested parties from the aviation industry. These discussions indicated that there are a number of differing, overlapping definitions of a VFR passenger. Some prefer to segment a passenger's journeys into those that are regular trips to the same destination (assumed to be VFR traffic), and those that are trips to different destinations (assumed to be 'holiday' traffic).

1.13 Using this definition, passengers who visit a friend or relative infrequently may not fall into the VFR category, while passengers commuting weekly to/from a second-home outside the UK would do. However, commuters are likely to be influenced by different drivers, and thus display different characteristics, from other types of VFR passengers. For example, in the short-term, they are likely to be tied into their travelling plans and will appear to be fairly price-insensitive. However, sustained price rises may lead to a step change in behaviour and a lifestyle adjustment to reduce the need for ongoing regular trips.

1.14 In contrast, both CAA and IPS surveys classify passengers according to the their stated journey purpose. Thus, weekly commuters are recorded as business passengers, while both regular (to the same destination) and irregular (travelling less frequently or to varying destinations) VFR travellers will be recorded as VFR. For this study, this definition of a VFR passenger is used.

1.15 Throughout the study, analysis focuses on VFR passengers travelling to and from the UK. It therefore excludes domestic journeys and those passengers who have arrived in the UK for the sole purpose of catching an onward international flight. From hereon in, where the abbreviation 'VFR' is used, it is specifically referring to this restricted set of international passengers using UK airports. Other international leisure passengers are referred to as 'holiday' passengers.

1.16 The main challenges faced when conducting this study were:

- **Reliance on survey data.** The journey purpose of passengers can only be obtained from survey data from a sample of passengers, and therefore any figures derived are generally approximations. Both CAA and IPS surveys determine

25. The reason for which is not clear – it is likely the differences are due in part to interviewing techniques alongside more technical differences such as the weighting methodology applied. The IPS dataset is weighted to include all UK airports in every year, making it more appropriate for a time-series than the CAA Passenger Survey, where airports are surveyed on a rotating basis and data weighted at a route-level to airport totals, making it more appropriate for destination-specific analysis.
26. Although weighting is conducted at a route-level, survey data also allows identification of the passengers' stated final destination, which is of more relevance to this analysis and has been used throughout.

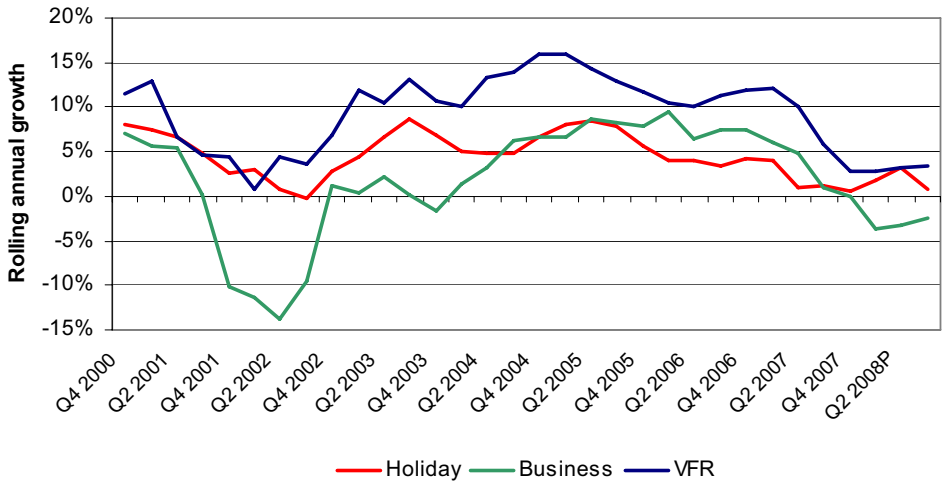
journey purpose by presenting the passenger with a list of alternative purposes to choose from, and it is the interviewee who selects the journey purpose which they feel best fits their current trip[27].

- **Identifying a consistent group of VFR passengers, and the subsets within.** Whilst the distinction between business and leisure travel may be considered fairly clear cut, there is more ambiguity over the VFR category. For instance, if a passenger combines a traditional leisure trip with a visit to a friend or relative, then they could equally validly call the trip 'holiday' or 'VFR'[28]. However, this merely signifies that the precise extent of the increase in VFR may be difficult to measure – it should not cast doubt on the central assertion that VFR traffic has recently increased at a faster rate than other leisure traffic.
- **Understanding the range of reasons for which VFR passengers may be travelling.** Some passengers may be making trips as a substitute for a holiday, while others may be economic migrants who have close family at home that they visit regularly. Some passengers will see their trip as more necessary than other passengers who may view it more as a discretionary holiday.

Growth in international passenger traffic since 1990

1.17 International passenger numbers at UK airports have grown by nearly 150% since 1990, from 77 million to 192 million in 2007. Growth in international VFR traffic has been robust in comparison with other market segments. Figure 1.1 shows how rolling annual VFR growth[29] has remained several percentage points higher than growth in international business and other leisure traffic over the last five years. This faster growth rate means that the proportion of traffic travelling for VFR increased from 18% in 2000 to 24% in 2008[30].

Figure 1.1 Rolling annual growth in international passenger traffic at UK airports by journey purpose, 2000–2008



Source: International Passenger Survey (MQ6), ONS.
Note: Q1–Q3 2008 data provisional.

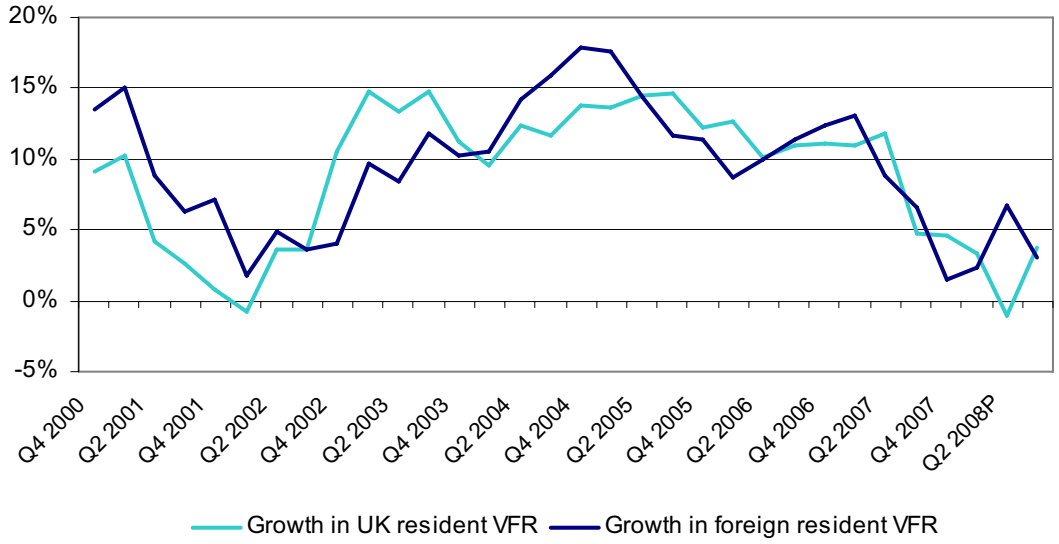
27. Both surveys give their interviewers guidance as to how to interpret the various categories, but this guidance would influence the response only when the interviewee asks for clarification or seems unsure.
28. The same is true of passengers who combine business and leisure trips. However the main purpose of the trip can generally be identified by asking who paid for the trip, with those trips funded by employers being considered trips primarily for a business purpose.
29. For example, rolling annual growth at Q3 2007 is the growth in the total traffic for the preceding year (Q4 2006–Q3 2007) compared with the equivalent period in the previous year (Q4 2005–Q3 2006).
30. As estimated by the IPS (provisional data only for Q1–Q3 2008). The IPS records a journey purpose of 'miscellaneous', which comprised approximately 5% of international passengers in 2007 and has been excluded when calculating proportions.

Foreign and UK residents

1.18 Air passenger surveys typically place more weight on the residence (rather than nationality) of the passenger, because this indicates, for instance, the likely country where the ticket to travel has been purchased (and the currency it has been purchased in). Although this may not always be the most suitable method for tracking VFR passengers (since migrants will initially be categorised as foreign residents, but will become UK residents), it does facilitate the separation of passengers' journeys into inbound and outbound trips.

1.19 Figure 1.2 shows that strong growth of VFR traffic has been evident amongst both foreign resident passengers and UK resident passengers since 2002. According to the IPS, 14% of UK resident passengers were travelling for VFR purposes in 2000, rising to 19% in 2007. For foreign resident terminal passengers the VFR proportion rose from 28% in 2000, to 36% in 2007. Overall, VFR traffic made up nearly one-third of leisure traffic in the year to Q3 2008.

Figure 1.2 Rolling annual growth in international VFR passenger at UK airports, 2000–2008



Source: International Passenger Survey (MQ6), ONS.
Note: Q1–Q3 2008 data provisional.

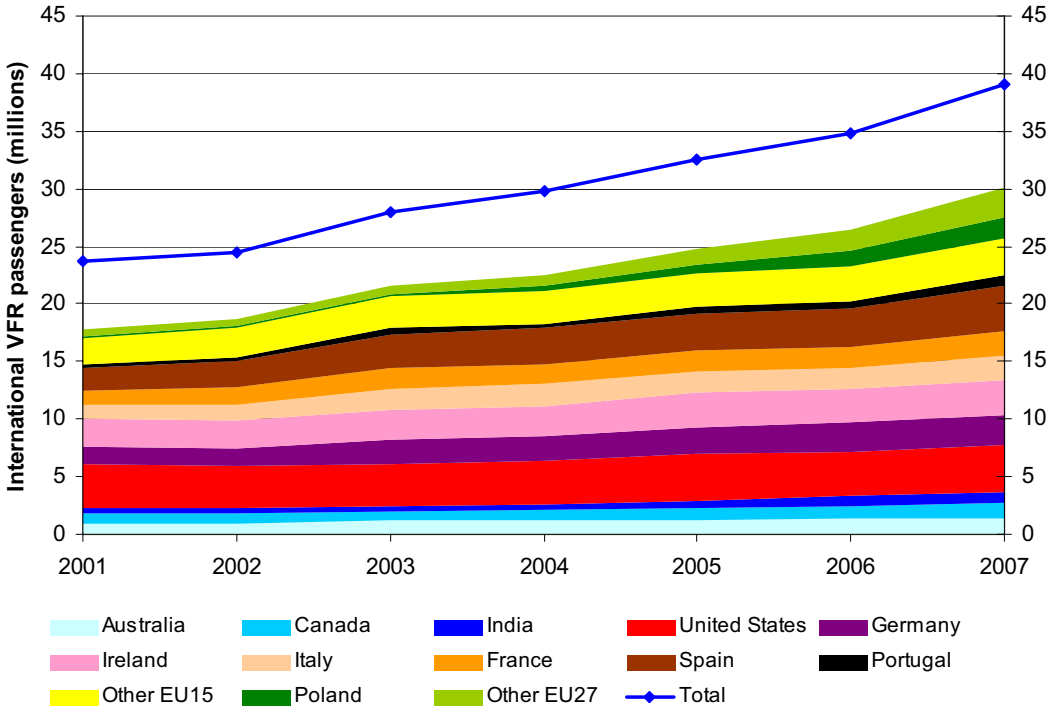
1.20 In 2008, less than one-third of traffic to and from the UK was foreign resident, but over 40% of the VFR traffic. Since early 2004 both UK and foreign resident VFR traffic have grown at rates in excess of 10% per annum, only falling below that in 2007, when there was a noticeable slowdown. However, VFR was still growing more strongly than holiday traffic.

Destination of VFR passengers

1.21 Figure 1.3 shows the most significant destination[31] countries for international VFR passengers at the five UK airports continuously surveyed by the CAA. It illustrates that the increase in passenger numbers is a combination of slower growth from countries with a larger passenger base and more rapid growth in passenger numbers from some of the other countries (starting from a low base). It is notable that the United States and three other longer-haul destinations (shown in shades of blue) have shown minimal growth, although still constitute a sizeable proportion of total VFR traffic in 2007.

31. 'Destination' is used throughout to refer to both origin and final destination country of those passengers travelling to and from the UK respectively.

Figure 1.3 International VFR passengers by country of final destination at the Continuous Survey airports, 2001–2007



Source: CAA Passenger Survey.

Notes:

- Excluding international-to-international connectors (those passengers identified in the Passenger Survey as arriving at the airport by air from an international destination and flying out to an international destination).
- UK airports included are: Heathrow, Gatwick, Luton, Stansted and Manchester.
- 'Other EU15' countries are: Austria, Belgium, Denmark, Finland, Greece, Luxembourg, Netherlands and Sweden.
- 'Other EU27' countries are: Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Romania, Slovakia and Slovenia.

1.22 Destinations with the highest absolute levels of VFR traffic to and from the five airports surveyed are USA, Spain, Ireland, Germany, Italy and France. However, faster recent growth in both Poland and the recently acceded EU member states (shown as 'Other EU27'[32]) is evident. From less than one million passengers in 2001, Poland and the other accession countries together now account for a similar number of VFR passengers to and from the UK as the United States.

1.23 Figure 1.3 uses data from the CAA Passenger Survey. In order to obtain a time series, data are shown for the Continuous Survey airports only (which accounted for three-quarters of total international passengers at UK airports in 2007, but nearly all the long haul passengers). By excluding the other UK airports these data are likely to overstate the importance of the long haul destinations as compared with short haul in terms of the overall picture across the UK. Chapter 2 therefore looks at a more extensive range of UK airports with traffic estimated in spot years of 2000, 2003 and 2007.

32. See Annex C for details of EU Member States and definitions of country groupings.

Looking forward

1.24 Subsequent to the completion of the main body of this study and analysis therein, provisional data for passengers in 2008 have become available. As noted previously, the subset of VFR passengers is only identifiable through survey data, which means there is a longer lead time for final data to be published than for total passenger numbers.

1.25 Latest data[33] from the International Passenger Survey indicate that VFR growth in 2008 remained stronger than other market segments, with business travel volume falling. VFR traffic growth fell below 10% in mid-2007 but remained steady at around 3% for most of 2008. However, the data show a decline in quarterly passenger traffic (for all purposes) in Q3 2008.

1.26 CAA Passenger Survey data are also now available for 2008, albeit in provisional form only. These data indicate that, although passenger numbers have fallen for the year, VFR traffic as a proportion of total traffic at the Continuous Survey airports is broadly the same as it was in 2007.

1.27 Since Q3 2008, the UK economy has seen negative growth in GDP, which is likely to have an impact on passenger numbers. As discussed in Chapter 4, the relationship between VFR and UK GDP does not appear to be as strong as that between holiday traffic and UK GDP, and that migratory flows also play an important role in VFR growth.

1.28 However, there is evidence of a link between UK GDP and changes in migration[34]. For immigrants, the relationship is likely to be circular, with rising income levels making the UK an attractive destination, whilst increases in population will also add to overall GDP. In recent years, rising UK house prices and favourable exchange rates (both trends which have now reversed) may have made emigration an attractive prospect for UK nationals, for example, through selling property in the UK and moving to destinations where real house prices were relatively lower.

1.29 Changes in the flow of new migrants[35] could affect the potential size of the future VFR market – but even if there were to be a reversal of migration trends, there still remains an existing body of people who are either current migrants, or have at some point been migrants. The responses of these individuals to the UK recession will vary according to factors such as: how long they have been in their current country of residence, the nature of their employment, family ties (either in their country of residence or in their country of birth) and relative exchange rates. Also, if a migrant does return home (either from or back to the UK), the likelihood of repeat VFR travel on the route will again be dependent on individual circumstances.

1.30 The analysis in this study has been carried out using data which cover a period of significant change in terms of enlargement of the EU, the migration flows this enabled and concurrent liberalisation of the EU aviation market (giving rise to more affordable air travel). In light of these developments, it may not be realistic to assume continued growth of the same magnitude, however, a strong foundation for an enlarged passenger base has been established.

33. IPS (MQ6) data are now available for Q1–Q3 2008 in provisional form.
34. See Technical Annex A for more detail. A correlation coefficient of 0.4 is observed between the increase in 'migration experience' (cumulative inflows to the UK of foreign nationals plus cumulative outflows from the UK of UK nationals) and UK GDP over the period 2000–2007.
35. The UK ONS forecast future net migratory inflows to the UK to be 191 thousand per annum up to 2016/17. However, these projections do not attempt to predict the impact of new or future government policies, changing economic circumstances or other factors. National Population Projections 2006-based – PP2 No.26, ONS (June 2008).

1.31 Demand for travel for VFR purposes is an indication of the desire to build and maintain relationships, and whether people continue to do this at the same rate as they have historically will depend on the relative value that they place on these relationships as compared with other demands on their time and income, and the affordability of trips, affected by exchange rates and travel costs.

1.32 Thus, although falls in UK GDP are likely to impact on VFR passenger traffic, both directly and indirectly via the effect on migration, the extent of the impact cannot be estimated with any certainty. Provisional data for 2008 indicate that although passenger numbers have fallen for the year, VFR traffic as a proportion of total traffic at UK airports is broadly the same as it was in 2007.

Chapter 2 UK Airports and International VFR traffic

Chapter Summary

This Chapter considers how international VFR traffic has developed at UK airports in recent years, looking at differences between regional and London airports, destinations served and airlines operating. Two detailed case studies on Bristol and Birmingham airports are included.

Although the main UK airports all demonstrate an increased proportion of international passengers travelling for VFR since 2000, growth in VFR traffic is not spread proportionately between them. For instance, although Heathrow accounts for the greatest number of international VFR passengers of any single UK airport, VFR traffic there has grown by only 16% since 2000. Stansted, however, served approximately three times as many VFR passengers in 2007 as it did in 2000, and Luton nearly five times as many.

At airports where VFR growth has been particularly rapid, it has primarily been driven by trips between the UK and EU, and, generally, an increase in VFR traffic to EU destinations from an airport has been related to the expansion of no-frills airline operations at that airport. Airports where VFR growth has been at a lower rate tend to have a more substantial proportion of passengers travelling to destinations outside the EU.

2.1 In 2007, 163 million international passengers were handled by the UK's nine largest international airports[36]. This total has increased by nearly 30% since 2000. The remaining 15% of international passengers, totalling 30 million in 2007, were handled by more than 30 smaller UK commercial airports. Since the nine biggest airports account for the majority of international passengers, and survey data is necessarily more limited at smaller airports, this Chapter focuses on these nine main international airports.

2.2 Development of VFR traffic at each of these nine airports since 2000 has been investigated using survey data[37] with a view to identifying common themes that appear to be of particular relevance to VFR traffic. This analysis excludes passengers who have connected at the survey airport from an international flight in order to fly onwards. Table 2.1 shows total international passengers starting or ending their journey in the UK, for each of the nine airports, and the number travelling for the purpose of VFR.

36. These nine airports are: Heathrow, Gatwick, Luton, Stansted, Manchester, Birmingham, Bristol, East Midlands and Liverpool. The smallest handled 4.6 million international passengers in 2007.
37. As UK regional airports are not surveyed every year by the CAA, the nearest survey years to 2000, 2003 and 2007 were used and scaled appropriately using CAA Airport Statistics. The actual survey data used are as follows: Bristol – 2000, 2003, 2008 Jan–June; East Midlands – 1999, 2003, 2006; Liverpool – 1999, 2003, 2007; Birmingham – 1999, 2003, 2006; all other airports – 2000, 2003, 2007

Table 2.1 International VFR passengers at the main UK international airports, 2000–2007

	Passengers starting/ending journey in UK (m)			VFR passengers starting/ending journey in UK (m)		
	2000	**2003**	**2007**	**2000**	**2003**	**2007**
Heathrow	41.8	39.5	43.2	12.4	13.3	14.4
Gatwick	23.6	23.2	28.6	4.4	4.9	8.0
Stansted	9.9	14.3	19.9	3.0	5.6	9.2
Manchester	15.2	16.4	18.5	2.3	2.7	3.8
Luton	4.3	4.9	8.1	0.7	1.5	3.5
Birmingham	6.2	7.5	7.6	0.9	1.7	1.9
East Midlands	1.9	3.4	4.7	0.1	0.5	0.6
Bristol	1.7	2.8	4.6	0.2	0.5	1.4
Liverpool	1.3	2.3	4.6	0.3	0.6	1.8
Total	105.9	114.3	139.8	24.3	31.4	44.6

Source: CAA Passenger Survey, excluding international-to-international connectors.

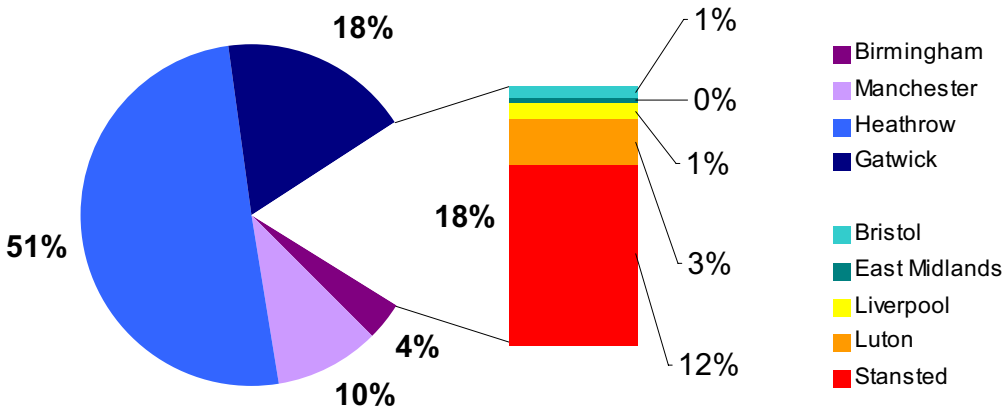
2.3 Total passengers to and from the UK at these airports are estimated to have been 140 million in 2007. Of these, the CAA Passenger Survey estimates approximately one-third[38] were travelling on VFR. This represents an increase in VFR passengers of over three-quarters[39] from 2000, when the VFR proportion at these airports was less than one-quarter. An increase is evident to a greater or lesser extent at all nine airports.

2.4 The distribution of international VFR passengers across these nine airports in 2000 and 2007 is compared in Figure 2.1 and Figure 2.2. The most apparent changes are:

- the decline in the proportion of VFR passengers to and from the UK using Heathrow (despite a rise in absolute numbers) from one half to one third, indicating that numbers of VFR passengers have grown much more sharply at other airports;
- the switch in proportion from Heathrow is shared between five other airports – Bristol, East Midlands, Liverpool, Luton and Stansted; and
- amongst these five airports, Luton and Stansted stand out as having the biggest growth in share of VFR passengers.
- Gatwick, Birmingham and Manchester maintain a stable share of VFR passengers.

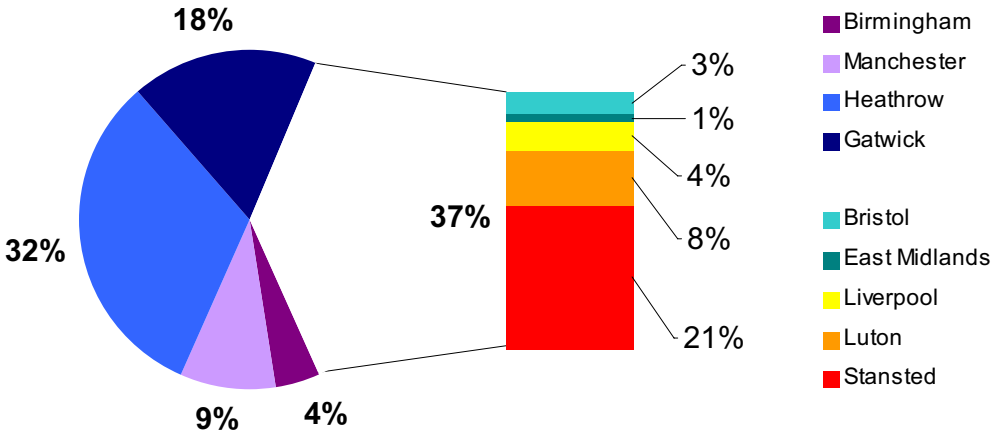
38. As noted in Chapter 1, paragraph 1.10, this proportion is rather higher than that estimated by the IPS for all UK airports in 2007.
39. The CAA's November 2008 preliminary findings document, 'In Focus – Enhancing Social Networks Across Europe', quoted "two-thirds", this figure was based on the five biggest Continuous Survey airports only. This extended sample indicates it is rather higher.

Figure 2.1 Distribution of international VFR passengers between the main UK international airports, 2000



Source: CAA Passenger Survey, 2000, excluding international-to-international connectors.
Note: In 2000, these airports made up 89% of all international terminal passengers at UK airports[40].

Figure 2.2 Distribution of international VFR passengers between the main UK international airports, 2007



Source: CAA Passenger Survey, 2007, excluding international-to-international connectors.
Note: In 2007, these airports made up 85% of all international terminal passengers at UK airports[40].

2.5 These charts broadly reflect the general pattern of international traffic growth at airports between 2000 and 2007 – relatively little growth at Heathrow, nearly 25% at Birmingham, Manchester and Gatwick and anything from 90% to 250% at the others. In particular, some regional airports show a high growth rate in recent years, from a relatively small base.

40. It is not possible to estimate the proportion of VFR passengers that these airports account for out of the total international VFR passengers in any one year, as there is not a full CAA data set for all UK airports available for each year and the IPS data is weighted in such a way that the airports listed cannot be isolated.

2.6 Table 2.2 demonstrates how strong VFR traffic growth at these nine airports has altered the proportions of passengers travelling for VFR purposes over the period 2000 to 2007. All the airports show an increase in this proportion, some more pronounced than others.

Table 2.2 VFR proportion of international passengers at the main UK international airports, 2000–2007

	VFR% of international passengers with O/D of UK		
	2000	**2003**	**2007**
Stansted	30%	39%	46%
Luton	17%	31%	43%
Liverpool	22%	27%	40%
Heathrow	30%	34%	33%
Bristol	11%	18%	31%
Gatwick	19%	21%	28%
Birmingham	14%	23%	24%
Manchester	15%	17%	21%
East Midlands	6%	14%	13%

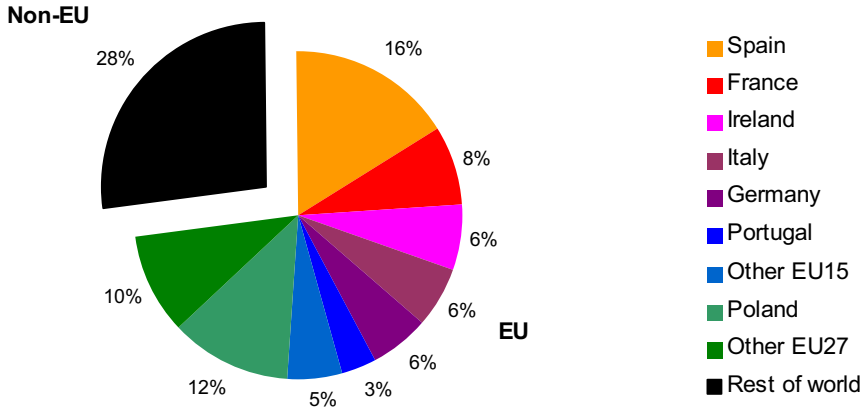
Source: CAA Airport Statistics and CAA Passenger Survey, excluding international-to-international connectors.
Note: Nearest survey years to 2000, 2003 and 2007 used – see footnote 37.

Changes in destination of VFR passengers

2.7 As shown in Table 2.1, across the nine airports considered, international VFR traffic grew by approximately 20 million to an estimated 45 million in 2007.

2.8 Figure 2.3 demonstrates that nearly three-quarters of this *growth* arose from passengers travelling between the UK and EU (passengers making connections at EU hub airports on to non-EU flights are not included in this category). Although non-EU traffic made up just over one-quarter of the growth, it still accounted for 40% of the total international VFR traffic in 2007.

Figure 2.3 Contribution to growth of international VFR passengers at the main UK international airports, 2000–2007

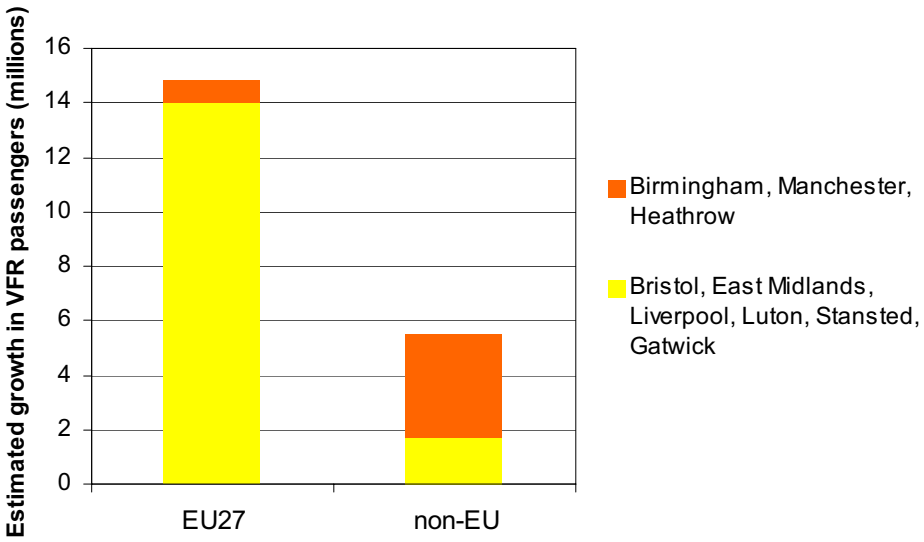


Source: CAA Passenger Survey, excluding international-to-international connectors.
Notes:

- UK airports included are: Heathrow, Gatwick, Luton, Stansted, Manchester, Birmingham, Bristol, Liverpool and East Midlands.
- Nearest survey years to 2000 and 2007 – see footnote 37.
- 'Other EU15' countries are: Austria, Belgium, Denmark, Finland, Greece, Luxembourg, Netherlands and Sweden. UK is excluded as domestic traffic not considered here.
- 'Other EU27' countries are: Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Romania, Slovakia and Slovenia.

2.9 Figure 2.4 illustrates how the growth in VFR passengers is split by destination and UK airport – at Birmingham, Manchester and Heathrow the growth is mainly made up of passengers travelling outside the EU, whereas growth at the other airports is mainly from UK–EU traffic.

Figure 2.4 Estimated growth in international VFR traffic, by destination and airport, 2000–2007

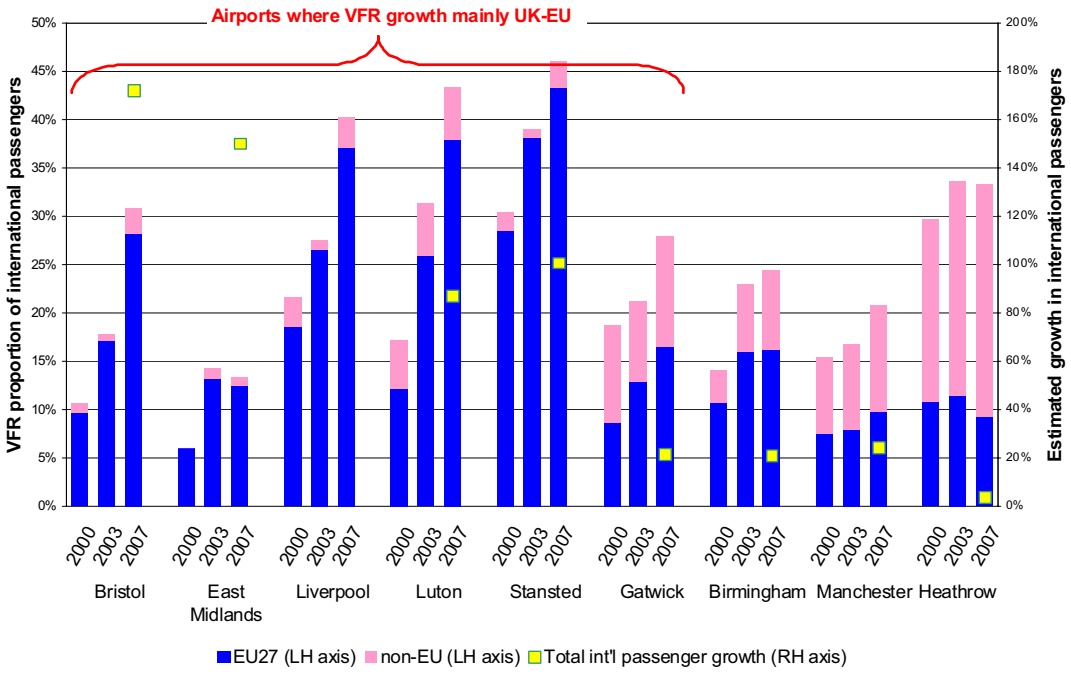


Source: CAA Passenger Survey, excluding international-to-international connecting passengers.

2.10 Airports where the *growth* in VFR has been largely to and from the EU are highlighted in Figure 2.5 – Bristol, East Midlands, Liverpool, Luton, Stansted and Gatwick. There are a number of other factors which these airports tend to have in common:

- higher overall levels of international passenger growth (as denoted by the yellow squares using the right hand axis);
- larger percentage point increases in the proportion of international traffic travelling for VFR (East Midlands is an exception); and
- little long haul VFR traffic, despite the fact that these data consider the final destination of connecting passengers. Gatwick is the obvious exception here. Of the Gatwick passengers travelling outside the EU in 2007, over one-third were going to the United States. Since the EU-US "Open Skies" agreement came into effect in April 2008, many direct US services have moved from Gatwick to Heathrow.

Figure 2.5 Proportion of international VFR passengers by destination and airport, 2000, 2003 and 2007



Source: CAA Passenger Survey, 2000–2007, excluding international-to-international connectors.
Notes:

- Passenger growth for Liverpool not shown as off the scale (>250%).
- Nearest survey years to 2000 and 2007 used – see footnote 37.

2.11 Table 2.3 summarises the changes illustrated in Figure 2.5 above. By splitting out the increase in the proportion of passengers travelling for VFR purposes by their final destination, the airports where growth in VFR has been dominated by passengers on UK–EU routes can be identified.

Table 2.3 Growth in proportion of international VFR passengers by destination and airport, 2000–2007

	VFR% of international passengers 2000	UK-EU increase	UK-Non EU increase	VFR% of international passengers 2007
Bristol	11%	**19%**	**2%**	31%
East Midlands	6%	**7%**	**1%**	13%
Liverpool	22%	**18%**	**0%**	40%
Luton	17%	**26%**	**0%**	43%
Stansted	30%	**15%**	**1%**	46%
Gatwick	19%	**8%**	**1%**	28%
Birmingham	14%	**6%**	**5%**	24%
Manchester	15%	**2%**	**3%**	21%
Heathrow	30%	**-2%**	**5%**	33%

Source: CAA Passenger Survey, excluding international-to-international connectors.

No-frills airlines

2.12 The CAA study 'No-frills Carriers: Revolution or Evolution?'[41] detailed the rise in no-frills air services with a focus on UK–EU routes. It showed how the route network served by no-frills carriers had grown rapidly since the mid-1990s, in particular at UK regional airports, as a result of liberalisation of the EU air transport market. This expansion of no-frills services and the accompanying response of full-service airlines have broadened route networks and lowered fares across the EU. The effects of these changes on the growth of VFR travel is investigated further in Chapter 4.

2.13 The airports identified in paragraph 2.10 are those that tend to be longer established and proportionately more significant bases for no-frills airlines. These airports have generally seen greater increases in the proportion of international passengers travelling for VFR purposes, and higher rates of growth of total international passengers.

2.14 Further, the airports identified in Figure 2.5 as having the bulk of their increase in VFR traffic to and from European destinations are also those where no-frills airlines have grown rapidly and (Gatwick aside) carry the majority of international passengers. This contrasts with Heathrow, where virtually all passengers are flying on full-service airlines, and Manchester and Birmingham, where there is both substantial charter and full-service traffic, and no-frills operations (although growing) remain a smaller proportion of the overall traffic. Although Gatwick also has a mix of services similar to Manchester and Birmingham, its increase in no-frills traffic has been, to some extent at least, at the expense of full-service (and potentially longer-haul) operations.

41. CAP 770 – No-frills Carriers: Revolution or Evolution?, CAA (November 2006).

Other airlines

2.15 Alongside no-frills airlines, there has also been some blurring in the business models of established airlines seeking to compete in the low-fares market. Some carriers now provide seat-only fares[42] on charter flights or operate scheduled flights which carry a mix of seat-only and inclusive tour passengers. Such airlines tend to concentrate on 'sunshine holiday' route networks that cater to the traditional inclusive tour market but may also have particular appeal to second-home-generated VFR passengers (as opposed to the economic migrant-type VFR passengers) who are UK residents.

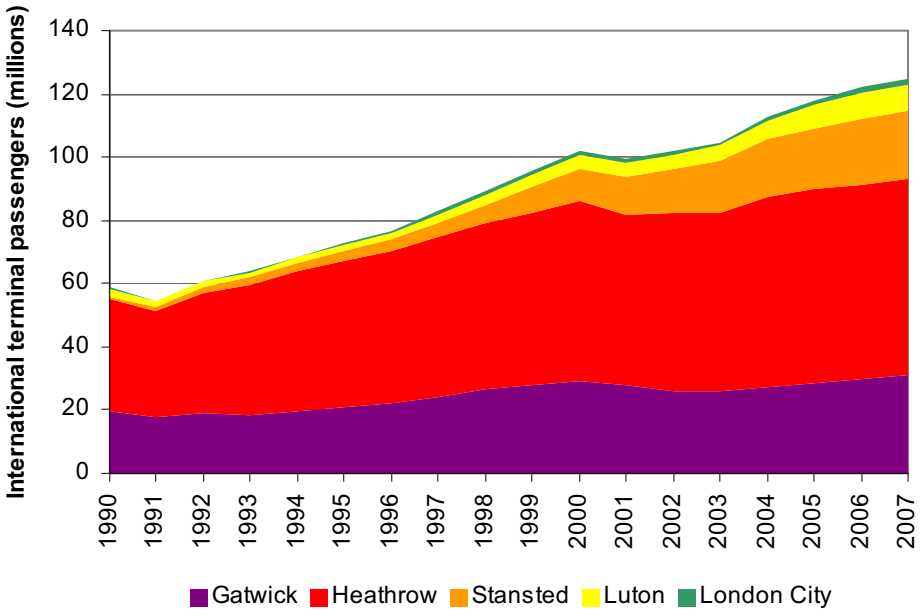
2.16 These airlines tend to be based at airports where, historically, there has been a relatively high proportion of charter traffic. One such airline is Monarch which operates a number of key routes from UK airports (Birmingham, Manchester, Gatwick and Luton) to popular second-home destinations in Spain. Another is Thomsonfly with flights to holiday destinations throughout the Mediterranean and further afield.

2.17 A UK-based airline which has explicitly stated[43] its intention to appeal to VFR traffic through its route network is Flybe. Although most of its traffic is domestic and therefore outside the scope of this study, Flybe's international network includes French and German regional airports which cater for second-home owners and overseas UK military respectively. Virtually all of Flybe's international routes are operated from UK regional airports.

London airports

2.18 Although UK regional airports have played a key role in changes to the VFR market, in terms of size the London airports still underpin the bulk of VFR demand. International terminal passengers have more than doubled at the five London airports from nearly 60 million in 1990, to over 120 million in 2007. Stansted and Luton handled a very small proportion of international passengers at London airports in 1990 to nearly one-quarter of the total in 2007 (see Figure 2.6).

Figure 2.6 International terminal passengers at London airports, 1990–2007

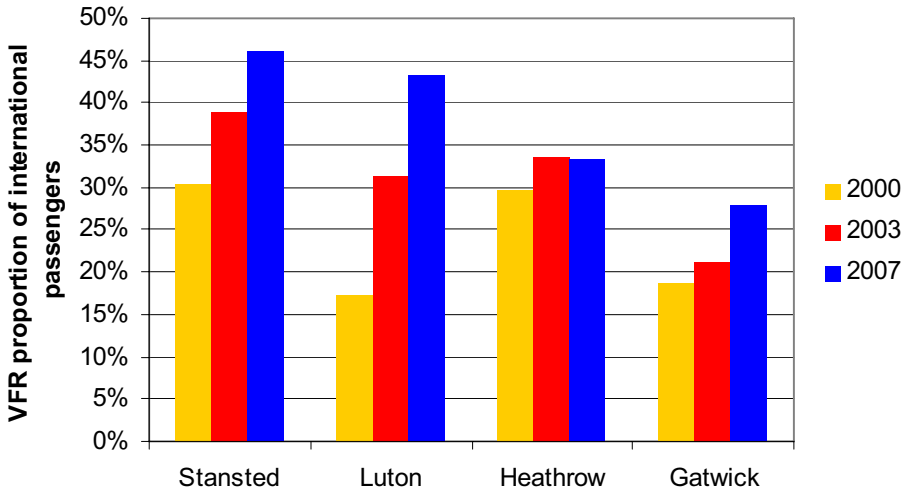


Source: CAA Airport Statistics.

42. Seat-only refers to the sale of airline tickets only, rather than a full-package holiday including accommodation.
43. http://www.flybe.com/investorrelations/today.htm

2.19 Figure 2.7 shows how the proportion of VFR passengers at the London airports has changed since 2000. Stansted and Luton show the highest proportions of VFR passengers of the London airports, at over 40%. This proportion has been growing at the same time as the rapid growth in passengers at the two airports.

Figure 2.7 VFR passengers as a proportion of total passengers to and from the UK at the four main London airports, 2000, 2003 and 2007



Source: CAA Passenger Survey, excluding international-to-international connectors.

2.20 Heathrow has shown little growth in its proportion of VFR traffic between 2000 and 2007, whereas Gatwick's proportion of VFR traffic has grown more, particularly between 2003 and 2007. Due to the size of these airports, small changes will have an impact on the London airports' overall proportion of VFR traffic. Certain long haul destinations are only directly accessible from these two largest airports.

2.21 Overall, the CAA Passenger Survey estimates that between 2000 and 2007, there was a 14.5 million increase in the number of international VFR passengers travelling through the London airports, bringing the total to 35 million. Around 40% of this increase comes from Stansted, the remainder being split between Luton, Heathrow and Gatwick[44].

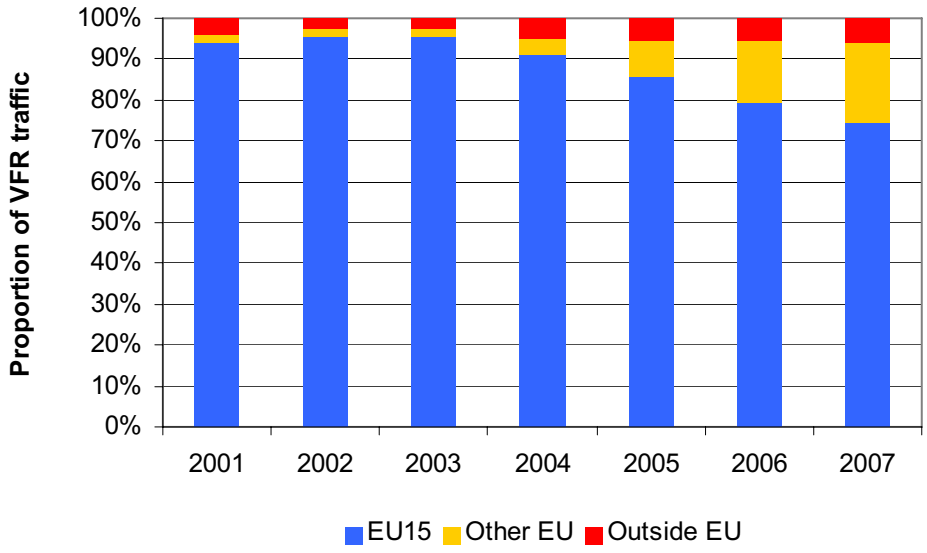
Stansted

2.22 At Stansted, there was an increase of 100% in passengers travelling to and from the UK between 2000 and 2007 (bringing the total to 20 million); virtually all of the increase came from passengers on scheduled services. Of the 10 million increase in international passengers, 6.2 million was accounted for by VFR passengers, half of whom were travelling to four countries – Spain, Poland, France and Italy.

2.23 Two-thirds of this 6.2 million increase was from passengers travelling to EU15 countries and over one-quarter from passengers to the remaining EU27 countries, for which VFR traffic at Stansted has grown from just under 80,000 passengers in 2000 to nearly 1.8 million in 2007. Of these 1.8 million, half were travelling between the UK and Poland. Figure 2.8 demonstrates the increasing importance of the more recently joined EU Member States to total VFR traffic at Stansted. There is also some increase in VFR traffic to destinations outside the EU, mainly to Norway, Turkey and Switzerland.

44. For the purposes of this document, London City airport is not included in the 'London airport' totals. This is in part because the airport is not surveyed on a continuous basis, but also it is not significant in terms of VFR passengers, (less than 500 thousand in 2007).

Figure 2.8 Origin/destination of international VFR traffic at Stansted by region, 2001–2007



Source: CAA Passenger Survey, excluding international-to-international connectors.
Notes: 'Other EU' = EUA8 plus Malta and Cyprus.

2.24 The growth at Stansted over this period has been driven by no-frills airlines – primarily Ryanair and easyJet. Ryanair moved its London base to Stansted in 1991, and by 2000, carried just over 40% of international scheduled passengers at the airport on around 25 routes[45], compared with 2007, when it carried nearly three-quarters across more than 85 routes.

2.25 The main expansion of routes over this period was to Italy (nine new routes), France (10), Spain (15) and Poland (eight)[46]. These are all destinations identified in Chapter 4 as being either important second-home locations for British households, or having generated a large increase in recent migration to the UK. From having no routes from the UK to the EUA8 countries in 2003, by 2007 Ryanair operated 12, eight of which were to Poland.

2.26 easyJet acquired a base at Stansted in 2002 when it purchased rival airline Go. Since then easyJet has increased its international passenger numbers at the airport by around 25%, and in 2007 accounted for 15% of international scheduled passengers. The airline operated 21 international scheduled routes in 2007, compared with 18 in 2003. However, two-thirds of the increase in passenger numbers between 2003 and 2007 comes from the existing Stansted–Schiphol route. Other growth is mainly as result of new routes, with destinations including Tallinn (Estonia) and Ljubljana (Slovenia).

2.27 Overall, the proportion of international passengers at the airport travelling for VFR purposes in 2007 was around 46%. Survey data indicate that for the largest operator at the airport, Ryanair, over half of its passengers in 2007 were travelling for VFR purposes. The proportion for easyJet is rather less at approximately 40%.

45. Defined here as airport pairs averaging more than three scheduled return services per week over the year, i.e. > 312 (52 x 6) flights per year. This definition potentially means that some seasonal services will be excluded.
46. These net route totals may mask underlying churn where some routes are withdrawn and replaced with others (possibly within the same year).

Luton

2.28 At Luton, passengers flying to and from the UK have risen from 3.8 million in 2000 to 8.1 million in 2007. This compares with an increase in VFR passengers of 2.8 million to 3.5 million – one-quarter of which relates to Poland alone, and a further quarter to Spain and Ireland. As with Stansted, Luton has grown rapidly as no-frills operations have expanded at the airport whilst charter services have contracted. In 2000, 30% of international traffic was on charter services. By 2007, this had fallen by 0.7 million to 8%.

2.29 The total number of passengers travelling from the airport to Spain was over 2 million in 2007 and represented around one-quarter of all international passengers. Although passenger numbers were higher, this is a fall in proportion from 2000 when UK–Spain traffic was over 40% of the airport's total international traffic. However, over this same period, the proportion of UK–Spain traffic travelling for VFR purposes has risen from just over 10% to nearly 30%.

2.30 In 2000 there were no services between Luton and Poland, however, by 2007 these passengers made up more than 10% of total international passengers at the airport, and of these passengers, the proportion travelling for VFR purposes was over 70%.

2.31 easyJet first commenced international services at the airport in 1996 and, by 2000, carried over three-quarters of international scheduled traffic at Luton. Since then, despite a continued increase in passenger numbers, the proportion has fallen to around half of the airport's international scheduled passengers due to increased passenger numbers on other airlines. In 2000, easyJet served 10 international routes from Luton; by 2007 this had risen to 24. New routes included three to Germany, and two each to Italy, France, Portugal and Poland.

2.32 Ryanair and Wizzair also have significant operations at Luton airport, carrying one-third of international scheduled passengers between them in 2007. Wizzair is a no-frills airline based in Hungary, with the stated aim "…to make flying affordable to the citizens of Central and Eastern Europe, as well as to provide a new travel experience to all travellers in the EU"[47]. The airline commenced operations in 2004 at Katowice, and shortly afterwards began operations at Luton. By 2007, the airline carried 14% of international scheduled passengers at Luton airport, with routes focused on Eastern Europe, including four to Poland.

2.33 Ryanair carried around 10% of international scheduled passengers at the airport at the start of the decade (when Luton–Dublin was its only route, having moved its base to Stansted some years previously). There was a net increase of nine new routes between 2000 and 2007, (including three to Spain and two to Italy) and by 2007 Ryanair carried nearly one-fifth of international scheduled passengers. Ryanair's route network at Luton is less extensive than at Stansted, although in 2008 six new international routes from Luton were announced including two to Poland and one to Lithuania.

2.34 With a route network concentrated on holiday destinations in Spain and Portugal, Monarch is another significant airline at the airport, accounting for nearly 10% of the international scheduled passengers in 2007. In 2000, over one-third of Monarch's passengers from Luton were travelling on charter services; by 2007 virtually all were on scheduled services. In total, Monarch carried nearly 20% more passengers from Luton in 2007 compared with 2000. As demonstrated in Chapter 4 these destinations are popular locations for second-homes owned by British households.

47. http://wizzair.com/about_us/company_information/

2.35 The proportions of passengers travelling for VFR purposes on Ryanair and easyJet at Luton are similar to those at Stansted – over 50% for Ryanair and around 40% for easyJet. Wizzair stands out as having a particularly high proportion of VFR traffic at nearly 70%. Monarch's scheduled services carry approximately one-third of its passengers for VFR purposes compared with only 10% of passengers on (all) charter services at the airport.

Heathrow

2.36 Although total international passenger numbers at Heathrow and Gatwick have not changed dramatically in recent years, this masks underlying significant changes to their route networks.

2.37 Since 2000, the proportion of international traffic at Heathrow travelling to destinations outside of the (current) EU member states has fallen from 46% to under 40% in 2007, continuing a trend in evidence since the early 1990s. Over the period 2000 to 2007, British Airways (BA) has consistently remained the largest single carrier, with approximately 40% of international passengers. Of these, the proportion travelling to EU destinations has fallen, similar to that for the airport as a whole.

2.38 There are a number of full-service carriers whose route networks are concentrated on EU or geographical European destinations – for instance, bmi with traffic to Ireland, Netherlands and Belgium, and Lufthansa serving the UK–Germany market. However, the single most popular destination from Heathrow (across all airlines) is New York City.

2.39 Between 2000 and 2007, whilst VFR passengers travelling to and from the UK at the airport have increased by 2 million, the total number of passengers for all purposes has increased by 1.4 million. The number travelling for holiday purposes has fallen by 600 thousand, offsetting the increase in VFR passengers.

2.40 The increase in VFR passengers to destinations outside the EU of 2.5 million is similarly offset by a decrease in the number of UK–EU VFR passengers of 500 thousand. The five destinations with the largest increases in VFR traffic at Heathrow accounted for over a million new passengers between 2000 and 2007 – India, United Arab Emirates, Canada, New Zealand and the United States.

2.41 In 2007, BA's proportion of VFR passengers at Heathrow was just over one-quarter, less than the average proportion of VFR passengers travelling to and from the UK at the airport in 2007, which was around one-third.

Gatwick

2.42 Gatwick has shown something of a reversal of the pattern seen at Heathrow, with the proportion of UK–EU international scheduled traffic rising from 44% in 2000 to 60% in 2007. Whereas virtually all the airlines serving Heathrow are full-service, Gatwick has a substantial element of no-frills and charter traffic – 38% of international passengers in 2000 travelled on charter flights, falling to 27% in 2007. Within this total, an increasing proportion of the charter traffic is travelling to destinations outside the EU.

2.43 As at Heathrow, BA has had a consistently significant presence at the airport, serving around one-quarter of international scheduled passengers each year over the period 2000 to 2007. However, easyJet started international services at the airport in 2001 with its Gatwick–Barcelona route. In 2002 easyJet was the second largest airline at the airport and by 2007, the airline was serving almost as many passengers as BA. With the acquisition of GB Airways in 2008, easyJet became the largest airline at the

airport, serving over one-third of international passengers. Whereas virtually all BA passengers from the airport were travelling to destinations outside the EU, the opposite was true for GB Airways and easyJet.

2.44 Between 2000 and 2007, the number of passengers travelling to and from the UK at Gatwick rose by 5 million to nearly 29 million. Of this increase, over 70% related to passengers travelling for VFR purposes, over half of whom were travelling to EU15 countries. The largest increases were Spain with 800 thousand new VFR passengers, Italy with 300 thousand and France, Ireland, Portugal and the Netherlands with 200 thousand each.

2.45 The remainder of the EU accounted for a further 500 thousand increase, of which 200 thousand passengers were travelling to Poland. Outside the EU, there were also increases, with 800 thousand more passengers travelling for VFR purposes in 2007 than 2000 (of whom one-third were visiting Canada).

2.46 In 2007, only 6% of passengers on charter flights from Gatwick travelled for VFR purposes. This compares with 36% on scheduled flights. Survey data indicate that this proportion is rather higher for easyJet passengers (around 40%) than it is for BA (around 30%). easyJet's proportion is similar to that seen, by the airline, both Stansted and Luton.

Regional airports

2.47 The increase in international terminal passengers at UK airports in recent years has been particularly significant at regional airports, where passenger numbers increased by 257% between 1990 and 2007, compared with growth of 113% at the London airports over the same period. The proportion of international passengers flying from regional airports has consequently increased from just under one-quarter in 1990 to over one-third in 2007.

2.48 A CAA study in 2005[48], which was updated in 2007[49], looked at the underlying reasons for the substantial growth of regional air services. It concluded that this growth could be attributed to the liberalisation of EU air services and the resulting emergence of no-frills airlines looking for opportunities for rapid expansion, which, in turn, unlocked latent demand from passengers keen to travel from their local airport. At the same time, regional airports adopted a more commercial approach, actively seeking to attract airlines and develop a network of services. The update in 2007 found that, although there had been some slowdown in growth, there was increasing competition between regional airports, strong competition between airlines using them and changes in travel patterns as passengers to and from points outside London used regional airports rather than travelling via London.

48. CAP 754 – UK Regional Air Services: A Study by the Civil Aviation Authority, CAA (February 2005).
49. CAP 775 – Air Services at UK Regional Airports: An Update on Developments, CAA (November 2007).

Figure 2.9 VFR proportion of international passengers at UK airports, 1994–2007

Source: International Passenger Survey, ONS.

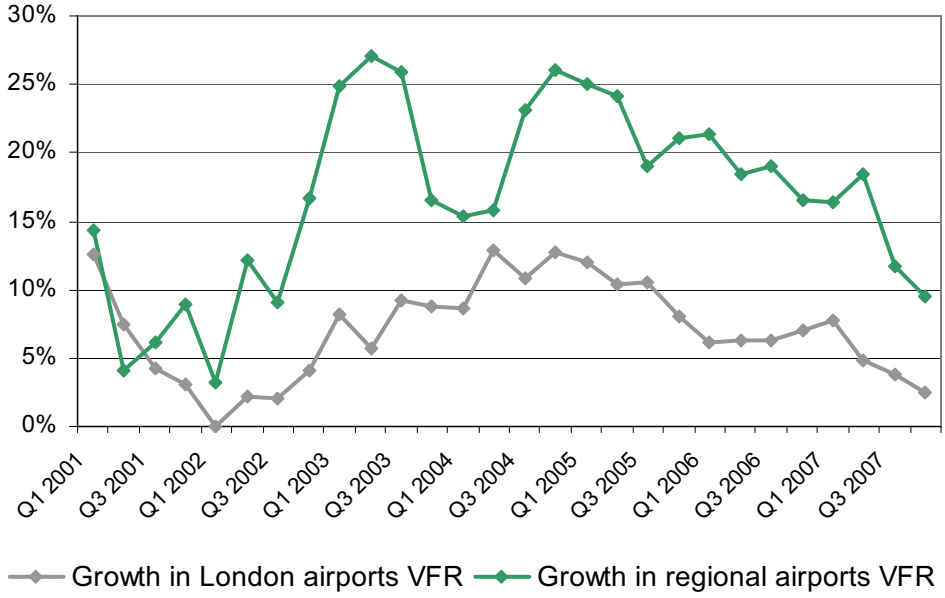
Note:

- Proportions based on total passengers subject to exclusions per footnote 30.
- There is a discontinuity in the IPS time-series in 1999[50].

2.49 IPS data indicate that the proportion of international passengers travelling for VFR across all UK airports has increased steadily since 2000[51]. Figure 2.9 shows that since 2002, the rate of increase in the proportion of VFR traffic is noticeably higher at the regional airports, albeit from a lower base. Over the last three years, the regional airports' growth rate has been around ten percentage points higher than that for the London airports. Figure 2.10 shows the relative rolling annual growth rates[52] in more detail for the period 2001–2007.

50. In 1999 the IPS commenced interviewing on air and sea routes between the UK and the Irish Republic. For the years up to and including 1998, estimates of visitor numbers between the UK and the Irish Republic and their characteristics were based on data provided by other sources.
51. As noted previously (paragraph 1.10), the IPS tends to record a lower proportion of VFR passengers than the CAA Passenger Survey.
52. For example, rolling annual growth at Q3 2007 is the growth in the total traffic for the preceding year (Q4 2006–Q3 2007) compared with the equivalent period in the previous year (Q4 2005–Q3 2006).

Figure 2.10 Rolling annual growth of international VFR traffic at London and regional airports, 2001–2007



Source: International Passenger Survey, ONS.

2.50 In order to understand better how development of regional airports has affected and been affected by the growth in VFR travel, two airport case studies for Bristol and Birmingham have been undertaken.

Case Study A: Bristol airport

Summary

- Total international passengers at Bristol have grown from 1.7 million in 2000 to 4.6 million in 2007. Alongside this rapid growth, survey data indicate that the proportion travelling for VFR has increased from 11% in 2000 to 31% in 2007[53].
- Bristol has seen a rapid growth of no-frills operations at the airport since the late 1990s, with easyJet carrying nearly half of all international traffic in 2007.
- Charter traffic has remained at broadly the same level (1.3 million international passengers) since 2002, therefore representing a declining proportion of overall traffic. Over the period 2000 to 2007, the proportion of international passengers on charter flights has fallen from two-thirds to less than one-third.
- VFR traffic as a proportion of total international traffic has risen as scheduled services have increased in significance at the airport.
- The proportion of VFR traffic on scheduled flights has also increased.
- EU15 destinations account for nearly 75% of the increase in scheduled traffic.
- Poland stands out as the route with the highest proportion of VFR traffic.

53. The airport was not surveyed in 2007, so provisional survey data from the period January–June 2008 were used and scaled to actual 2007 airport numbers.

Location within the UK

2.51 The city of Bristol (Unitary Authority) has a population of 0.4m[54] and falls within the South West planning region, which has a population of 5.2 million (8% of the UK total). The city has good road links to Wales, West London, the Midlands, and further South West. Regular rail services also operate to these areas.

2.52 Given the city's location and transport links, the journey to London Heathrow from Bristol is relatively straightforward and, historically, passengers from the area have used Heathrow, particularly for long haul travel. The two nearest alternative airports are Cardiff and Exeter.

Industry

2.53 Bristol is located on the Severn Estuary, and historically the port has been an important part of the city's economy, although less so now.

2.54 The aerospace industry has grown over the years and is a major part of the local economy with Airbus and Rolls-Royce both having significant bases there. Other important sectors of the local economy are financial services (Lloyds TSB) and the hi-tech sector (Hewlett-Packard research).

2.55 The city was the UK's seventh most popular destination for foreign tourists in 2007, with 470 thousand visitors spending at least one night there according to the International Passenger Survey.[55]

Residents

2.56 The Resident Population Estimates by Ethnic Group produced by the ONS indicate that, as at June 2006, 16% of the population of Bristol[56] are not of white British ethnic background. The most significant groups within this are white non-British (5%), followed by Indian (2%), Pakistani (1%), Black African (1%) and Black Caribbean (1%). These estimates are broadly similar to those for England overall.

2.57 Many of these residents will be descendants of previous generations of immigrants to the city, and, although born in the UK, may have family links outside the UK. The Census data show that in 2001, 8% of Bristol's population was born outside the UK.

2.58 The South West Regional Assembly response to the Migration Impacts Forum Consultation indicates that, since the 2001 Census took place, the enlargement of the EU in 2004 has led to significant inward migration to the region, and particularly to urban Bristol[57].

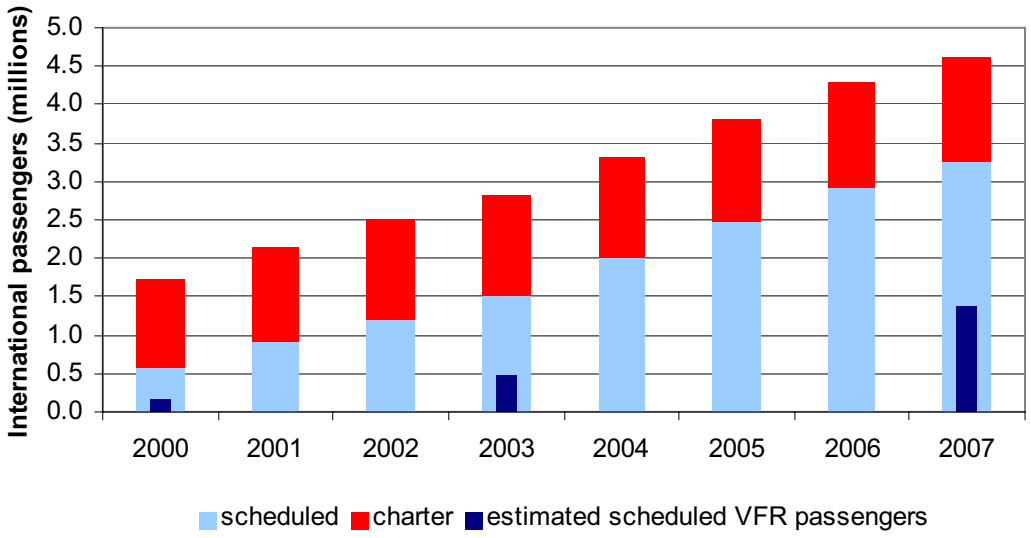
54. All population figures are based on the Office for National Statistics mid-2007 estimates.
55. www.visitbritain.com
56. City of Bristol Unitary Authority.
57. 'South West Response to Migration Impacts Forum Consultation' – South West Regional Co-ordination Board for Migration & South West Local Government Association 2007. This is a response by the Strategic Migration partnership to the MIF survey on the benefits and challenges of migration at regional and local level (www.southwest-ra.gov.uk).

Bristol Airport

2.59 Figure 2.11 and Table 2.4 show the development of international traffic at Bristol between 2000 and 2007. The number of VFR passengers travelling on international scheduled[58] flights can be estimated from CAA Passenger Survey data as 1.4 million in 2007.

2.60 The VFR proportion of total international passengers has risen from an estimated 11% in 2000 to over 30% in 2007. However, this is in part driven by the changing ratio of charter to scheduled traffic. When looking at the VFR passengers travelling on scheduled flights only, the proportion has risen from 27% to 39% between 2000 and 2007.

Figure 2.11 VFR proportion of international traffic at Bristol, 2000–2007



Source: CAA Airport Statistics and CAA Passenger Survey, excluding international-to-international connectors.

58. The number of VFR passengers on charter flights is relatively low and not shown here.

Table 2.4 Summary of Bristol Airport operations

	2000	**2007**
International passengers	1.7 million	4.6 million
International charter passengers	1.1 million, 66% of total	1.4 million, 29% of total
Foreign residents as % of total international passengers	13%	15%
VFR as % of total international passengers	11%	31%
Airlines	As well as charter carriers, Bristol was served by a variety of 'network' carriers in the 1990s including Aer Lingus, Air France, British Airways/Brymon, KLM and Sabena. By 2008, only KLM continued to operate, and had been joined by Brussels Airlines and Continental, who started services in 2002 and 2005 respectively. British Airways' no-frills subsidiary, Go, set up a second base (after Stansted) at Bristol in 2001. Go was purchased by easyJet in 2002, which has continued to develop its no-frills network. easyJet carried nearly half of all Bristol's international passengers in 2007. Flybe (main route to Belfast) and BA CitiExpress (main routes to Glasgow, Edinburgh and Paris) carried a combined total of nearly half a million passengers from Bristol in 2003, but following Flybe's acquisition of (the renamed) BA Connect in 2007 it withdrew all except its Jersey service. Ryanair, which began a Dublin–Bristol service in 1997, set up a base at Bristol in 2007 with services to various points in Europe.	
International routes	Bristol has had a network of international scheduled services for many years. In the early 1990s it had links to Amsterdam, Brussels, Dublin, Frankfurt and Paris. The number of services increased from five international scheduled routes[59] in 2000 to 28 in 2007. Of particular significance was the first scheduled long haul service introduced by Continental in 2005 to New York, giving another option to transatlantic passengers who might otherwise have flown via mainland Europe or travelled by surface to London.	

Variation in VFR traffic by destination

2.61 Table 2.5 shows passenger numbers on routes from Bristol by country between 2003 and 2007. As noted above, there has been substantial growth in international traffic over this period. While domestic traffic grew by 19%, international traffic to EU15 destinations nearly doubled, and, to other international destinations, it quadrupled (albeit from a low base level of only 85,000 passengers in 2003). These three categories are shown separately in the table as domestic, EU15 and other international.

59. Defined here as airport pairs averaging more than three scheduled return services per week over the year, i.e. > 312 (52 x 6) flights per year. This definition potentially means that some seasonal services will be excluded.

2.62 EU15 scheduled traffic (excluding UK domestic) has increased in importance – from 37% of total traffic in 2003 to 47% in 2007 – such that these routes have contributed nearly 70% of overall traffic growth at the airport over this period. Other international routes are identified individually where the survey sample was sufficient to estimate the proportion of VFR passengers on the route.

2.63 The table highlights countries with a high (greater than 40%) proportion of VFR traffic. Of those countries shown individually, the highest international VFR proportions are on Poland, France and Ireland routes. Most of the non-EU15 destinations include a high proportion of VFR traffic. The growth is split approximately three ways – the eight EU accession countries (EUA8), USA and Switzerland. The Czech Republic stands out as having a lower VFR proportion than the other EUA8 countries.

Table 2.5 Passenger traffic on routes from Bristol Airport

	Terminal passengers (000's)			change	growth	VFR %
	2003	2005	2007	2003-2007	2003-2007	2008
Domestic	**1,072**	**1,400**	**1,275**	**203**	**19%**	**44%**
Spain	517	748	930	414	80%	32%
France	214	285	472	259	121%	43%
Ireland	264	317	487	223	84%	43%
Italy	82	226	299	217	263%	30%
Netherlands	161	265	282	121	75%	28%
Other EU15	182	295	305	124	68%	31%
Total EU15 (excluding UK)	**1,420**	**2,136**	**2,776**	**1,357**	**96%**	**35%**
Switzerland	0	110	144	144		32%
Poland	0	0	101	101		90%
United States	0	55	93	93		35%
Czech Republic	85	94	99	14	16%	27%
Others	0	92	41	41		34%
Total other international	**85**	**351**	**478**	**392**		**34%**
Scheduled total	**2,577**	**3,887**	**4,529**	**1,952**	**76%**	**40%**
Charter total	**1,310**	**1,312**	**1,355**	**45**	**3%**	**3%**
Grand total	**3,887**	**5,199**	**5,884**	**1,997**	**51%**	**33%**

Source: CAA Airport Statistics, passenger related data; CAA Passenger Survey, excluding international-to-international connectors.

Notes:

- *Countries where less than 100 scheduled passenger interviews were obtained on the route are amalgamated within 'other'.*
- *VFR proportions are estimated of scheduled passengers only with a final destination of the route identified.*
- *VFR proportions are highlighted where greater than 40%.*

2.64 Passengers flying out of Bristol may be connecting on to a further flight at their immediate destination. Newark and Amsterdam are the most significant routes for connecting passengers, with over one-third of passengers on both routes connecting onwards.

Case Study B: Birmingham airport

Summary

- Total international passengers at Birmingham have grown relatively slowly from 6.3 million in 2000 to 7.6 million in 2007. Alongside this growth, survey data indicate that the estimated proportion travelling for VFR has increased from 14% in 2000 to 24% in 2007[60]. Over the same period, the proportion of international passengers on charter flights has fallen from 45% to just under one-third (a similar proportion in 2007 to Bristol).
- Between 2000 and 2007, there has been a decline of 14% in the number of charter passengers using Birmingham airport.
- Over half of all international passengers in 2007 were travelling to and from EU15 destinations.
- Around one-third of scheduled traffic in 2007 travelling directly to destinations outside the EU15 countries was travelling to Dubai, reflecting its development as a hub airport.
- Birmingham has a wide range of airlines and airline types using the airport.

Location within the UK

2.65 The city of Birmingham has a population of 1.0 million[61]. It forms part of the larger West Midlands conurbation, which has a population of 2.6 million, and includes several neighbouring towns and cities such as Solihull, Wolverhampton and the towns of the Black Country.

2.66 The city is located centrally within the UK with good road links. The West Coast Main Line links rail services between London, the North West and Scotland, passing through Birmingham and Coventry.

Industry

2.67 Historically, employment in the West Midlands was dominated by manufacturing, particularly the automotive industry. Over the last 30 years, the service sector has grown substantially, although manufacturing remains an important element in the local economy, accounting for 17.4% of the city's employment according to the 2001 Census. The region has also proved successful in attracting foreign direct investment[62].

2.68 There are a number of universities and higher education establishments in the area – the West Midlands is the fourth most popular region for overseas students studying in the UK[63].

2.69 Tourism is also an increasingly important part of the local economy. It was the fifth most visited city by foreign tourists in the UK, as estimated by the 2007 International Passenger Survey, with 700 thousand foreign visitors spending at least one night there[64].

60. The airport was not surveyed in 2007, so survey data from the year 2006 were used and scaled to actual 2007 airport numbers.
61. All population figures are based on the ONS mid-2007 estimates.
62. www.birminghampost.net, 'Foreign Investment in West Midlands rises 10%', 9 June 2008.
63. www.guardian.co.uk, 'So, What's the Attraction?', 20 May 2008.
64. www.visitbritain.com

Residents

2.70 ONS data[65] provide similar estimates at June 2006 to those obtained from the 2001 Census. These indicate that 37% of the population of the Birmingham Metropolitan Area are not of white British ethnic background. The most significant groups within this are Pakistani (11%), Indian (6%), Black Caribbean (5%) and Irish (3%).

2.71 Many of these residents will be descendants of previous generations of immigrants to the city, and, although born in the UK, may have family links outside the UK. The Census data show that in 2001, 17% of the city's population was born outside the UK.

History of immigration

2.72 In the 1950s and 1960s, Birmingham became one of the UK's most multi-cultural cities, seeing a major inflow of immigrants from the Commonwealth, particularly from Southern Asia and the Caribbean. There was also substantial immigration to the city from Ireland around this time. In more recent years immigration has increased significantly from the EUA8 countries.

2.73 A recent (November 2007) publication by the West Midlands Regional Observatory (WMRO) looks at the economic impact of migrant workers in the region[66]. This study found (using the ONS Labour Force Survey) that:

- there were 122,000 non-UK nationals in employment in the West Midlands region in summer 2006, representing 4.9% of total employment, of whom 86,000 had entered the UK since 1991 and 54,000 had entered since 2001[67];
- the number of migrant workers in the West Midlands region has increased markedly in recent years;
- recent migrants are on the whole relatively young and in employment; and
- the West Midlands has slightly more migrant workers from EUA8 countries and New Commonwealth countries than the UK average, and fewer migrants from EU15 countries and the Old Commonwealth. The EUA8 countries have replaced the New Commonwealth as the largest source of new labour migrants in recent years.

2.74 Table 2.6 shows data collated by the WMRO study on the National Insurance number registrations of overseas nationals in the West Midlands region to help identify changes to migratory flows. This indicates that, although there is continued migration from India and Pakistan, the recent increase in the number of Polish nationals seeking work in the region had led to this migratory flow becoming by far the largest in 2006/7. Analysis of survey data indicates both India and Poland have a very high proportion of VFR traffic on air routes (see Table 2.8).

65. ONS – Resident Population Estimates by Ethnic Group.
66. 'The Economic Impact of Migrant Workers in the West Midlands', West Midlands Regional Observatory, November 2007.
67. These are likely to be minimum estimates given that some of the most mobile groups of the population tend to be missed by the Labour Force Survey, which is what the study used.

Table 2.6 NI number registrations by foreign nationals in West Midlands region, 2002/3, 2004/5 and 2006/7

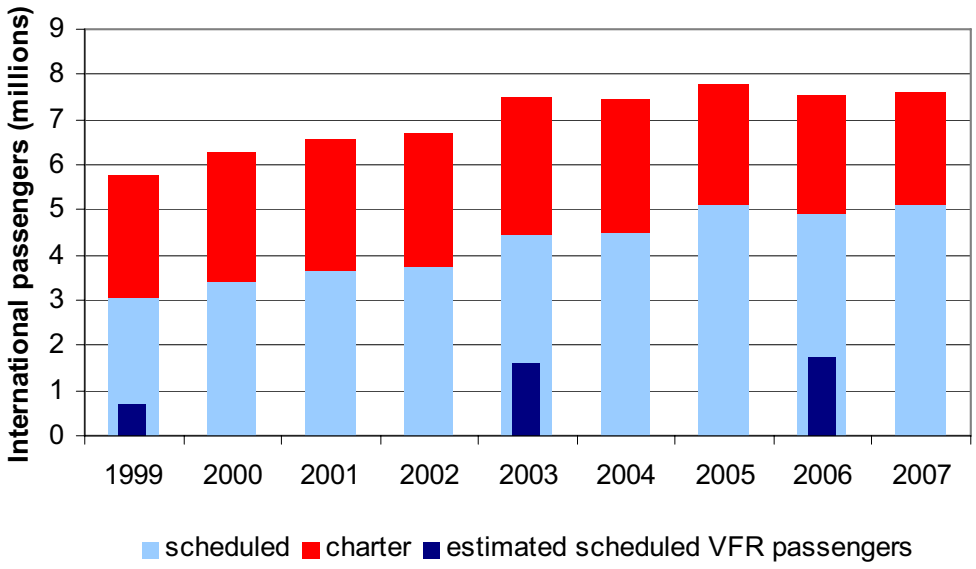
Country	2002/03	%	Country	2004/05	%	Country	2006/07	%
India	2,640	11.3	Poland	4,180	14.9	Poland	18,630	38.8
Pakistan	2,550	10.9	India	2,890	10.3	India	4,130	8.6
Iraq	1,900	8.1	Pakistan	2,410	8.6	Pakistan	3,020	6.3
Zimbabwe	1,130	4.8	China	1,030	3.7	Slovakia	2,820	5.9
Afghanistan	1,040	4.4	S Africa	850	3.0	Latvia	1,080	2.2
Total	**23,400**	**100**	**Total**	**28,100**	**100**	**Total**	**48,030**	**100**

Source: West Midlands Regional Observatory.
Note: The five largest national groups are shown for each year.

Birmingham Airport

2.75 Figure 2.12 and Table 2.7 show the development of international traffic at Birmingham between 2000 and 2007. The number of VFR passengers travelling on international scheduled flights is estimated from CAA Passenger Survey data.

Figure 2.12 VFR proportion of international traffic at Birmingham, 1999–2007



Source: CAA Airport Statistics and CAA Passenger Survey, excluding international-to-international connectors.

Table 2.7 Summary of Birmingham Airport operations

	2000	2007
International passengers	6.3 million	7.6 million
International charter passengers	2.9 million, 46% of total	2.5 million, 33% of total
Foreign residents as % of total international passengers	19%	20%
VFR as % of total international passengers	14%	24%
Airlines	Birmingham has had a strong charter presence for many years, as well as full-service scheduled services, including some long haul services. The main charter destination is Spain (including the Canary Islands) with more than one million passengers in 2007 – 42% of all charter traffic. More recently, the amount of no-frills traffic has substantially increased creating a mix of no-frills and full-service airlines with no single dominant carrier. The two biggest international operators in 2007 were bmibaby (which began services in 2005) and Monarch (which, as part of a wider shift from charter services, began services on a scheduled basis the same year). Together these two airlines accounted for one-third of international scheduled passengers in 2007. Flybe also has a significant presence at the airport, although the majority of its passengers are domestic. However, following its acquisition of BA Connect, Flybe added a number of major European cities to its long-established domestic network. Ryanair opened a new base in summer 2008, initially with two aircraft serving 20 routes, and plans eventually to base 10 aircraft by 2013.	
Routes	In 2007 there were around 40 international scheduled routes[68] flown from the airport, compared with 29 in 2000. Approximately 80% of scheduled passengers are flying to EU15 countries (and of these nearly 50% are travelling to Spain or Ireland). However, there is a fast-growing market in services outside the EU15. The biggest long haul operator in 2007 was Emirates, which currently serves its Dubai hub twice daily. Between 2003 and 2007, passenger numbers on the route grew by 125% to represent 7% of international scheduled passengers. Survey data show nearly three-quarters of passengers are connecting at Dubai for onward travel to a different destination, most commonly Australia. Another big market, although not showing the same growth rate, is the USA. This market is similar in size to the combined passenger numbers for India and Pakistan – which have been growing in recent years, albeit at a slower rate than that to Dubai. Certain routes appear to reflect the migratory trends in the area – the Irish market is very important; although much smaller in terms of passenger numbers, there has been growth in the services to Southern Asia; and the new Ryanair routes include a number of Eastern European destinations.	

68. Defined here as airport pairs averaging more than three scheduled return services per week over the year, i.e. > 312 (52 x 6) flights per year. This definition potentially means that some seasonal services will be excluded.

Variation in VFR traffic by destination

2.76 Table 2.8 shows passenger numbers on routes from Birmingham by country between 2003 and 2007, grouped into domestic, EU15 and other international routes. CAA Passenger Survey data have been used to indicate which routes are particularly important for VFR traffic.

2.77 As noted above, there has been only modest overall growth in traffic over this period, although medium and long haul services have been growing relatively quickly. The strong growth in scheduled traffic to Spain and Portugal illustrates a trend for traffic to shift from charter to scheduled flights (charter traffic to these destinations has declined by a similar amount). Scheduled traffic to some other EU countries (such as Denmark and Italy) has actually declined significantly.

2.78 For VFR passengers, particularly those travelling to longer-haul destinations, are more likely to find routes operated on lower frequencies (such as twice per week) attractive than are business or holiday passengers. This is because VFR passengers may have less need to co-ordinate flights with, for example, accommodation bookings or business meetings.

2.79 Regardless of the charter decline and resultant shift to scheduled services, the absolute growth in scheduled passenger numbers between 2003 and 2007 can be broadly characterised as one-sixth domestic traffic, one-third EU15 traffic with the remainder being other international destinations.

2.80 The table highlights countries with a high proportion of VFR traffic (greater than 40%). Of the countries shown individually, the highest VFR proportions are on the longer-haul routes and Poland:

- United Arab Emirates – the CAA Passenger Survey indicates that a third of passengers with a final destination of Dubai are travelling on VFR. However, the VFR proportion for the route is rather higher, as Dubai is also an important hub for passengers travelling on connecting flights to points beyond, particularly Australasia and South East Asia. CAA Passenger Survey data show the proportion of VFR traffic for passengers connecting at Dubai to be nearly three-quarters.
- India – historical ties with the region along with ongoing immigration to the UK show how established migrant communities and their descendants can potentially act as a reservoir of demand for long haul routes carrying relatively high proportions of VFR passengers. The table shows passenger numbers on direct routes, although, since autumn 2008 Air India has suspended its scheduled services (reported as a temporary move to protect its slots at Heathrow[69], and a planned replacement – a joint venture between Monarch and Bilga Air has not yet commenced operations[70]. CAA Passenger Survey data indicated that in 2006 India was the joint most popular final destination (alongside the United States) for passengers travelling from Birmingham via a non-UK hub. Popular indirect routes included travel via Turkmenistan and Dubai. In the absence of direct services, it is likely that the number of passengers travelling indirectly will increase.
- Poland – rapid immigration from Poland to the West Midlands region appears to be generating increased demand.
- Within the total of 'others' where sample size is too small to estimate the VFR proportion, there are destinations such as Pakistan, Turkmenistan and Uzbekistan – all of which the airport's own survey indicate to have a high proportion of VFR traffic (some of which is likely to be travelling onward to final destinations).

69. http://news.bbc.co.uk/1/hi/england/west_midlands/7609396.stm, BBC, 10 September 2008.
70. Birmingham Airport press release, 17 September 2008.

Table 2.8 Passenger traffic on routes from Birmingham Airport

	Terminal passengers (000's)			change	growth	VFR %
	2003	2005	2007	2003-2007	2003-2007	2006
Domestic	**1,406**	**1,514**	**1,541**	**135**	**10%**	**31%**
Spain	692	1,131	1,016	324	47%	24%
Netherlands	406	428	473	67	16%	26%
Ireland	755	716	802	48	6%	48%
Belgium	166	150	160	-6	-4%	20%
France	565	621	540	-26	-5%	25%
Germany	716	659	689	-27	-4%	29%
Denmark	135	110	89	-46	-34%	38%
Italy	188	146	76	-111	-59%	8%
Others	324	306	250	-74	-23%	
Total EU15 (excluding UK)	**3,759**	**4,119**	**4,018**	**258**	**7%**	**30%**
United Arab Emirates	165	231	370	205	124%	32%
Poland			52	52		
India		20	39	39		88%
Canada	10	32	39	29	304%	49%
Czech Republic	47	145	79	32	69%	18%
Switzerland	137	80	159	23	16%	18%
Others	352	494	369	17	5%	
Total other international	**710**	**1,002**	**1,107**	**397**	**56%**	**48%**
Scheduled total	**5,876**	**6,635**	**6,666**	**791**	**13%**	**35%**
Charter total	**3,048**	**2,676**	**2,468**	**-580**	**-19%**	**4%**
Grand total	**8,924**	**9,311**	**9,134**	**210**	**2%**	**26%**

Source: CAA Airport Statistics, passenger related data; CAA Passenger Survey, excluding international-to-international connectors.

Notes:

- *Countries where less than 100 scheduled passenger interviews were obtained on the route are amalgamated within 'other'.*
- *VFR proportions are estimated of scheduled passengers only with a final destination of the route identified. Thus those passengers connecting at Dubai, say, to go on to Australia to visit family would not be included in the calculation of the VFR proportion for Dubai – only those passengers finishing their journey in Dubai would count.*
- *VFR proportions are highlighted where greater than 40%.*

2.81 Approximately 20% of all the passengers on international scheduled flights are connecting at their immediate destination on to another flight. This proportion is slightly higher for VFR passengers, with 25% connecting. Destinations where a high proportion of total traffic connects on to another flight are Dubai (70%), Newark (64%) and Amsterdam (46%). If VFR traffic only is considered, the proportion of passengers travelling on these routes in order to connect to another flight is approximately nine percentage points higher, on all three named routes.

2.82 The final destinations of the VFR passengers connecting at these airports tend to be mainly: Australia and India from Dubai, other US airports from Newark and a wide range of short and long haul destinations from Amsterdam.

Chapter 3 Characteristics of International VFR Passengers

Chapter Summary

Using CAA Passenger Survey data, this Chapter considers how VFR passengers differ from other leisure (holiday) passengers in terms of demographics and frequency of travel.

Frequency of travel

- on average, VFR passengers travel more frequently;
- they are more likely to fly regularly to the same destination;
- only 19% of VFR passengers take a single leisure trip per year, and only 17% travel solely for VFR purposes on multiple trips. The remainder take both VFR and holiday trips.

Income

- VFR passengers tend have a lower household income than holiday passengers – around 60% of VFR passengers have a household income of less than £40,000 compared with 50% of holiday passengers.

Length of trip (UK resident international leisure traffic)

- VFR passengers are more likely to take relatively short (less than five days) or long (greater than two weeks) trips. For example, 25% take trips longer than two weeks, compared with only 12% of holiday passengers.

Age and household type

- for UK residents, VFR passengers have a modal age band of 25–44, compared with 45–54 for holiday passengers;
- foreign resident VFR passengers are more likely to be in the 16–24 age band than UK resident VFR passengers;
- VFR passengers are more likely to live in single person households than holiday passengers.

Price sensitivity

- There are conflicting arguments as to whether VFR passengers are more or less price sensitive than holiday passengers, and the data in this study are not sufficient to reach a conclusion.

Introduction

3.1 If a passenger makes a single trip for VFR purposes, this confirms the existence of a friend or a relative abroad – a prerequisite for VFR travel. The frequency of trips a person makes to this VFR destination is then likely to be determined by the wealth of the individual; the cost of the trip (both financially and in journey time); and the closeness of the relationships and desire to maintain links with the destination.

3.2 This Chapter considers:

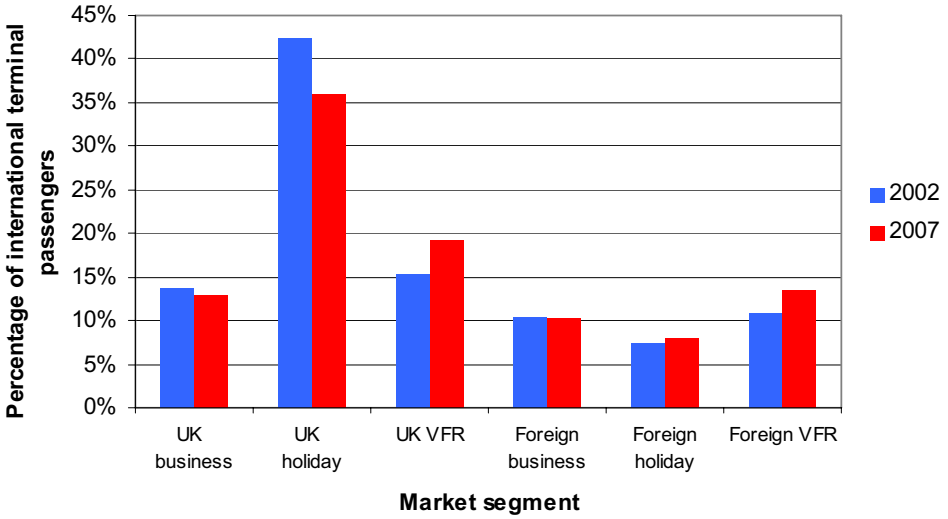
- how the characteristics of VFR passengers differ from other leisure passengers in terms of frequency of travel, trip duration, passenger age, income and household type; and
- whether there are distinguishable subsets of VFR passengers,

while the underlying drivers of this form of travel are considered in Chapter 4.

3.3 This analysis is based on CAA Passenger Survey data from the five UK airports that are subject to Continuous Survey (Heathrow, Gatwick, Stansted, Luton and Manchester). For the purposes of this analysis, leisure passengers travelling for reasons other than VFR are referred to throughout as 'holiday' passengers; and the data exclude those passengers who have arrived at the airport on an international flight in order to connect onto an onward international flight.

3.4 In 2007, the five Continuous Survey airports accounted for three-quarters of international passengers travelling to and from UK airports. Figure 3.1 shows this traffic broken down by journey purpose and residency, and changes since 2002.

Figure 3.1 Journey purpose and residency of international passengers at the Continuous Survey airports, 2002 and 2007



Source: CAA Passenger Survey, excluding international-to-international connectors.

3.5 Figure 3.1 shows a shift from holiday to VFR traffic, particularly in respect of UK residents, with little change in the proportion of business traffic. In 2002, UK residents accounted for just over 70% of international passengers. This proportion fell slightly in 2007, but would have fallen more had the relatively slow growth in UK resident holiday traffic not been counterbalanced by the growth in UK resident VFR.

3.6 Table 3.1 shows the proportions of international leisure passengers ('holiday' and 'VFR') travelling from the Continuous Survey airports in 2007 by journey purpose and residency. Over two-thirds of leisure passengers are UK residents. UK resident passengers are almost twice as likely to be flying on holiday than for VFR purposes, as opposed to foreign resident passengers, who are more likely to be flying for VFR purposes.

Table 3.1 Journey purpose and residency of international leisure passengers at the Continuous Survey airports, 2007

	Residency		
Purpose	**UK**	**Foreign**	**Total**
Holiday	47%	10%	57%
VFR	25%	18%	43%
	72%	28%	100%

Source: CAA Passenger Survey, excluding international-to-international connectors.

3.7 The remainder of this Chapter analyses survey data for international leisure passengers at the Continuous Survey airports by passenger characteristics. Some of the assumptions made in the methodology adopted are explained in the box below.

Assumptions used in analysis of survey data in sections A to C

- The total number of trips has been calculated by assuming one trip comprises two flights and halving the number of previous flights plus the current flight (i.e. the flight at the time of interview), and rounding up. The current flight must represent either the outward leg or the return leg of one trip. Thus either zero or one previous flight equates to a total number of trips of one – by definition, everyone interviewed must take at least one trip in the 12-month period.
- Any analysis of frequency of travel considers *passenger trips* rather than unique passengers. For example, 20 passengers over the 12 months may comprise 10 individuals taking one trip plus one passenger taking 10 trips. In this example there is an equal probability of interviewing either the frequent traveller or one of the single-trip passengers. Thus a survey could be expected to show that 50% of passengers take 10 trips a year. Inverse weighting by probability of interview would also indicate that only one in 11 unique passengers takes 10 trips a year.
- The journey purpose of the current trip is not necessarily the same as that for all the other trips over the 12 months. Thus, although a passenger may be travelling for VFR at the time of interview, the survey does not record the purpose of their other leisure trips. It is reasonable, however, to assume that any previous trips on the same route are also likely to have been for VFR purposes.
- The relevant questions on frequency of leisure trips undertaken in the previous 12 months were not introduced into the CAA Passenger Survey until July 2007. This is why some of the data tables relate only to the second half of 2007.

A. Frequency of travel

3.8 To help understand the subgroups within the VFR segment, an estimate of how passenger trips are distributed across passengers can be generated. If there is a base level of one VFR trip per year that passengers would be more reluctant to give up than marginal trips beyond that, then it is useful to gain an understanding of how individual and repeat trips are distributed. Table 3.2 shows how many flights for leisure purposes passengers had taken in the previous 12 months on any route.

Table 3.2 Number of leisure trips taken on *any* route in the previous 12 months by international leisure passengers at the Continuous Survey airports, 2007

Number of leisure trips	UK		Foreign		Total
	Holiday	VFR	Holiday	VFR	
1	21%	16%	28%	24%	21%
2	22%	19%	20%	14%	20%
3	20%	18%	16%	17%	19%
over 3	37%	46%	36%	45%	40%
	100%	100%	100%	100%	100%

Source: CAA Passenger Survey, July–December 2007, excluding international-to-international connectors.

3.9 Table 3.2 shows that both UK and foreign resident passengers travelling for VFR purposes at the time of interview were likely to take more frequent leisure trips than passengers who were travelling for holiday purposes.

3.10 Table 3.3 below shows the same categories but with the data confined to the number of trips, for leisure purposes, these passengers had taken in the previous 12 months on the *same* route as that at the time of interview.

Table 3.3 Number of leisure trips taken on the *same* route in the previous 12 months by international leisure passengers at the Continuous Survey airports, 2007

Number of leisure trips	UK		Foreign		Total
	Holiday	VFR	Holiday	VFR	
1	84%	60%	86%	64%	75%
2	8%	17%	7%	14%	11%
3	3%	9%	2%	8%	5%
over 3	5%	15%	4%	14%	9%
	100%	100%	100%	100%	100%

Source: CAA Passenger Survey, July–December 2007, excluding international-to-international connectors.

3.11 Table 3.3 shows an even more pronounced difference between the responses of holiday and VFR passengers. VFR passengers are more likely to take two or more leisure trips a year to the same destination than holiday passengers. Again, this is consistent for both UK and foreign residents. Of those passengers shown in the table as taking more than three trips a year to the same destination, the majority have taken four or five. Only a very small proportion of passengers took more than this.

3.12 By comparing the data for the number of trips taken on any route with that for the number of trips on the same route, it is possible to estimate the proportion of passengers who make *all* their leisure trips to the same destination and thereby to categorise VFR passengers. Table 3.4 analyses the frequency of leisure trips overall and the frequency on the same route.

Table 3.4 International leisure passengers by trip profile at the Continuous Survey airports, 2007

	VFR			Holiday		
	UK	Foreign	Total	UK	Foreign	Total
Passengers taking only one trip	17%	24%	**19%**	21%	28%	**22%**
Passengers making multiple trips, same destination	17%	14%	**17%**	6%	6%	**6%**
Passengers making multiple trips, multiple destinations	66%	62%	**64%**	73%	66%	**72%**
	100%	100%	**100%**	100%	100%	**100%**

Source: CAA Passenger Survey, July–December 2007, excluding international-to-international connectors.
Note: Where all leisure trips are to the same destination, the journey purpose has been assumed to be that at the time of interview.

3.13 Table 3.4 shows that the proportion of total VFR passengers who travel repeatedly to the same destination over a year (17%) is smaller than the proportion making just one VFR trip over a year (19%). The proportion of passengers who make more than one leisure trip in a year who make them all to the same destination is 21% for VFR passengers and 8% for holiday passengers[71].

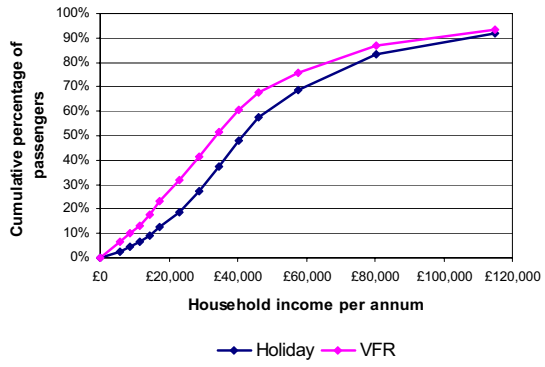
3.14 It is possible to derive the average number of leisure trips taken per year by a UK resident unique passenger[72] by inverse weighting the survey responses by the likelihood of being interviewed (i.e. the number of leisure trips taken in the last 12 months[73]). The evidence from the tables above suggests that the average number of leisure trips per year taken by a UK resident unique passenger is an estimated 2.2 for holiday passengers, and 2.5 for VFR passengers. Thus for an equal number of passenger trips, there are slightly fewer unique VFR passengers than unique holiday passengers.

B. Income of passengers

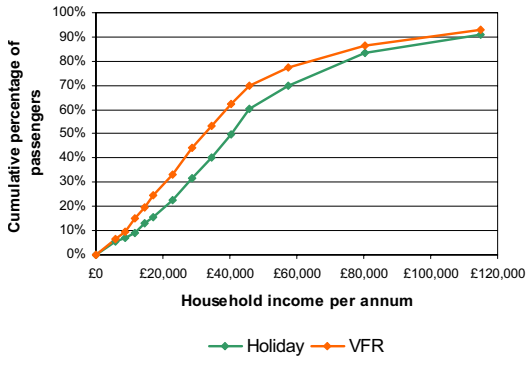
3.15 The CAA Passenger Survey asks all leisure passengers to identify their household income within a range of income bands[74]. Figure 3.2 shows the cumulative household income distribution for UK resident holiday and VFR passengers in 2007. This is calculated by plotting the mid-values of the income bands against the cumulative proportion of passengers reported by the survey[75]. The upper end of the distribution above £115,000 is not shown as this only covers a relatively small fraction of the passengers. Indeed, the relatively small sample size for very high or very low income levels means that the data at these extremes are less reliable; the mid-range from £11,500 to £80,500 covers approximately two-thirds of the passengers.

Figure 3.2 Income profile of international leisure passengers at the Continuous Survey airports, 2007

a) UK resident



b) Foreign resident



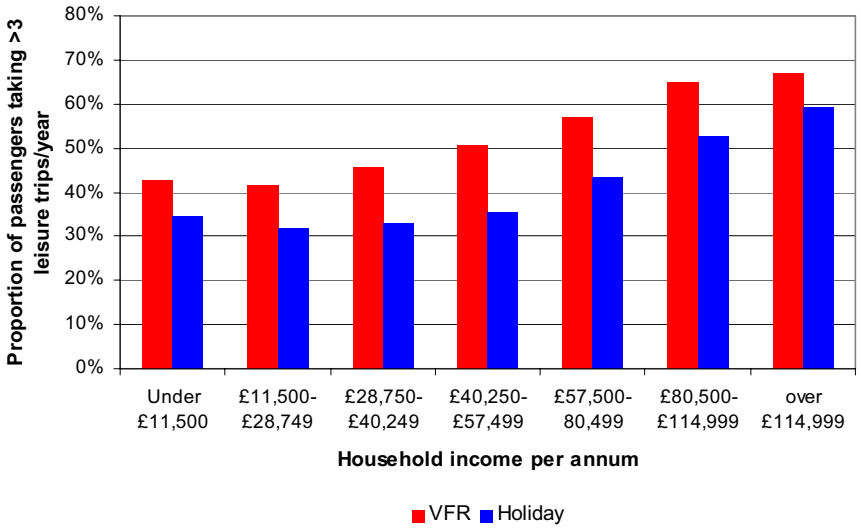
Source: CAA Passenger Survey, excluding international-to-international connectors.
Note: The y-axis shows the total proportion passengers whose household income is less than the amount shown on the x-axis.

71. 17% / (17+64)% = 21%; 6% / (6+72)% = 8%
72. It is possible to do this for UK resident passengers only by making the assumption that of the trips they have taken in the last 12 months, all have been from one of the continuous-survey airports, thus increasing their likelihood of being interviewed. In the case of foreign-resident passengers, this assumption is not sufficiently robust.
73. A passenger who takes three trips per year is three times more likely to be interviewed in the survey than a passenger who takes one trip per year. For a more comprehensive explanation of how 'unique passenger' numbers are derived, see Chapter 4 of Recent trends in growth if UK air passenger demand, CAA (January 2008).
74. For UK resident passengers these bands are in Sterling and for foreign-resident passengers they are in one of 12 foreign currencies including Euro, US dollar and Japanese yen.
75. Again, consider that these data are passenger trips data, and thus if a certain type of passenger has a higher propensity to fly, they will skew the distribution in favour of their own characteristics.

3.16 Figure 3.2 shows that, on average, VFR passengers have a lower household income than holiday passengers. For example, around 60% of VFR passengers have a household income of £40,000 or less, compared with around 50% of holiday passengers. Comparison of the income distribution of UK resident and foreign resident leisure passengers shows them to be virtually identical.

3.17 Figure 3.3 shows, for different income bands, the propensity for VFR and holiday passengers to take multiple leisure trips. It shows that the proportion of passengers taking more than three leisure trips per year is greater for VFR passengers than holiday passengers at all income levels, and is greater for higher-income passengers than lower-income passengers.

Figure 3.3 Proportion of international leisure passengers taking more than three leisure trips per year at the Continuous Survey airports, 2007



Source: CAA Passenger Survey, excluding international-to-international connectors.

C. Length of trip

3.18 As VFR passengers will may be free of the restrictions to which some holiday passengers may be subject (such as booking of accommodation), a more varied distribution of trip length might be expected. Analysis of UK resident passenger data shows that this is indeed the case, with a smaller proportion of VFR passengers taking trips of 5–14 days (55%) than for holiday passengers (74%).

Table 3.5 Proportion of UK resident international VFR passengers by length of current trip and number of leisure trips in the previous year at the Continuous Survey airports, 2007

Total	Leisure trips in previous year (any route)	Length of current trip (days)					Total
		1 to 4	5 to 7	8 to 14	15 to 28	over 28	
17%	1	12%	20%	31%	26%	11%	100%
19%	2	11%	26%	35%	22%	7%	100%
19%	3	16%	31%	27%	19%	6%	100%
45%	over 3	29%	28%	24%	15%	4%	100%
100%	**Total**	**20%**	**27%**	**28%**	**19%**	**6%**	**100%**

Source: CAA Passenger Survey, July–December 2007, excluding international-to-international connectors.

3.19 Table 3.5 shows that 25% of UK resident international VFR passengers take trips of more than two weeks. However, the proportion of passengers taking such long trips declines the more trips per year that are taken. The proportion is 37% if one trip per year is taken, but only 19% if more than three trips per year are taken.

3.20 As might be expected, the opposite is true for short trips lasting up to four days, which make up 20% of the journeys of international VFR passengers. Here, the proportion of passengers taking a shorter trip increases with trip frequency, from 12% for passengers making one trip per year to 29% for those taking more than three trips.

3.21 Table 3.6 makes the same comparison for holiday passengers. It shows that nearly three-quarters of all holiday passengers' leisure trips are between five and 14 days' duration. Only 12% last for more than two weeks, compared with the 25% noted above for VFR passengers. In other words, compared with holiday passengers, VFR passengers are both more likely to take relatively long leisure trips and relatively short trips.

Table 3.6 Proportion of UK resident international holiday passengers, by length of trip and the number of leisure trips in the previous year at the Continuous Survey airports, 2007

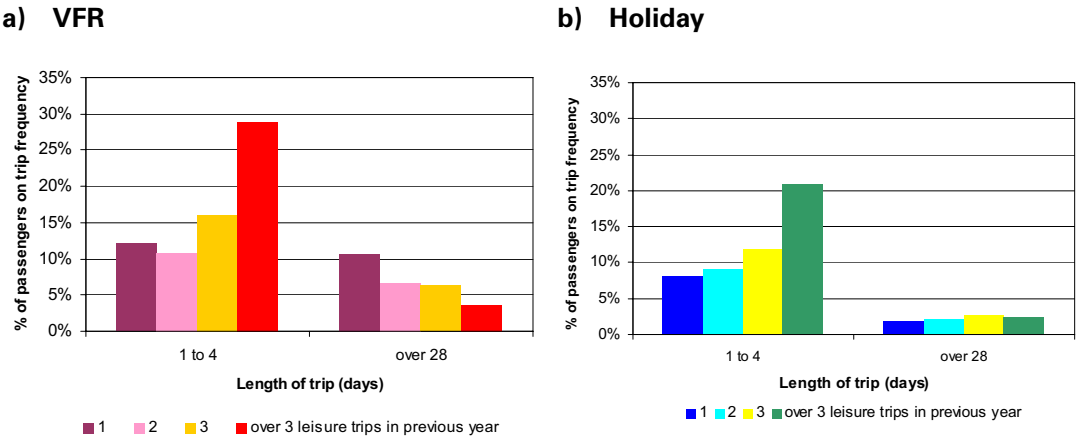
Total	Leisure trips in previous year (any route)	Length of current trip (days)					Total
		1 to 4	5 to 7	8 to 14	15 to 28	over 28	
21%	1	8%	39%	40%	11%	2%	100%
22%	2	9%	39%	41%	9%	2%	100%
20%	3	12%	37%	37%	11%	3%	100%
36%	over 3	21%	37%	31%	9%	2%	100%
100%	**Total**	**14%**	**38%**	**36%**	**10%**	**2%**	**100%**

Source: CAA Passenger Survey, July–December 2007, excluding international-to-international connectors.

3.22 As with VFR passengers, the table shows that UK resident holiday passengers taking shorter trips of less than four days at the time of interview tend to make more frequent leisure trips over the year. However, in the case of those on a trip of more than four days, there is no obvious correlation with the number of leisure trips taken over the year. Only those passengers taking more than three trips a year are noticeably different in that they appear to take more frequent, shorter trips and less trips in the 8–14 day bracket than the overall average. Table 3.6 also shows that a smaller proportion of holiday passengers at all frequencies take trips of greater than 28 days, as compared with VFR passengers. The average number of days that passengers spend away is broadly similar for VFR and holiday passengers (approximately 12 days). However, as the tables demonstrate, the variance of the trip length is noticeably higher for VFR passengers and varies according to the frequency of their travel.

3.23 Figure 3.4 below illustrates these relationships by comparing the proportion of passengers who have taken either 'short' or 'long' trips by journey purpose of current trip (either holiday or VFR). For example, of those VFR passengers who have taken more than three leisure trips in the past year, nearly 30% have a current trip length of one to four days. This compares with around 4% with a trip length of over 28 days. However, of those VFR passengers whose current trip is their only trip in the last 12 months, more than 10% are taking a trip of over 28 days.

Figure 3.4 Proportion of UK resident international leisure passengers taking short and long trips at the Continuous Survey airports, 2007

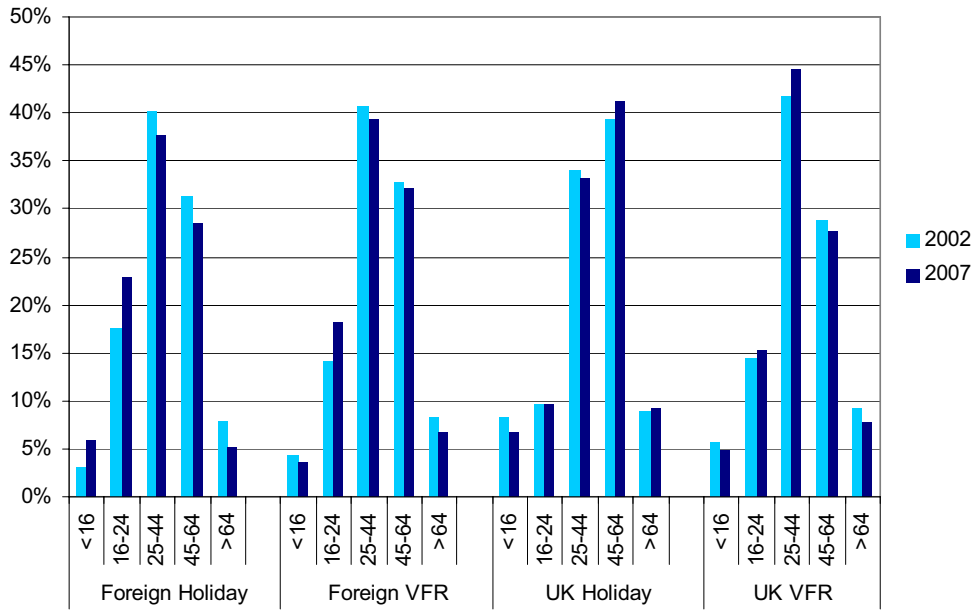


Source: CAA Passenger Survey, July–December 2007, excluding international-to-international connectors.

D. Age of passengers

3.24 Figure 3.5 compares the age profile of VFR and holiday passengers and shows how it has changed between 2002 and 2007.

Figure 3.5 Age profile of international leisure passengers at the Continuous Survey airports, 2002 and 2007



Source: CAA Passenger Survey, excluding international-to-international connectors.

3.25 Figure 3.5 shows a marked increase in the proportion of 16–24 year old foreign resident VFR and holiday passengers. This is not the case for 16–24 year old UK resident holiday passengers.

3.26 The largest proportion of passengers fall in the 25–44 age range, except for UK resident holiday passengers, where there is a greater proportion in the 45–64 age range. The average age in each segment category is broadly unchanged between 2002 and 2007 except for foreign VFR where it has fallen from 40 to 37.

3.27 The data suggest that foreign resident VFR and holiday passengers have a similar age distribution, whereas in the case of UK resident passengers there is a greater difference between the two segments.

Table 3.7 Estimated average age of international leisure passengers, the Continuous Survey airports, 2002 and 2007

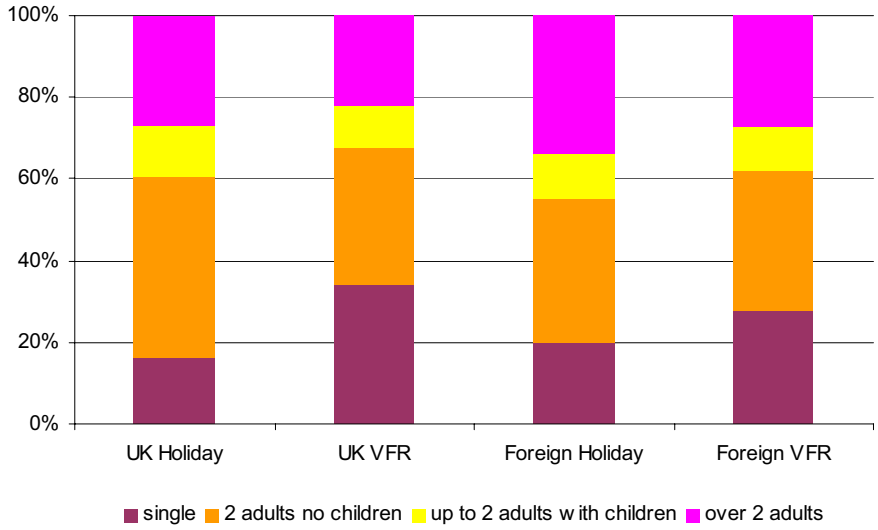
	Foreign		UK	
	Holiday	VFR	Holiday	VFR
2002	40	41	42	40
2007	37	40	43	39

Source: CAA Passenger Survey, excluding international-to-international connectors.
Note: Average ages are calculated using the mid-point of each age band.

E. Household type of passengers

3.28 Figure 3.6 shows how VFR and holiday passengers differ in terms of household type. Of UK resident VFR passengers, nearly 70% live alone or with one other adult with no children, in broadly equal proportions. The percentage of households with either one or two adults and children is similar for both types of leisure passengers, and both UK and foreign residents. The biggest proportion (44%) of UK resident passengers travelling on holiday live with one other adult and no children. A greater proportion of VFR than holiday passengers live alone.

Figure 3.6 Household type of international leisure passengers at the Continuous Survey airports, 2007



Source: CAA Passenger Survey, 2007, excluding international-to-international connectors.
Note: 'Over 2 adults' households may or may not include children.

F. Price sensitivity

3.29 It is not possible to speculate confidently on the relative sensitivities of VFR and holiday passengers to changes in the price of air travel. There are, for example, conflicting intuitive arguments:

- VFR passengers could be more price sensitive than holiday passengers, given that their accommodation costs may be met by the friend or relative they are visiting, and therefore the air fare will make up a greater proportion of total trip cost;

- VFR passengers could be less price sensitive than holiday passengers, given that their travel plans are likely to be more destination-specific, whereas holiday passengers can substitute alternative, less expensive, destinations if prices rise on a particular route; and
- although VFR passengers' trips may be more time-specific, for instance, visiting family at Christmas, the passengers are less likely to be restricted by factors such as charter flights and hotel bookings, thus offering a degree of flexibility perhaps not available to all passengers.

3.30 It is also possible that frequency of travel will be related to price sensitivity of passengers. For instance, in the event of a price increase on a particular route, passengers who only take one VFR trip a year may be less willing to forego that trip than passengers who take more frequent trips, who may be more prepared to switch to fewer, perhaps longer duration, trips.

3.31 Conversely, a lower fare on a particular route may stimulate more frequent VFR trips by an individual passenger, whereas, given the evidence above that a relatively small proportion of holiday passengers take all their trips to a single destination, it would seem less likely to lead to repeated holiday trips by the same individual. However, a lower fare could lead to trips (for either journey purpose) being made by individuals who would not otherwise have travelled.

Chapter 4 Factors Influencing International VFR Traffic Growth

Chapter Summary

This Chapter looks at possible drivers behind the increased demand for international VFR travel to and from the UK, and how supply of air services has increased to serve it. Such factors can be divided into those making *all* air travel more affordable and accessible, and those specific to VFR travel.

Factors common to all air travel

- Economic growth – the growth in UK resident VFR traffic over the last few years appears to be positively related to growth in UK GDP with a time lag of one to two quarters. This relationship seems to be less strong than that for holiday traffic and with a shorter lag.
- Supply of air services – recent years have seen improved access to air travel, brought about by broader route networks and lower fares. The emergence of no-frills carriers (and the competitive response of the market) has been a particularly significant feature of the short haul market, with a large proportion of VFR traffic using no-frills carriers.

Factors specific to VFR travel

For VFR travel to occur, some sort of inter-country social network is a pre-requisite. This may have developed for a number of reasons.

- Migration – in recent years migration has increased, particularly between the UK and the EU (in both directions). The proximity of these migrants to their home country means that they have a bigger impact on VFR traffic through more frequent trips, on average, than migrants with links further afield (such as UK emigrants based in Australia, or immigrants to the UK from India).
- Education – the UK remains a popular destination for students, and these temporary migrants (a subset of total migrants) increase the potential VFR market. Although a growing number come from outside the EU, one-third (in 2006-07) were EU citizens – and they are also likely to have a proportionately larger effect on VFR traffic due to the proximity of their home country to the UK.
- Second-home ownership – the increasing level of second-home ownership is closely related to growth in migration and VFR travel. Although people travelling to and from their second-home are not categorised as travelling for VFR, friends or relatives travelling to visit them are.

Most (arguably all) of these drivers have been significantly influenced by the development of the single market in the EU in recent years. The concurrent liberalisation of the air services market and increased use of the freedoms to work and move throughout the EU has meant that the potential market for VFR travel has grown and the means of servicing it has become cheaper and more accessible.

The results of statistical analysis that tends to support the themes explored are summarised at the end of the Chapter.

Introduction

4.1 Change in the demand for VFR traffic is related to a number of different factors. Some will be common to all leisure passengers; some will be specific to VFR passengers. The drivers of economic growth and accessibility of flights (either through extension of route networks or falling fares on existing routes) are likely to affect all leisure passengers.

4.2 However, beyond these economic considerations, there is a pre-requisite for international VFR travel that does not apply to travel for other purposes – the existence of a friend or relative abroad, or with a presence abroad, as is the case with ownership of a second-home which friends or relatives may visit. Migration, either recent or further in the past, is generally necessary to create demand for VFR travel. This may be through permanent migration, or shorter-term arrangements such as student exchanges.

4.3 Along with migration, there is also a close relationship between VFR and the ownership of second-homes abroad by UK citizens. Although the owners of second-homes are not travelling on VFR themselves when going to their second-home (they are classed as 'holiday' traffic), friends or relatives visiting them there would be classed as VFR[76].

4.4 These factors are all inter-related – for instance, economic growth in the UK is likely both to be stimulated by and to stimulate migration, and the attraction of second-home ownership will, in many cases, have been influenced by the greater availability of low fares to many destinations. This Chapter looks at the impact of each of these drivers individually on the growth of VFR traffic, and the influence on them of the EU single market, which is a recurring theme throughout this Chapter.

EU single market

Changes within the EU have led to freedom of movement for more people (and thereby increased migration), freedom of movement of capital over a wider area (for example, purchasing of second-homes) and a more liberalised market in air services (leading to increased route networks and lower fares). These changes have provided impetus to growth in the VFR market. In addition, the geographical proximity of other EU states to the UK means that the destinations lend themselves to more frequent trips, as both the financial and time costs of travel are lower than for destinations further afield.

Key developments of particular relevance to this study are:

1993 – the EU Aviation 'Third Package' which brought about a single market in air transport in the EU. Most importantly, this allowed EU airlines to offer services freely between any Member States at the prices they wished to charge and thus protection from competition for national flag carriers was removed.

2004 – the EU expanded on 1 May 2004 to include the EU Accession Eight (EUA8) countries, along with Malta and Cyprus. This increased the population within the EU by almost 75 million.

76. However, as noted elsewhere, the interviewee is responsible to deciding their own journey purpose so these distinctions may not always be clear-cut.

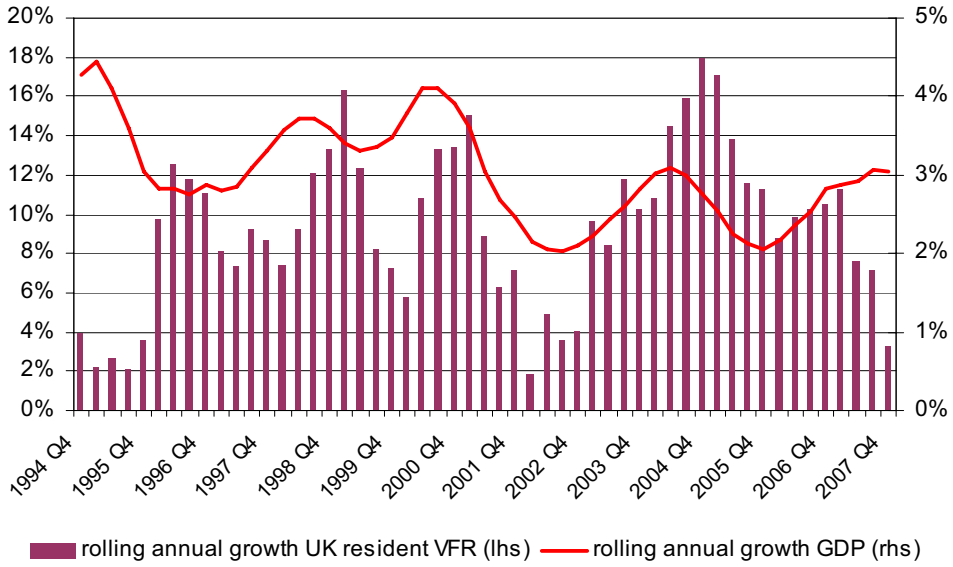
Economic growth

4.5 Increases in general levels of real income would be expected to stimulate air travel for all purposes as it becomes relatively cheaper. Hence, economic growth can be expected to be a driver for the subset of VFR traffic, as the desire to travel by air to visit friends or relatives can only be realised provided the expense can be covered.

4.6 Figure 4.1 plots the rolling annual growth of UK GDP against the rolling annual growth in UK resident international VFR traffic. It shows how both have fluctuated in recent years with VFR traffic growth lagging GDP growth by one to two quarters. The growth in foreign resident VFR traffic is likely to be linked to the GDP of all possible origin/destination countries, rather than just that of the UK. However, given that over half of all international VFR traffic is UK resident, it is evident that UK GDP is an important driver.

4.7 It is impractical to look at global GDP and too complex to construct some weighted international GDP measure reflective of potential for VFR traffic. Individual passenger circumstances and their differing reasons for travelling mean that whether the primary economic driver is either UK or foreign GDP is likely to vary across foreign resident passengers.

Figure 4.1 UK resident VFR traffic growth compared with GDP growth



Source: International Passenger Survey (MQ6) and ONS.

4.8 More detailed analysis of the correlation[77] between the growth in UK GDP and the growth in UK resident VFR traffic reveals that although the relationship is not strong, there is a clearly identifiable link between the two, which peaks at a lag of one quarter. Due to the recurring peaks and troughs in both series, the correlations become negative at longer time lags.

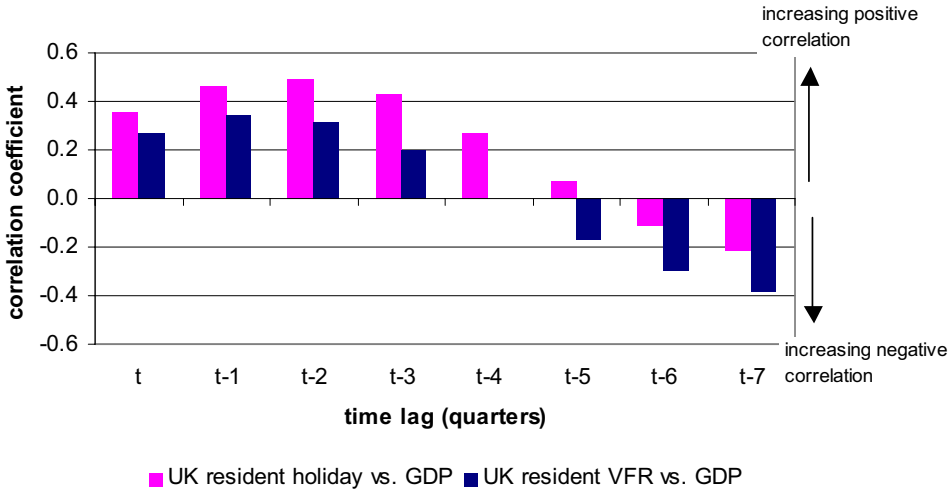
4.9 Figure 4.2 compares the correlation between UK resident VFR traffic growth and UK GDP growth at increasing lags[78] with that seen for UK holiday traffic. Whilst VFR and holiday growth both appear related to GDP with a lag of up to a year, the VFR

77. The correlation coefficient indicates the strength and direction of a linear relationship between two variables. It takes values between –1 (a perfect negative linear relationship) and 1 (a perfect positive linear relationship), with a value of 0 indicating no relationship. By lagging the GDP growth rate for a given number of quarters, evidence of a lagged relationship can be observed.

78. For example a lag of 't-1' compares growth in VFR traffic in the current quarter with GDP growth in the prior quarter, 't-2' with the one before that, and so on.

relationship is less strong. Also, there tends to be a greater time lag in the relationship between GDP and holiday traffic (peaking at around six months) than that between GDP and VFR traffic (peaking at around three months). This analysis indicates that VFR passengers may not make their travel plans as far in advance, and that income is not the only factor affecting VFR travel (and therefore drivers other than the economy may also be significant).

Figure 4.2 Correlation between UK resident leisure traffic and GDP growth rates



Source: Derived from data from the International Passenger Survey and ONS (using rolling annual growth rates from GDP Q4 1994).

4.10 More complex statistical analysis at the end of this Chapter considers the impact of the absolute level of UK GDP on VFR traffic alongside other explanatory variables.

Supply of air services

4.11 As well as increases in income, decreases in fares or the opening of a new route may also stimulate VFR traffic by making it easier and/or cheaper to travel. Whilst economic growth is likely to affect the total number of trips taken, the accessibility of flights may vary by route, thus prompting the substitution of one trip for a cheaper alternative. The extent of the impact of these factors on VFR passengers will depend on the 'importance' to the passenger of making the specific trip on the specific route.

4.12 The availability of routes may be a limited stimulant for holiday traffic as travellers may be prepared to substitute destinations. VFR traffic, like business, will tend to be destination-specific (depending on the extent of the social networks in place). Whilst potential VFR passengers who are not able to travel to their chosen destination may, unlike business travellers, take a leisure trip instead, they may also choose not to spend their money on air travel at all.

4.13 Chapter 3 showed how VFR passengers can be separated into three different groups based on the estimated frequency of their leisure travel:

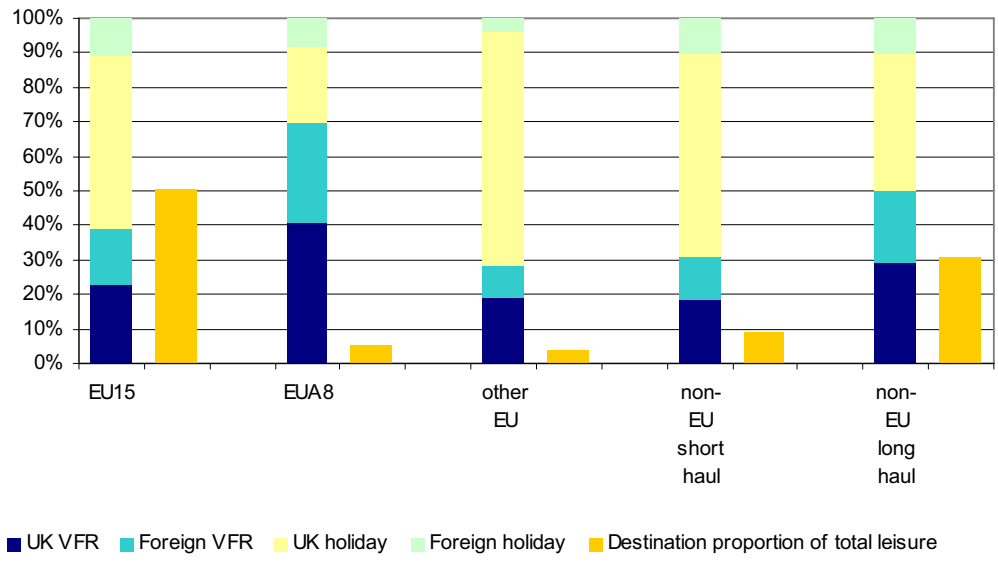
- those making a only single leisure trip in the year, which is for VFR purposes;
- those making multiple leisure trips in a year, all for VFR purposes; and
- those making multiple leisure trips to multiple destinations, at least one of which is for VFR, the others for 'holiday' purposes.

4.14 It is likely that these groups will place differing importance on an individual VFR trip. For example, those taking more frequent trips may place less importance on the marginal trip than the passenger who only makes one trip a year. The more 'substitutable' a trip, the more impact a change in fares is likely to have. For holiday traffic, substituting one destination for another if fares on one route rise is expected and rational behaviour. For VFR passengers, it is harder to substitute destination.

4.15 A greater proportion (nearly three-quarters) of UK resident leisure passengers travel to/from the UK to short haul destinations rather than long haul destinations. For UK resident VFR passengers, the proportion is lower at two-thirds (similar to both foreign resident holiday and VFR passengers). However, the short haul classification used here includes a number of popular holiday destinations which are not within the EU (for example, Egypt and Turkey). If the destinations are divided into EU and non-EU groups rather than short/long haul, the difference between the distribution of UK resident holiday and VFR passengers is less pronounced.

4.16 Figure 4.3 shows, for different destination groups, how the journey purpose of leisure passengers is split. This chart highlights the particularly high VFR proportion on routes to the EUA8 countries (which, as shown by the orange bar, make up 5% of total leisure traffic in 2007 at these five UK airports).

Figure 4.3 Journey purpose and destination, international leisure passengers at the Continuous Survey airports, 2007



Source: CAA Passenger Survey, 2007, excluding international-to-international connectors.
Note:
- *'Other EU' countries are: Cyprus, Malta, Romania and Bulgaria.*
- *'Short haul' includes countries outside the EU, such as Switzerland, Norway, Turkey, Egypt, Russia and Tunisia.*

4.17 The following sections consider changes in the European and longer-haul markets separately, due to the differing factors that influence route networks and fare levels – in particular, no-frills carriers operating to and from the UK are predominantly flying to Europe.

Europe

4.18 60% of the international VFR traffic to and from the UK at the main UK international airports in 2007 was between the UK and Europe. The EU15 countries have been a large part of the VFR market for many years. However, recent enlargement of the EU has led to additional rapid growth in VFR between the UK and the EUA8 countries.

4.19 Taking the dataset of the 'main UK international airports', (the five Continuous Survey airports plus the four biggest international regional airports of Birmingham, Bristol, East Midlands and Liverpool), key observations are that:

- total VFR passengers increased from an estimated 24 million in 2000 to 45 million in 2007;
- the bulk of the VFR increase (from 1.4 million in 2000 to 5.7 million in 2007) at the four regional airports listed above was in UK–EU traffic;
- VFR traffic to and from Poland has increased from 100 thousand in 2000 to nearly 2.5 million in 2007, the other EUA8 countries also growing from 200 thousand in 2000 to 1.7 million in 2007. By 2007, the EUA8 countries accounted for 9% of all international VFR traffic at these airports;
- over the same period, traffic has also increased between EU15 countries and the UK. In each year, the EU15 represented around half of all international VFR traffic to/from the UK; and
- UK–non EU VFR traffic has increased slightly over the same period, but overall, growth is very much dominated by the European countries. Figure 2.3 in Chapter 2 breaks down the estimated growth in VFR traffic between 2000 and 2007 by country.

4.20 This growth in UK–EU VFR traffic has been supported by significant change in the EU air passenger market since the early 1990s. The adoption of the 'Third Package' of aviation liberalisation measures in 1993 created a single market for aviation in the EU, meaning that airlines flying within the EU were free of restrictions on routes, the frequency of flights, and the setting of fares.

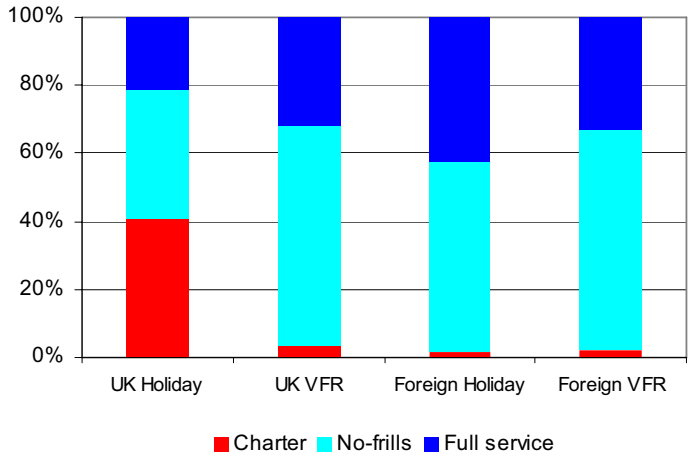
4.21 This legislation facilitated the rapid expansion in size and number of airlines, mainly no-frills operations, flying in and out of the UK to EU destinations. The business model of these airlines, along with the competitive response to their entry into the market, has led to:

- an increased number of routes being served; and
- a lowering of fares.

4.22 Chapter 2 illustrated that the UK airports where VFR traffic grew particularly strongly between 2000 and 2007 were those where no-frills airlines were quick to establish a significant base.

4.23 Figure 4.4 shows that for UK–EU traffic, no-frills airlines serve a much greater proportion of the UK resident VFR market than the holiday market. For foreign residents the difference is far less pronounced. 40% of UK resident holiday passengers travelled on charter services in 2007, a fall from nearly two-thirds in 2000. The growth in no-frills airlines has been a key reason behind this.

Figure 4.4 Leisure passengers (UK–EU) by airline type and residency at the Continuous Survey airports, 2007



Source: CAA Passenger Survey, excluding international-to-international connectors.

Routes

4.24 Previous work[79] published by the CAA illustrated the growth in the European no-frills route network between 2000 and 2006. The number of UK–EU airport pairs served by all airlines was estimated to have more than doubled from around 160 in 2000 to over 370 in 2005. Since then, other notable increases include Poland – four scheduled routes[80] operated between the UK and Poland in 2001, increasing to over 30 in 2007; and Spain where the increase was from 43 in 2001 to 144 in 2007[81].

4.25 Enhanced route networks have developed as no-frills operators have tested new markets and taken advantage of the possibilities for rapid expansion at regional airports (both in the UK and abroad). The effect of this on VFR traffic at UK airports was considered in Chapter 2.

4.26 The use of regional airports throughout Europe may have provided an additional boost for the VFR market as the destinations served move away from capital cities (to regional cities), from city centres (to secondary airports) and from leisure destinations to the types of areas where people live, opening up previously less accessible areas to lower fares and regular flights. To the extent that this will reduce the time and fares cost for travel it will be a positive contributor to VFR growth. For example, considering the route London–Toulouse, in January 1995 the cheapest published fare (excluding taxes) was around £180 with British Airways. For March 2009, current published fares (excluding taxes) for both British Airways and easyJet are under £70.

4.27 Stansted stands out as contributing the biggest single increase to VFR passenger numbers, with nearly one-third of the estimated 21 million increase. As noted in Chapter 2 this has been driven by the no-frills airlines operating at the airport. The number of international destinations served from the airport almost doubled between 2001 and 2007 to nearly 120 in 2007.

79. CAP 770 – No-Frills Carriers: Revolution or Evolution?, CAA (November 2006) – this analysis defined routes as those services with no less than 20 departing flights in the month of July.
80. In this document, a wider definition of routes is considered more appropriate for VFR passengers, and a route is defined as airport pairs averaging more than three return services per week in the year – this definition may exclude some seasonal routes.
81. Spain including the Canary Islands. Part of this increase represents a shifting from charter services to scheduled services. However, even considering charter and scheduled routes in total, the number of routes has increased from 122 in 2001 to 181 in 2007.

Fares

4.28 One selling point of no-frills carriers has been their lower, and/or more flexible fare offerings. As shown in Chapter 3, VFR passengers are more likely to take frequent short trips than holiday passengers and lower fares may help encourage this.

4.29 No-frills airlines have increased the level of competition in the industry for all types of carrier. CAA Passenger Survey data show that the estimated cost of return economy fares between the UK and EU countries has fallen in real terms between 2000 and 2007. The largest fall in percentage terms is for the EUA8 group of countries which joined the EU in 2004. As previously noted, these countries have collectively seen large increases in VFR traffic.

Table 4.1 Estimated average return Economy class air fares, including taxes

	In 2007 prices (£) 2000	2007	
EU15	174	129	-26%
EUA8	211	127	-40%
Other EU27	236	201	-15%

Source: CAA Passenger Survey 2000 and 2007, fares paid in pounds sterling.
Notes:
- *unweighted data used.*
- *single fares assumed to be 50% of a return fare.*

Long haul liberalisation

4.30 Although the UK–EU market has dominated growth in VFR over the last six years (as illustrated in Figure 1.3 in Chapter 1), there is still a sizeable long haul market. In 2007, around 40% of international VFR passengers to and from the Continuous Survey airports were travelling to destinations outside the EU. As the following section on migration goes on to show, many of these routes show a higher than average proportion of VFR passengers.

4.31 Improved routes and connections for long haul flights can reduce the time cost of travel significantly. However, there is a limit to how far such improvements can go, and the journey time to long haul destinations is significantly higher than for short haul travel. For example, the shortest flight time currently on offer from London Heathrow to Sydney is around 22 hours, as compared with Heathrow to Madrid at just under two and a half hours.

4.32 In recent years, although long haul travel has not seen the same kind of changes as short haul resulting from the growth of no-frills operations, there has been liberalisation on long haul routes. This means a reduction in bilaterally agreed restrictions on flights between the UK and other countries, for example on the routes operated, the frequency of flights, and the setting of fares by airlines. Where markets are liberalised, with the provision of increased supply and greater competition, there is generally evidence of lower fares and increased accessibility of flights. New routes and improved connections have been a feature potentially reducing the time costs of travelling.

4.33 An example of this, of particular relevance to VFR passengers, is the liberalisation of the UK–India air services agreement between late 2004 and mid 2005. Using CAA Passenger Survey data[82], the estimated proportion of passengers travelling UK–India for VFR purposes is 50% and, as noted in Chapter 2, the proportion at Birmingham, a city with strong migrant links to the country, the proportion is very much higher.

82. At the main UK international airports.

4.34 The liberalisation of the air services agreement led to an increase in the number of city pairs with direct services between the two countries from five to eight, and the number of direct services rose from 34 a week in October 2004 to 112 in October 2006. A thorough discussion of the impact of this was produced by the CAA in 2006[83], which also indicated that the increases in capacity and competition resulted in a reduction in fares.

Social factors

4.35 In order for a passenger to be travelling for VFR, they need to have some friends or family in another country or someone with a presence there. It may be that the passenger has migrated, the friends or family being visited have migrated or either party has previously lived abroad for an extended period (temporary migration).

4.36 The UK is home to a number of long-standing migrant populations, and there are also significant UK communities in other countries. Both will contribute to VFR traffic. Historically, this migration has been linked to the Commonwealth and the ease of movement between its countries and the UK as regards visa restrictions. However, since these migrations were at their height, the UK has developed increased ties with the EU (both social and legislative) and has seen a great deal of immigration from the eight accession states (EUA8) which joined the EU in 2004, particularly Poland.

The effect of immigrant communities in the UK on VFR traffic

4.37 The proportion of foreign-born citizens residing in the UK has also increased from an estimated 6.7% in 1991 to 10.5% in 2007[84]. Over the period, the total number of foreign-born citizens living in the UK has increased by 65%, whereas the total population, has increased by 6.2%.

4.38 The ONS's Annual Population Survey (APS) shows that:

- the immigrant population in the UK from the EU15 countries is approximately 1.2 million;
- this compares with nearly 600 thousand from the EUA8 countries (of which around two-thirds is from Poland), and 1.2 million from the Indian subcontinent; and
- the largest foreign-born population groups are from India, Republic of Ireland, Poland and Pakistan. Between them, these account for around 3% of the total UK population and make up nearly 30% of foreign-born UK residents.

4.39 The APS breaks down total foreign-born residents by country of birth. Table 4.2 shows the top 10 countries, which covered only half of the total immigrant population in 2007, indicating the diverse range of countries from which the UK draws immigrants. The table also shows the proportion of total traffic between the UK and each country that is travelling for VFR purposes, estimated using the CAA Passenger Survey. It indicates that air routes to those countries with significant migrant populations in the UK tend to have a much higher than average proportion of passengers travelling for VFR purposes.

83. UK–India Air Services: A case study in liberalisation, CAA (November 2006).
84. Focus on People and Migration: 2005, Rendall and Salt, ONS (2005) and Annual Population Survey 2007, ONS.

Table 4.2 Foreign-born population groups resident in the UK (Top 10 countries), 2007

	Country	Estimated population group (000s)	% of non-UK born population	Proportion of VFR on air route 2007
1	India	613	10%	50%
2	Ireland	420	7%	47%
3	Poland	405	6%	70%
4	Pakistan	377	6%	87%
5	Germany	266	4%	35%
6	Bangladesh	205	3%	69%
7	South Africa	201	3%	56%
8	United States	188	3%	32%
9	Jamaica	166	3%	35%
10	Nigeria	140	2%	58%
	Others	3,360	53%	28%
	Total	6,341	100%	32%

Source: *Table 1.3, Annual Population Survey 2007, ONS and CAA Passenger Survey at the UK's main international airports.*
Note: *Red font indicates a VFR proportion higher than average.*

4.40 In 2007, a report by the Institute for Public Policy Research (IPPR)[85] looked at the economic contribution of the various immigrant communities in the UK, and estimated the proportions of a country's immigrant stock that arrived in the UK after 1996. This report indicates that:

- the majority of migrants from India, Pakistan and the Republic of Ireland (who make up nearly one-quarter of foreign-born UK residents) arrived in the UK prior to 1996; and
- by contrast, over three-quarters of Polish national immigrants arrived since 1996 (the highest proportion of any of the immigrant countries) – this is likely to be a result of the accession of Poland to the EU in 2004.

4.41 Total International Migration (TIM) figures from the ONS show the beginnings of circular migration with regard to Eastern Europe – that is, Eastern European nationals who have been residing in the UK and are now leaving[86]. More recently, the Federation of Poles in Great Britain estimated that, although 200 thousand Poles left the UK in 2008, an estimated 500 thousand immigrants, many families with young children, are likely to stay "not necessarily permanently, but for more than the short-term" despite the economic downturn and fall of sterling against the Polish zloty[87].

85. 'Britain's Immigrants – an economic profile', IPPR (September 2007).
86. See also, for example, a number of articles in the media about the possibility that Polish migrants in particular may be starting to return home – the improving Polish economy means that the wage differentials are reducing and there are more work opportunities in Poland – "Bad times ahead", The Economist, 16 October 2008.
87. Federation of Poles in Great Britain, Press Release, 28 January 2009, http://www.zpwb.org.uk/en/archive_zpwb

4.42 It is too early to estimate the impact this circular migration could have on VFR traffic – potentially, people who return home will continue to generate VFR traffic as they may have friends or family in the UK who they will continue to visit and vice versa. However, it is also worth noting that in 2009 there has been a withdrawal (or announcement of forthcoming withdrawal) of some routes operated between the UK and Poland by a number of airlines, including Ryanair and easyJet[88].

The effect of UK emigrant communities on VFR traffic

4.43 Whilst UK residents who were born overseas are likely to make visits to, or be visited by, friends or relatives in their home country, there are also a large number of UK nationals who live overseas themselves and are likely to make visits home or to be visited abroad by their friends or relatives.

4.44 Another report by the IPPR, 'Brits Abroad'[89], uses a number of methods to estimate the size of the total emigrant population – the number of people born in the UK who now live abroad[90]. The number of Britons living abroad (for a year or more) is estimated by the IPPR to be 5.5 million, or just over 9% of the UK resident population.

4.45 Within this total, the level of emigration from the UK has been increasing over recent years. 2006 saw over 400 thousand people (of all citizenships) leave the UK – the highest estimate since the ONS introduced the method to calculate TIM in 1991. Of these emigrants, over half were British citizens. However, 2007 data show a decline to 340 thousand UK emigrants.

4.46 The IPPR also makes estimates of where emigrants are residing, which are shown in Table 4.3. The CAA Passenger Survey data are again used to estimate the proportion of total traffic travelling for VFR between the UK and each country. This table indicates that those countries where there are a significant number of British emigrants tend to have a higher than average proportion of passengers travelling for VFR. Notable exceptions to this are the popular holiday destinations of Spain and Cyprus.

4.47 A comparison of Table 4.2 and Table 4.3 shows them to be fairly dissimilar with only four out of the ten named countries appearing in both tables.

88. "Ryanair cuts 11 routes to Poland", 9 February 2009, www.telegraph.co.uk
89. 'Brits Abroad', IPPR, 2006.
90. Stocks of emigrants and where they reside are harder to count than immigrant stocks, as by definition the people are now outside the UK. The only complete and up-to-date UK dataset available is the number of people receiving their UK state pension overseas. Other sources of data used by the IPPR included local censuses and UK passports issued overseas. All of these data sources have their limitations, but collectively provide a useful basis for making estimates.

Table 4.3 Estimated number of Britons abroad by country of residence (Top 10 countries), 2006

	Country	Britons abroad for a year or longer (000s)	% of total emigrant population	Proportion of VFR on air route 2007
1	Australia	1,300	**23%**	**65%**
2	Spain	761	**14%**	21%
3	United States	678	**12%**	**32%**
4	Canada	603	**11%**	**57%**
5	Ireland	291	**5%**	**47%**
6	New Zealand	215	**4%**	**62%**
7	South Africa	212	**4%**	**56%**
8	France	200	**4%**	**34%**
9	Germany	115	**2%**	**35%**
10	Cyprus	59	**1%**	23%
	Others	1,115	**20%**	31%
	Total	5,540	**100%**	32%

Source: IPPR estimates, 'Brits Abroad' – Appendix B and CAA Passenger Survey at the UK's main international airports.
Note: Red font indicates a VFR proportion higher than average.

4.48 Compared with Table 4.2, the emigrant destinations are far less dispersed than the immigrant origins, with over 27% of UK emigrants in either Australia or New Zealand, and a further 23% in North America. 80% of the total emigrant population is estimated to reside in the top ten named countries. This compares to less than one half of the immigrant population coming from the top ten countries in Table 4.2.

4.49 It should be noted that the extreme long haul nature of trips between the UK and Australasia means that frequent trips are less likely, despite its appeal as a holiday destination – even if fares were to fall, the journey time is still very significant. This, in part, may account for the higher VFR percentages on these routes – whilst VFR passengers may be tied to the destination and make repeated or annual return trips, holiday passengers may be less likely to make repeated trips of such length.

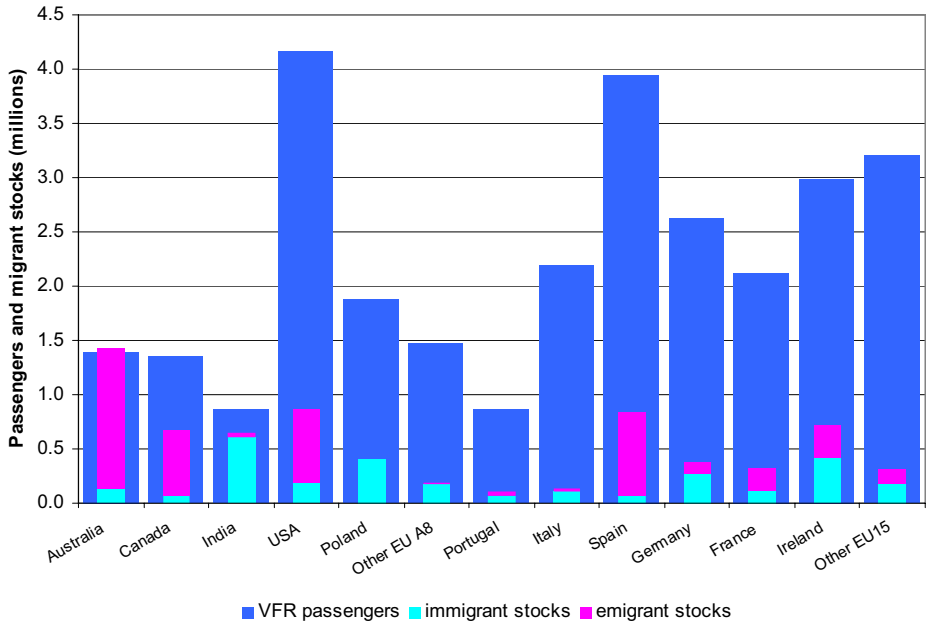
4.50 Using the same data, an estimated 28% of total emigrants are based in the EU15 countries, half of whom are in Spain, with minimal numbers (approximately 2%) in the EUA8 countries.

How does VFR traffic relate to migrant stocks?

4.51 Figure 4.5 combines the estimates of stocks of immigrants from and emigrants in another country to give a 'migrant stock' figure which is indicative of the level of social links between the UK and a range of countries in 2007[91]. The chart also shows the level of VFR traffic in 2007 between the UK and each country.

91. These numbers are estimates drawn from different sources reflecting the position at given points in time (2006 for immigrants, 2007 for emigrants), thus they are only intended to give an indication of the relative levels of migrant links across countries.

Figure 4.5 Summary of VFR passengers at the main UK international airports by country compared with immigrant and emigrant stocks, 2007



Source: CAA Passenger Survey, excluding international-to-international connectors; Annual Population Survey 2007, ONS; IPPR 'Brits Abroad' 2006.

Notes:

- *'Other EU27' countries are: Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Romania, Slovakia and Slovenia.*
- *'Other EU15' countries are: Austria, Belgium, Denmark, Finland, Greece, Luxembourg, Netherlands and Sweden.*

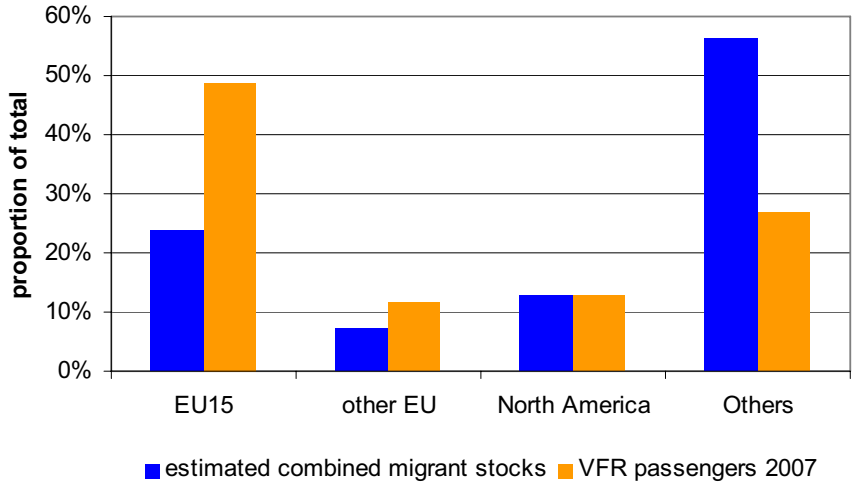
4.52 This figure illustrates that:

- **destinations closer to the UK generate more traffic than longer-haul destinations**. This is backed up by academic research by the Centre for Research and Analysis of Migration[92], which found that optimised travel frequency is inversely related to distance and transportation costs of travel, and positively related to psychological costs of separation. The shorter the trip home (and thus cheaper both in time and money), the more frequently migrants travelled, but for trips of shorter duration . On the assumption that these findings are robust over the wider population, migrants between the UK and Europe are likely to make more frequent but shorter trips than those with relationship links further afield. The exception to this is VFR traffic to the US, which is noticeably high relative to migrant stocks, and of this traffic, nearly one-quarter is travelling to New York. Although the CREAM study looks at 'current' migrant stocks (i.e. those away from home at a point in time), it is reasonable to assume that after an extended period of temporary migration there could be a residual effect where migrants would wish to maintain links with their former host country, even after returning home.
- **EU destinations generally show higher VFR traffic where migrant stocks are higher,** indicating a probable link between the two. This link may be facilitated by the relative geographical proximity of the EU states, and so will be less apparent for non-EU countries.

92. 'Migration, Relationship Capital and International Travel: Theory and Evidence – Discussion Paper', CDP 08/08, McCann, Poot and Sanderson; CREAM, Department of Economics, University College London (August 2008).

4.53 Further analysis of these combined 'migrant stocks' shows that EU countries accounted for only 30% of the estimated 12 million migrant stocks in the world with links to the UK (either immigrants based here, or emigrants from the UK living overseas), but a much larger proportion (around 60%) of VFR traffic. This is illustrated in Figure 4.6, and is likely to be a reflection of relative costs (in time and money) of travel.

Figure 4.6 Combined migrant stocks compared with international VFR passengers at the main UK international airports, 2007



Source: CAA Passenger Survey, excluding international-to-international connectors; Annual Population Survey 2007, ONS; IPPR 'Brits Abroad' 2006.

4.54 This analysis provides the basis for the separation of UK–EU VFR traffic from other VFR traffic in the regression modelling summarised at the end of this Chapter – there is evidence of a relationship between migrant stocks and VFR traffic, and that the relationship appears to be substantially different for the EU and non-EU groups.

UK net migrant flows

4.55 Figure 4.7 shows UK migration figures since 1991. Both total inflows and outflows have been rising since 1997, reaching a peak in 2006. From 1998 to 2003 the overall net inflow of migrants was around 150 thousand per year. There is a marked increase in the level of inward migration from 2004, which appears to be mainly from EUA8 countries[93].

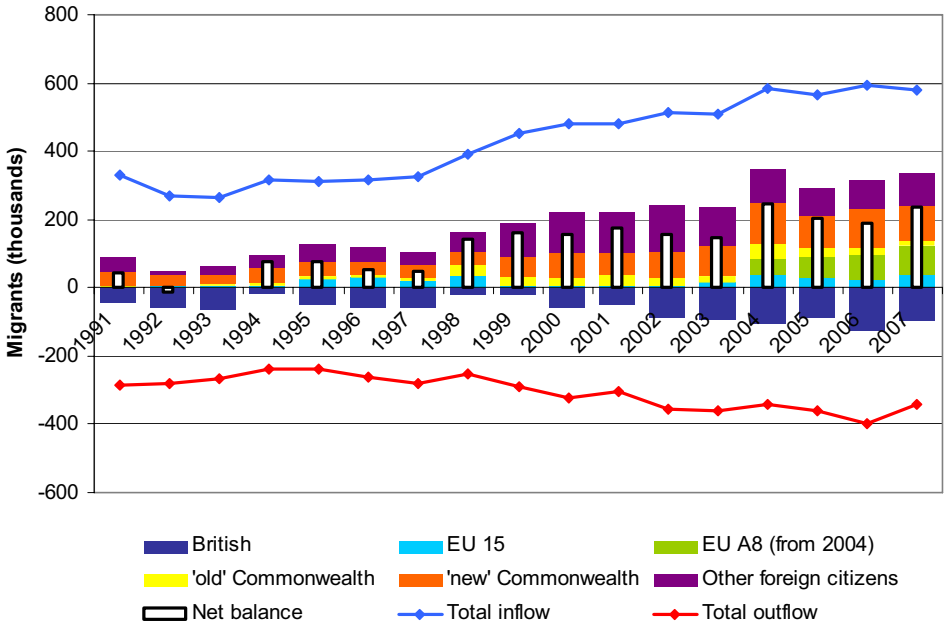
4.56 Within this total, the IPS estimate for the period 2004–2007 is that 64% of the inflow of migrants to the UK from the EUA8 countries was from Poland[94]. This corresponds to the increased VFR traffic between the UK and Poland noted in paragraph 4.19.

4.57 Whilst the rapid increase in the net flow of immigrants has come from the EUA8 countries, the total net flow in 2007 is also made up of significant migrant numbers from the 'new Commonwealth' and 'Other foreign citizens' groupings (see chart for the definitions used). The largest flows within these groupings are:

- 'New Commonwealth' – India, Pakistan, Bangladesh and Nigeria
- 'Other foreign citizens' – USA, China, Japan and the Philippines.

93. Prior to 2004 these citizens were included w.ith the 'Other foreign citizens' category, which shows a reduction of approximately 13,000 net immigrants in 2004
94. ONS – MN33, Table 3.21, IPS A8 Cit 92-07.

Figure 4.7 UK Total International Migration, net flow by nationality, 1991–2007



Source: ONS, Total International Migration, 1991–2007 (from International Passenger Survey data).
Notes:

- *From 2004 onwards, Malta and Cyprus are in 'Other foreign citizens' rather than 'New Commonwealth'.*
- *From 2004 onwards, the EUA8 countries are shown separately rather than in 'Other foreign citizens'.*
- *'Old Commonwealth' is made up of Canada, Australia, New Zealand and South Africa.*
- *'New Commonwealth' is all other Commonwealth countries, British Dependent Territories and British Overseas Citizens.*
- *'Other foreign citizens' are those from outside the Commonwealth, EU15 and EUA8.*
- *Nationality is defined as the nationality of passport the traveller is using.*

4.58 Examining the component inflows and outflows, all country groups demonstrate 'circular migration' (not all of migrants remain permanently in their host country – some return home, or move on to a third country). In the UK both immigrant and emigrant stock levels are increasing: in 2007, over five-sixths of the migrant inflows were non-British nationals but only half of the outflows were. Table 4.4 shows how the total flows grew in both directions between 2000 and 2007. There has been a fall in the inflow proportion represented by immigrants from outside of the EU and the Commonwealth. However, this is likely to be partially a result of the reclassification of the EUA8 countries during the period (see footnote to Table 4.4).

Table 4.4 Total International Migration into and out of the UK by citizenship, 2000 and 2007

	2000					2007				
	Inflow		Outflow		Net	Inflow		Outflow		Net
British	99	21%	161	50%	-62	75	13%	171	51%	-96
EU15	63	13%	57	18%	6	79	14%	41	12%	128
EUA8 (from 2004)	*		*		*	112	20%	25	7%	38
'old' Commonwealth	56	12%	32	10%	24	45	8%	31	9%	13
'new' Commonwealth	91	19%	15	5%	76	130	23%	26	8%	103
Other foreign citizens	169	35%	55	17%	114	131	23%	43	13%	88
Total	478	100%	320	100%		572	100%	337	100%	274

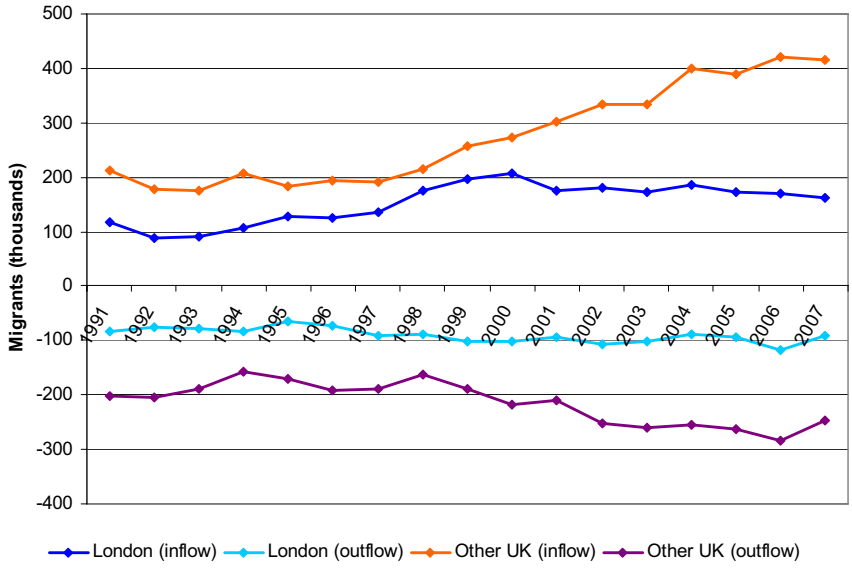
Source: ONS, Total International Migration, 2000–2007 (from International Passenger Survey data).
*Note: * in 2000 EUA8 figures were included in 'other foreign citizens' .*

Regional impact of migration

4.59 Although UK regional airports currently only handle around one-third of UK international passengers, Figure 4.8 shows how migratory flows in and out of the UK are substantially higher (and growing) outside London. For example, it is reported that the recent wave of migrants from Eastern Europe has spread across the UK far more than other migrant groups: the Economist quotes 21% of Eastern European nationals within the UK as living in London, compared with 41% of other foreign nationals resident in the UK[95].

4.60 This movement of people coupled with the development of new route networks at the regional airports has provided both the means and a driver for increased VFR travel outside London (bearing in mind that the London airports serve the whole of the South East).

Figure 4.8 UK origin/destination of international migrants to and from the UK



Source: ONS, Total International Migration, 1991–2007.

Summary of key UK–world migrant links and VFR traffic

4.61 The origin/destination of immigrant and emigrant stocks give some indication of where friends or relatives are likely to be located. Table 4.5 below summarises the most important links the UK has as a result of migration, their distance from the UK and changes in their accessibility by air.

95. "Poles Depart", The Economist, 30 August 2008.

Table 4.5 Summary of key UK–world migrant links and VFR traffic

UK immigrant stocks	Origin	Accessibility changes	Changes observed in VFR traffic*
Immigrants from **India, Pakistan and Bangladesh** make up nearly one-fifth of UK migrant stocks.	Non-EU	UK–India routes have benefited in recent years from liberalisation[96]. To a lesser extent there has also been liberalisation of the air services agreement (ASA) between UK and Pakistan. However, as immigrant stock levels were already high, the effect is less marked, and the distance involved means that less frequent trips are likely.	Since 2003, the combined VFR passengers to India, Pakistan and Bangladesh have totalled over one million each year (the majority travelling to India and Pakistan), having grown by around three-quarters since 2001, in line with overall traffic growth on these routes. The proportion of VFR passengers to these countries is broadly stable and relatively high, particularly to Pakistan and Bangladesh (typically over three-quarters). For passengers to India it is rather lower (at around 45–50%).
The immigrant population in the UK from **Poland** has grown rapidly. It now represents 7% of all UK immigrant stocks.	EU	Joining the EU in 2004 meant Poland became part of the single market for air services within the EU. Services to the country have increased largely as a result of no-frills operations.	Total UK–Poland VFR passengers approached two million in 2007, from around 100 thousand in 2000. The proportion of VFR on UK–Poland routes has increased from around one-third in 2000 to two-thirds in 2007.
UK emigrant stocks	**Origin**	**Accessibility changes**	**Changes observed in VFR traffic***
UK emigrant stocks overseas are fairly concentrated in destination – over one-quarter in **Australia** or **New Zealand**, and nearly one-quarter in **USA** or **Canada.**	Non-EU	Excepting USA, these destinations have had generally liberal bilateral ASAs with the UK for some time. The new liberal EU–US ASA is too recent to have impacted upon the numbers in this study.	VFR traffic between the UK and both Australia and the US showed relatively low growth between 2000 and 2007 (11% and 6% respectively), and had stable proportions of VFR traffic (two-thirds for UK–Australia and one-third for the UK–US). By contrast, UK–New Zealand and UK–Canada VFR traffic grew faster. There were a similar number of passengers travelling between the UK and Canada as between the UK and Australia (1.4 million) in 2007, when VFR accounted for over half of all UK–Canada journeys. UK–New Zealand traffic, although growing and with nearly two-thirds of passengers travelling on VFR, accounted for less than half a million VFR passengers in 2007.
The majority of remaining UK emigrants are in the **EU15**. These countries are also popular for British households owning a second-home overseas.	EU	These destinations benefited from the 1993 Third Package, which created a single market for air services across the EU. This preceded the rapid increase in no-frills operations.	UK–EU15 VFR traffic has grown by over three-quarters between 2000 and 2007, with the proportion of total traffic growing from around 20% in 2000 to 30% in 2007. It is likely that the increased VFR travel as a result of EU migration has been amplified by the concurrent liberalisation of the EU aviation market.

96. See paragraph 4.32.

* at the Continuous Survey airports, over the period 2000–2007 unless specified otherwise.

Students

4.62 Studying abroad is a form of temporary migration. It may be relatively short in duration but has the potential to lead to residual social networks and VFR travel during holiday times and after the student has returned home. Whilst studying, students may have more time and flexibility to travel, but it is also likely that they will have lower incomes, which may reduce their ability to do so.

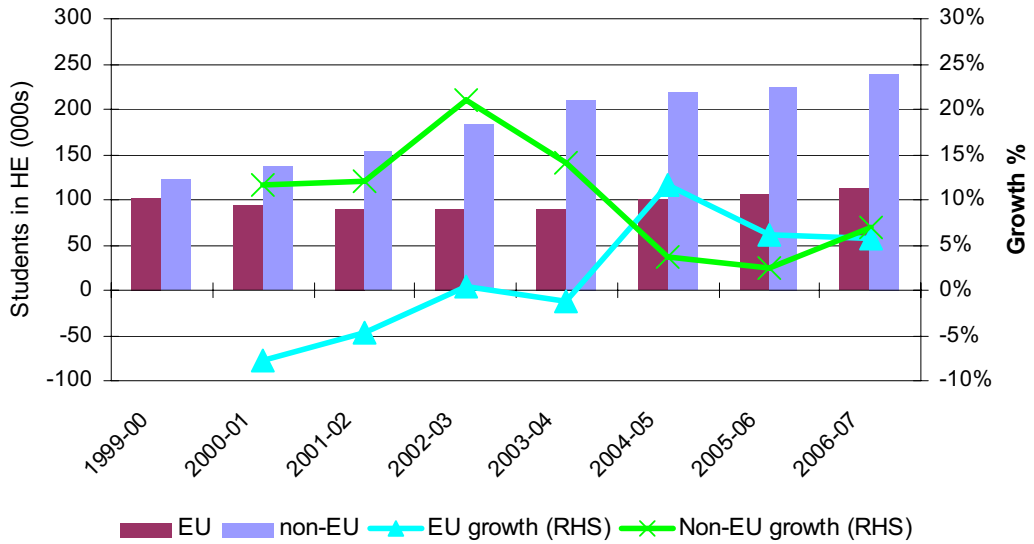
4.63 Over the last 10 years, the EU has made efforts to promote student mobility throughout the region – the EU Bologna Declaration in 1999 was adopted by 29 countries in order to make higher education systems in Europe converge toward a more transparent system by 2010. One of the stated aims of the process was to promote the mobility of students, teachers and researchers.

4.64 In February 2008, the Europe Unit[97] issued a short paper titled 'The future of UK student mobility'. This publication indicates that, in 2003, of a total higher education student population in Great Britain of 2.3m, there were 28,000 students studying abroad (of whom about one-third were in the EU) and 255,000 foreign national students studying in the UK. Worldwide, the UK is the second most popular destination for foreign citizen students after the US[98].

Incoming students to the UK

4.65 Despite higher fees charged to non-EU students[99], Figure 4.9 shows that growth in student numbers at UK universities since 1999 has come mainly from non-EU countries. It also shows that by 2006/7 there were over twice as many students from non-EU countries studying in the UK as there were EU students.

Figure 4.9 Incoming students to UK higher education, 1999-2007



Source: Higher Education Statistics Agency.

97. The Europe Unit is a body that aims to raise awareness of the European issues affecting UK higher education and to coordinate the UK's involvement in European initiatives and debates. It is jointly funded by Universities UK, the three higher education funding councils of England, Wales and Scotland, GuildHE and the Quality Assurance Agency.
98. OECD data, Directorate of Education.
99. Within the EU students pay the same fees as home students; outside of the EU rates will differ. For example in the UK, a taught Master's course may cost an EU student in the region of £3,000, but a non-EU student around £12,000 (depending on the course). Source: University College London current fees – http://www.ucl.ac.uk/current-students/money

Outgoing students from the UK

4.66 By contrast, the Europe Unit report indicates that the number of UK students studying abroad is approximately 10% of the incoming student population. Of these, around one in three go to EU destinations, and similarly around one in three incoming students are from EU countries.

4.67 As with incoming students, the destinations seeing the most growth as study locations appear to be outside the EU. The report highlighted the growing popularity of North America and Australasia as study destinations. This trend was confirmed by a further study in July 2004 by the Sussex Centre for Migration Research[100].

4.68 Although the growth in student migration seems to be mainly between the UK and non-EU countries, as with other forms of migration, it is likely that the EU links will lead to the most frequent VFR travel due to the relative accessibility of flights.

4.69 From the student population figures available[101], some rough estimates of the level of VFR traffic generated can be made. If one assumes[102] that:

- a current year EU student makes two return trips per year for the purpose of VFR, and a non-EU student makes one;
- after a three year course of study finishes a student continues to make trips for a further three years at half the previous level; and that
- outgoing students from the UK are approximately 10% of the incoming student population in 2007 and approximately one-third of both incoming and outgoing students are moving within the EU;

the estimated contribution to UK international VFR passenger numbers would be in the region of some 1.5 million in 2007.

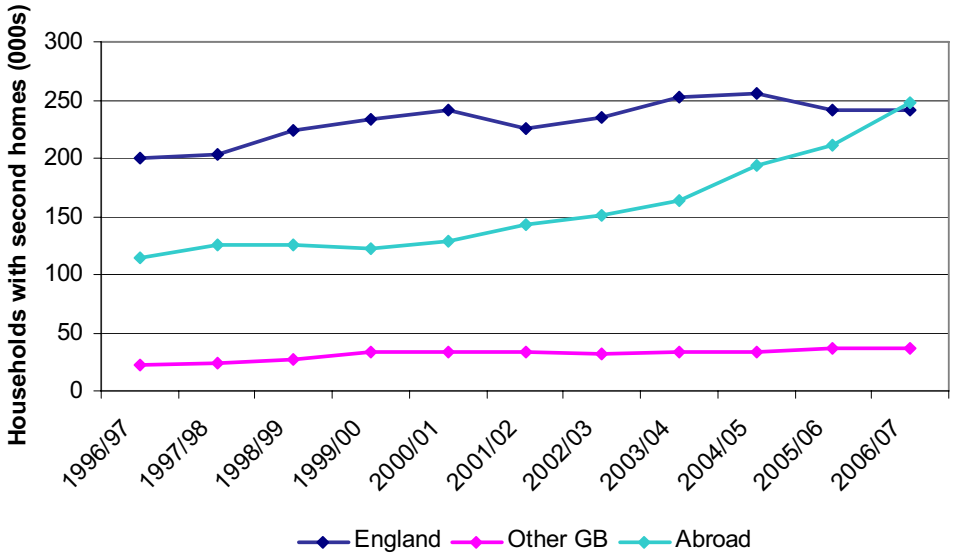
Second-home ownership

4.70 The link between emigration of UK citizens abroad and VFR traffic has already been considered. However, there are also people who migrate 'temporarily' to second-homes abroad for part of the year, and, although their trips do not count as VFR traffic, they may have friends or relatives who visit them in their second-home whose trips do count[103].

4.71 Figure 4.10 shows that there has been a marked increase in the numbers of households with second-homes abroad. The available data are from the Survey of English housing carried out by the UK ONS[104].

100. 'International Student Mobility', Issues Paper 2004/30, Sussex Centre for Migration Research, July 2004.
101. Using HESA data for incoming students, plus information from the Europe Unit publication for outgoing students.
102. This is a strong set of assumptions based on considered estimates rather than observed behaviour.
103. Friends or relatives of a second-home owner who is not there when they visit are also unlikely to classify themselves as VFR passengers.
104. The latest available data are taken from the report, 'Housing in England, 2006/7', Communities and Local Government. The data were first collected by location country in 2003/04; prior to that only the total number of homes were collected.

Figure 4.10 English households with second-homes (three-year moving average)



Source: Communities and Local Government, Survey of English Housing.

4.72 This increase is likely to have been driven by a number of factors:

- increased travel to EU countries for other purposes means increased exposure to available opportunities and a familiarity with the location;
- the increase in the value of property in the UK leading to increases in household wealth;
- access to low-cost air travel – increase in no-frills route networks, particularly to previously little-used regional airports abroad;
- liberalisation within the EU allowing freedom of movement of capital within EU countries[105] and the enlargement of the EU opening up new areas for property investment;
- sterling–Euro exchange rate, which, up until recently, made investment in the Eurozone an attractive proposition for those spending pounds sterling. However, the exchange rate had dropped from 1.6 at the start of 2000 to 1.1 in February 2009[106]; and
- UK media representation of the possibilities of investing abroad – particularly as regards opportunities in countries new to the EU.

4.73 The split of second-homes owned abroad by British households, by location country is shown in Table 4.6 – over three-quarters are estimated to be within the EU. One-third are in Spain alone, and about one-quarter in France. The total owned is estimated to have doubled between 1999/00 and 2006/07 although detailed location breakdown is not available prior to 2003/04.

105. The free movement of capital includes the rights of citizens and businesses to purchase property such as a holiday home or secondary residence in a different Member State. While free movement applies to all Member States, at the time of the accession of the new Member States, transitional periods and some exceptions were negotiated for the free movement of capital. These concern, to a highly limited extent, the purchase of property and agricultural and forest land in specific States.

106. Bank of England, monthly average spot rates.

Table 4.6 Second-home ownership abroad 2006/7 by British households

	France	Spain	Italy	Portugal	other EU	Total EU	United States	Other non-EU	Total non-EU	Total
Number of households (000's)	60	81	7	10	38	**196**	11	44	55	**248**
Proportion of GB-owned second-homes	24%	33%	3%	4%	15%	**79%**	4%	18%	21%	**100%**
Estimated growth in VFR traffic, 2000–2007	132%	193%	96%	240%	104%	122%	7%	64%	45%	83%

Source: Housing in England 2006/7, Communities and Local Government and CAA Passenger Survey, excluding international-to-international connectors.

4.74 It is likely that there is commonality between factors that have driven the increases in VFR traffic and the purchase of second-homes, along with some feedback effect whereby the increased ownership of second-homes has led to further increases in VFR. It is difficult to separate out the specific impact that second-home ownership has on VFR traffic, however, as there are only limited times-series data available.

4.75 The website www.cheapflights.co.uk gives advice to would-be second-home purchasers, with an overview of which European airports are convenient for which region, and even which airlines currently fly there[107]. The website suggests avoiding reliance on one flight a week from the UK to the destination. Added to this is the high level of churn that has been seen on some thinner routes to regional airports as airlines test out new routes and then cut those that are less profitable – which could potentially leave the new home-owner with an accessibility issue.

4.76 Press articles[108] have indicated that recent route cuts are affecting UK second-homeowners. The Times[109] estimates no-frills airlines will cut nearly 60 routes for their winter 2008 schedules, many to France, Italy and Spain. Cutting routes makes journey costs higher in terms of both time and probably money, making frequent trips less appealing. For example, in November 2007, Monarch Airlines cut its Gatwick to Granada service, meaning second-home owners in the region normally living south of London now have to fly to Malaga which is a two hour drive away, or traverse London to take the Ryanair flight from Stansted to Granada.

Statistical analysis

4.77 The following analysis uses regression modelling to quantify the potential relationships considered previously in this Chapter between VFR traffic and other factors. However, due to limitations and restrictions in the data available, the results are likely subject to a high degree of uncertainty and any inferences drawn from them should be treated cautiously. Key limitations to the data are the time period covered (a period where the time-varying factors considered have shown an upward trend), the countries included, and the reliance on survey data.

107. http://www.cheapflights.co.uk/travel-tips/buying-homes-abroad/
108. "Property overseas: Fasten seatbelts – turbulence ahead", www.telegraph.co.uk, 7 November 2008.
109. "Airline squeeze hits holiday homes", www.timesonline.co.uk, 10 August 2008.

4.78 Data from 27 countries[110] over the period 2000–2007 were used. The available data were split into EU and non-EU destinations, and the two datasets modelled individually. The analysis was undertaken through two separate types of modelling – the first looked at changes in VFR traffic over time, and the second at relative levels of VFR traffic across the countries.

4.79 The results obtained from the first stage modelling tentatively support the view that the 'experience of migration'[111] by country and the level of UK GDP are both positively related to changing levels of VFR traffic over time. Fares also appear to have an impact, although this relationship cannot be satisfactorily isolated. A summary of the model form and final coefficient estimates obtained is shown in Table 4.7 (for further details, see Annex A).

Table 4.7 Estimated fixed effects models for total VFR traffic to and from the UK to destination country

$y_{it} = u_i + b_1 x_{1it} + b_2 x_{2it}$

Where:

y_{it} = VFR passengers (thousands) between UK and country i in year t (at the five Continuous Survey airports)

u_i = individual country effect – a time-invariant constant

x_{1it} = cumulative increase in migration experience between UK and country *i* from 1999 to year *t*

x_{2it} = UK GDP (£ billions), 2003 prices

		EU (n=10)		**Non-EU (n=17)**	
Coefficient	Variable description	Coefficient estimate	p–value	Coefficient estimate	p–value
b_1	Increase in migrant experience (thousands)	7.8	0.002	0.6	0.024
b_2	UK GDP (£ billions, 2003 prices)	1.2	0.081	0.7	0.004

4.80 The models indicate a positive relationship between the experience of migration and VFR traffic (at the five Continuous Survey airports) between the UK and each country, with the increase far larger for those countries in the EU. The models estimate an increase in VFR passengers of eight for each new European migrant experience, and 0.6[112] for each non-EU migrant experience. Given that one trip equates to two passengers, this converts to an estimated four[113] trips per year generated by each UK–EU migrant (either taken themselves or by friends or family visiting them).

110. These were the countries with significant migrant flows into and out of the UK over the period. See Annex A for a full list.
111. The sum total of immigrant flows into the UK and UK national emigrant flows out on a cumulative basis since 1999 – this total is not reduced for those migrants who subsequently leave their host country – thus it gives an estimate of the number of new people who have 'experienced migration' in the period.
112. With a 95% confidence interval between 0 and 0.6 trips per year.
113. With a 95% confidence interval between 1.8 and 6 trips per year.

4.81 The models also indicate a positive relationship between UK GDP and VFR traffic levels. This should be interpreted cautiously as there is an upwards trend in both UK GDP and VFR traffic over the period; and there is also evidence in both the EU and non-EU datasets of a positive relationship between GDP and migration levels and a negative relationship between fares (which aren't included in the final model) and GDP. However, a statistically significant relationship is found in both datasets for UK GDP, and the coefficient estimates can be used to calculate country-level income elasticities of 1.0 for the EU group and 1.2 for the non-EU group (at 2007 mean group levels).

4.82 By using the traffic data from the Continuous Survey airports only, the results do not reflect the behaviour at the regional airports. However, as the regional airports have little traffic to and from non-EU countries, the non-EU model would be unlikely to change materially even with inclusion of these data.

4.83 These models consider the changing levels of VFR over time, but they cannot explain the factors influencing the relative levels of VFR by country. The key observation from these models is that the vast majority (around 95%) of the variance in VFR traffic comes from country-specific individual effects. This is supported by Figure 1.3, which showed how despite the growth from EU countries, the level of VFR traffic from, for instance, the US had remained high back to 2001.

4.84 These individual effects are estimated as constants, and are a reflection of both observable and unobservable factors, which may affect the relative levels of VFR traffic across the countries. The constancy of these estimated relative VFR levels may not hold over the long term, but it is likely to be a reasonable approximation for the period considered.

4.85 Using constant relative VFR levels as the dependent variable introduces theoretical problems which may affect the coefficient estimates made and the certainty surrounding them. However, some basic exploration using linear regression modelling indicates that, for the 27 countries considered, the relative levels of VFR traffic between the UK and a country are influenced by:

- **Membership of Commonwealth** – socio-cultural ties with the UK have a positive impact on VFR traffic. Many of the big immigrant stock countries (India, Bangladesh and Pakistan) and emigrant stock countries (Australia, Canada and New Zealand) are in the Commonwealth, and it is likely that this variable acts as a proxy for the migrant stock levels in 1999 (prior to the period of changing levels modelled).
- **Distance from London (miles)** – reflects the cost of flying in terms of both time and money, and has a negative relationship with VFR traffic. This variable is highly correlated with membership of the EU and thus there is no need for an EU dummy variable in the model.
- **Relative size and income of the country** – country-specific GDP and population variables are clearly not time-constant, but over the period in question they provide a broadly stable indicator of the differences in relative size and income of the countries. (The magnitude of the variance of these factors is far greater between the countries than within the countries across the time period, and their effect could not be estimated with statistical significance in the first stage fixed-effects model.)
- **Spain** – this country has a significantly higher level of VFR traffic than other countries in the sample that cannot be explained by the other factors considered, but is likely due to the special relationship that the UK has with Spain in terms of its popularity as a retirement destination and location for second-homes.

4.86 Whilst these results are far from conclusive, they show evidence of the expected relationships and potentially provide a useful foundation for further work in this area. Further explanation of the methodology and data sources used are covered in the annexes A and B.

Annex A Statistical Analysis

Introduction

A.1 This annex provides more detail behind the modelling work summarised in Chapter 4 (paragraphs 4.77–4.86). The panel data used in the model-building process comprises 27 countries (see Table A 1) for the period 2000–2007. Migrant flow data by country are only published by the ONS for the largest flows in each year, and this was a key restriction on the dataset used.

Table A 1 Countries used in regression model-building

EU (n=10)	Non-EU (n=17)
Belgium	Australia
Czech Republic	Bangladesh
France	Canada
Germany	China
Greece	Hong Kong
Hungary	India
Italy	Japan
Netherlands	Malaysia
Poland	New Zealand
Spain	Pakistan
	Philippines
	Singapore
	South Africa
	Switzerland
	Turkey
	United Arab Emirates
	USA

A.2 Analysis elsewhere in the study indicates that UK–EU VFR traffic has grown particularly rapidly compared with UK–non-EU VFR traffic. Splitting the data into EU and non-EU destinations, and modelling the two datasets individually, the possibility of interaction between distance from the UK and the variables under consideration is allowed for (e.g. immigration from a nearby country may lead to more frequent VFR trips than immigration from a country further away).

A.3 The analysis was undertaken in two stages:

1) investigating how changes in VFR traffic between the UK and another country over time is related to other variables that also vary over time[114]; then

114. As opposed to those factors which are constant over time, for example, distance from the UK.

2) output from the first-stage models which gives an indication of relative VFR traffic levels between the UK and the countries was considered. Although simplistic, exploratory work was conducted in order to identify those time-constant (or near-constant for the period) factors which impact upon these relative VFR traffic levels across the countries.

A.4 Neither set of models offer any contra-indications to the more discursive analysis already presented elsewhere in the study. Although intuitive and broadly in line with expectations, the conclusions drawn from this quantitative work are limited for the following reasons:

- Restricted number of countries investigated: the countries included were dictated by the availability of country-specific IPS migration data[115].
- Restricted years of data used – prior to 2000, CAA Passenger Survey data are not available at all five Continuous Airports annually. The data used span a period where all the time-varying factors have shown an upward trend – thus increasing the likelihood of spurious results appearing statistically significant.
- "Noisy" data coming from surveys: VFR traffic, fares data and migration data all come from surveys, and are subject to sampling error. This introduces sampling variability into the dependent variable making it more difficult to identify relationships with other variables – a problem which is compounded by the fact that some of the relevant explanatory variables are also only available from survey data and are subject to various restrictions and assumptions (e.g. fares and migration data).
- The inter-related nature of some of the variables: interactions between variables make estimation of the individual effects difficult.

Modelling changes over time

Methodology

A.5 Where there is substantial cross-sectional variance in panel data, there are two suitable options for model-building – fixed or random effects. The type of model used will depend on the views held about the behaviour of the country-specific intercept terms[116].

A.6 A random effects analysis assumes that the sample of countries used is drawn randomly from the larger population of all countries in the world, and that the regression could be informative for all countries. A fixed effects model assumes that the model is specific to the sample of countries used. Ideally, a statistical Hausman test would be performed to ascertain the most appropriate model. However, the difference in the coefficient vectors was not positive definite, (likely due to the small sample size) meaning this test could not be carried out.

A.7 In the absence of the Hausman test results, other evidence points towards the use of a fixed effects model. In both datasets, the estimated country-specific intercepts show correlation with the regressors (of around 0.3). It is reasonable to consider that the magnitude of the migrant flows are correlated to the country-specific intercepts, with those countries with a relatively higher level of VFR traffic likely to also generate higher levels of migrant stocks.

115. IPS – MN33, tables 3.20abc, ONS. The data is only published for the 'Top 10' countries in each year, hence data is only available for those countries with significant migrant flows.
116. There is another possibility when using panel data, which would be to build a 'pooled' model which assumes no individual country effect. Given the nature of the data, this was not considered appropriate.

A.8 Further, given that the sample consists only of those countries which have experienced large migrant flows with the UK, a fixed effects model seems more appropriate with the intercept terms treated as specific to the countries rather than as additional random disturbances. The implication of using fixed effects models is that the results are specific to the countries considered rather than to all the countries in the world.

A.9 It is likely that some of the assumptions made in the model as defined above are violated due to the nature of the data.

- Heteroskedasticity across the panels (countries) – that is, the variance of e_{it} will be different depending on the country – is likely given that the mean passenger numbers are so different by country.
- Serial correlation is also likely to be a problem within the countries, given the nature of the data.

A.10 Both of these problems were tested for during analysis in Stata using the commands 'xtserial'[117] and 'xttest3'[118] and problems found. To allow for this, the standard errors of the coefficients within the fixed effects models were calculated using the Huber-White robust variance estimator that allows for both panel-wise heteroskedasticity and serial correlation within the panels.

A.11 The robust estimator is valid in the presence of any heteroskedasticity or serial correlation in the error terms (e_{it}), provided that T (number of time periods) is small relative to N (number of countries), which is the case here. The robust estimator (generally) has the effect of increasing the standard errors of the coefficients estimated.

117. 'xtserial' tests for serial correlation of residuals in a linear panel data model by performing a Wald test on the null hypothesis of no serial correlation. Where there is no serial correlation, the residuals from the regression of the first-differenced variables should have an autocorrelation of -0.5. Thus the coefficient on the lagged residuals in a regression of the lagged residuals on the current residuals should be -0.5. See Drukker (2003) and Wooldridge (2002) for further details.

118. 'xttest3' – although the errors may be homoskedastic within the countries, it is possible the variance will differ across countries ('groupwise heteroskedasticity'). Given the variance in their relative magnitude, this is likely. 'xttest3' calculates a modified Wald statistic for groupwise heteroskedasticity in the residuals of a fixed-effect regression model. 'Residual diagnostics for cross-section time series regression models' – Christopher F. Baum, The Stata Journal (2001), Number 1, pp. 101–104.

Summary of Model form: fixed effects panel data regression

$y_{it} = u_i + bx_{it} + e_{it}$
e_{it} = error terms, assumed distributed independently and normally with mean 0, variance $\sigma_{e.}$
i= 1,2, ...27 (the countries considered)
t = 2000, 2001, ...2007 (the years considered)

estimated by:
$y_{it} = u_i + bx_{it}$

Where:
y_{it} = number of passengers to/from country i at time t
u_i = individual country effect - a country-specific, time-invariant constant. Has variance $\sigma_{u.}$
b = coefficients for variables x_{it}
x_{it} = independent variables related to country i at time t

This type of model effectively removes the country-level means from both sides of the model, and thus regresses:

$(y_{it} - mean(y_i)) = (u_i - u_i) + b(x_{it} - mean(x)_i) + (e_{it} - mean(e_i))$

Models were estimated using xtreg in Stata using fixed effects, with robust standard errors (to allow for serial correlation and heteroskedasticity in the error terms).

A.12 Linear regression models were built that attempt to explain the variation in VFR traffic to and from the UK over the period 2000–2007. Relative differences in absolute VFR volumes between countries are absorbed into a country-specific constant. Therefore, a model will be a good fit if the country's *y* above or below the country mean is significantly correlated with the country's individual *x* values above or below the country's mean *x* values.

A.13 The country-specific constant allows for heterogeneity between the countries – acknowledging that there are both country-specific unobservable factors along with country-specific time-invariant factors which cannot be estimated using a model of this form. An example of a country-specific time-invariant factor is a dummy variable denoting whether a country is a member of the Commonwealth. This had to be dropped from the models as it does not vary over time for any of the countries. However, an EU dummy could potentially be included as some of the countries became members during the time period.

A.14 Modelling was carried out using data in absolute numbers in order to isolate the average effect of migration, by individual migrant experience, on total VFR traffic – with the assumption that the existing level of migrant stock would not impact upon the frequency of travel for a new migrant (or his/her associated friends or relatives)[119].

A.15 Also, by using the data in levels, the assumption is made that income elasticity varies by income level. There is scope for further work, which has not been pursued here, in exploring the assumptions made and potentially devising further models to test a different set of assumptions.

119. Further, the prevalence of zero within the migration data presents theoretical difficulties to transforming these data.

Dependent variable

A.16 The dependent variable modelled was total VFR traffic (combining both UK and foreign residents) by country of origin/destination. These data were obtained from the CAA Passenger Surveys 2000–2007 at the Continuous Airports (Heathrow, Gatwick, Manchester, Luton and Stansted). In earlier years, surveys were not conducted annually at all five airports. The CAA Passenger Survey was deemed the most appropriate passenger data to use because passenger numbers are weighted at a route level, thus generating more accurate totals by destination.

A.17 Passenger origin/destination was defined as the airport at which the interviewee ended their journey. For some passengers, whose journey involves a change of plane, this will not be the same as the destination airport (or country) of the flight which they were boarding when interviewed. Passengers who arrived at the survey airport from an international origin and flew on to an international destination ('international-to-international connectors') were excluded, since these passengers are likely to have different drivers of demand to VFR passengers travelling to and from the UK, and a wide choice of interline airports.

Potential explanatory variables – time-varying

A.18 The explanatory variables considered as potential drivers behind changes in the level of VFR traffic were:

- migration experience (cumulative foreign inflows and UK outflows from 1999);
- fares (return economy fares, 2007 prices);
- UK GDP (sterling, 2003 prices) and country-specific GDP (international dollars at purchasing power parity, 2007 prices);
- EU accession (dummy variable);
- number of British households with a second-home abroad.

Further details of these data, their sources and the limitations in using them are shown in Annex B.

Model-building

A.19 For both the EU and non-EU models, the three factors that appear to have a significant effect on changes in total VFR traffic are the change in migrant stocks, UK GDP and fares. Table A 2 shows the correlation coefficients of the key variables considered in the model-building process. For the EU dataset in particular, the high correlation between fares and the other variables, along with the general trends observed, means that the effect of fares in isolation is not found to be statistically significant using the data available for migration and UK GDP.

Table A 2 Correlation of key variables

	EU dataset (n=10)			Non-EU dataset (n=17)		
	VFR traffic	Migration experience	UK GDP	VFR traffic	Migration experience	UK GDP
Migration	0.8			0.5		
UK GDP	0.3	0.4		0.1	0.4	
Fares	-0.5	-0.4	-0.6	-0.1	0.1	-0.3

A.20 Table A 3 summarises the models built for both datasets. In part, the final model form was established with consideration for the stability of the coefficients estimated and how they varied as the model was respecified, and also with a view to building a comparable model for both datasets.

Table A 3 Summary of stage one model-building – comparison of EU and non-EU models

Model	**EU (n=10)**	**Non-EU (n=17)**
Model a: Fares, change in migrant experience and UK GDP	UK GDP not significant at the 5% level.	Fares not significant at the 5% level.
Model b: Fares, change in migrant experience	Similar coefficient for migration whether UK GDP or fares is included as the 2nd explanatory variable. Both UK GDP and fares when used in a 2 variable model with migration are statistically significant at 10% level.	Model less stable than with EU – using a 2 variable model with either fares or UK GDP gives a rather different coefficient for migration, but fares not found to be statistically significant when used in a 2 variable model.
Model c (final): Change in migrant experience and UK GDP	Similar coefficient for migration whether UK GDP or fares used.	A 2 variable model using UK GDP gives a similar migration coefficient to using all 3 variables.

A.21 The final models for both datasets indicate that the vast majority of the variation still lies within the country-specific terms – particularly for the non-EU data.

Final models – time-varying factors

The models take the form:

$v_{it} = u_i + b_1X_{1it} + b_2X_{2it}$

Where:

v_{it} = VFR passengers (thousands) between UK and country *i* in year *t*

u_i = individual effect for country *i*

X_{1it} = cumulative increase in migration experience between UK and country *i* from 1999 to year *t*)

X_{2it} = UK GDP, billions international dollars at purchasing power parity 2007 prices

	EU (n=10)			Non-EU (n=17)		
	Coefficient estimate	p–value	95% confidence interval	Coefficient estimate	p–value	95% confidence interval
Increase in migrant experience (thousands)	7.8	0.002	3.5 – 12.0	0.6	0.024	0.1 – 1.1
UK GDP (£ bns)	1.2	0.081	-0.2 – 2.6	0.7	0.004	0.3 – 1.1
Sigma_u	698.1			881.8		
Sigma_e	176.2			73.5		
Rho = (fraction of variance due to u_i)	0.94			0.99		

A.22 The models indicate a positive relationship between the experience of migration and total VFR traffic between the UK and each country, with the increase far larger for those countries nearer to the UK. The models estimate an increase in VFR passengers of eight for each new European migrant experience, and 0.6 for each non-EU migrant experience. Given that one trip equates to two passengers, this converts to an estimated four trips per year generated by a UK–EU migrant (either taken themselves or by friends or family visiting them). Both of these coefficient estimates have a 95% confidence interval that is mainly above zero in both models, again indicating that a positive relationship is likely.

A.23 By modelling using absolute migrant stock levels (rather than growth rates), the model implicitly assumes that the behaviour of a single migrant is not related to the existing levels of migrant stock from or in that country.

A.24 It is unlikely that a migrant who has returned home will continue to generate the same frequency of VFR trips indefinitely, but it is likely that the time series used here is too short to illustrate this.

A.25 The models indicate a positive relationship between UK GDP and VFR traffic levels. Interpretation of these coefficients for GDP (b_2) should be cautious as there is evidence in both the EU and non-EU datasets of a positive relationship between GDP and migration levels, and a negative relationship between fares and GDP, both of which make estimates of the effect of GDP in isolation more uncertain. Coupled with this is the upward trend of both UK GDP and VFR traffic over the period.

A.26 As estimated from the 2007 means[120], the income elasticities for the two country groups are calculated as 1.0 for the countries in the EU group and 1.2 for the countries in the non-EU group. These estimates are only based on the countries modelled and the results cannot be reliably extrapolated over an expanded group of countries without further analysis. However the results are interesting in that they are noticeably lower than the income elasticities of 1.5–1.8 estimated for all leisure passengers for the period 1993–2003 in a previous CAA study[121].

A.27 For the countries considered, these income elasticity estimates indicate that, compared with other leisure traffic, VFR traffic is less responsive to changes in income over time. And, similar to the leisure passenger income elasticities estimated previously, the European elasticity is lower than that for non-European traffic.

A.28 The results obtained support the view that migration[122] and growth in income are both positively related to the changing levels of VFR traffic. To an extent, fares will also have an impact, although this relationship is harder to uncover – particularly within the EU where migration and fares have both likely been substantially affected by EU enlargement in 2004.

A.29 However, the most important observation from this model is that the vast majority (around 95%) of the variance of the dependent variable comes from the country-specific individual effects (which are time invariant), which these models do not attempt to explain. These individual effects are a reflection of both unobservable and time-constant factors which may all affect the relative levels of VFR traffic across the countries and are constant over time. This property of constant relative VFR levels may not hold over the long term, but it is likely to be a reasonable approximation for the period considered.

120. Taking total observed VFR traffic for both groups in 2007 and dividing by the number of countries, i.e. for the EU group, n=10; and for the outside-EU group, n=17.
121. Demand for Outbound Leisure Travel and its Key Drivers, CAA, December 2005
122. As measured by the 'experience of migration', i.e. those people who have migrated at some point, rather than current migrant stocks.

Modelling the country–specific individual effects

Dependent variable

A.30 A linear regression model was used to explore the impact of various factors on the levels of the relative levels of VFR traffic estimated by the country-specific individual. This modelling took no account of the uncertainty inherent in the estimated individual effects and thus will tend to underestimate the standard errors of the coefficient estimates. However, the estimates do, at least, provide useful pointers to the relationships present.

Potential explanatory variables – time constant

A.31 The explanatory variables considered to be potential drivers behind the relative levels of VFR traffic by country were:

- Commonwealth membership in 2007 (dummy variable – 0 or 1);
- Distance (estimated as Great Circle Distance miles from main country airport to London Heathrow);
- EU membership in 2007 (dummy variable – 0 or 1);
- Relative size and income of each country – although these are not time-constant factors, over the short period looked at, the distribution of these over the countries is likely to be fairly stable.
  - Country-specific GDP 2007 in international dollars at purchasing power parity[123];
  - Country-specific population 2007[123] ;
  - Gini coefficient (a measure of the equality of wealth distribution within the country)[124].

Model building

A.32 Linear regression modelling indicated the following explanatory factors are significant in explaining the variance between country-specific intercepts: Commonwealth membership, distance from London, the relative size and income of the countries (country GDP and population for 2007 were used as indicators for this). However, an examination of the plot of residuals indicates that Spain is an outlier, with a particularly high relative level of VFR traffic. Although the USA is also an outlier (in terms of its intercept value), it is fits reasonably well using the models.

A.33 The need for a dummy variable for Spain indicates that it has a particularly large VFR market that is not clearly related to the other factors investigated. This is likely to be a combination of factors that make it a particularly attractive leisure destination, such as climate, coastline and historical popularity as a leisure destination.

A.34 A key variable in the first model (looking at changes in VFR over time) was the change in migrant stocks in each year over the period. It would have been preferable to have the opening migrant stocks, i.e. the immigrant and emigrant balances in 1999, but these are not readily available. Thus, the effect of this group is contained within the country-specific intercepts, and it is reasonable to suggest that opening migrant stocks would be highly correlated with the data that we have been able to use. In particular, membership of the Commonwealth was identified earlier in this study to as related to the largest groups of migrant stocks.

123. WEO database 2008. Although country-specific GDP and population were previously considered in the context of the original fixed effects model, it is likely that changes over the 8 years from the mean were too small relative to the effect of the mean of these variables for them to be significant.
124. CIA – The World Factbook

Annex B Data Used in Regression Modelling

Migration experience

B.1 Ideally, migrant stock data (stocks of foreign nationals living in the UK by country of origin, and stocks of UK emigrants living abroad by country of destination), would be used. However, these data are not available by year across a wide range of countries, and there is no viable method of imputation. But, given the nature of the model, migrant stocks in 1999 can be treated as time-invariant (and thus the effect of these is contained within the country-specific intercept term) and flow data over the period 2000–2007 used to measure the change in migrant stocks instead.

B.2 The source for these data was the table 'Migratory flows by place of last/next residence' (table 3.20abc, MN series, ONS). These tables give totals estimated from the IPS for overlapping two yearly periods for the following categories:

- foreign citizens immigrating to the UK;
- UK citizens immigrating to the UK (presumably returning from a temporary residency abroad);
- UK citizens emigrating from the UK; and
- foreign citizens emigrating from the UK (presumably leaving after a temporary residency in the UK).

B.3 There are a number of points to consider regarding these IPS data:

- These data will include survey sampling errors which will add to the variances in the model.
- In order to reach total international migration (TIM) figures, the ONS performs further adjustments to IPS figures. The adjusted TIM figures are not published in detail by last/next residence so IPS data have been used here.
- The IPS figures are published as two-year totals (e.g. migrants in 1999 + 2000). Here these totals were divided by two and allocated to the second year in the pair. Thus some sort of 'smoothing' effect was introduced to the data.
- The IPS publish country-level figures only for the ten largest flows in any two-year period. Therefore, as migrant numbers have increased over time, the minimum flow recorded has tended to increase over time.
- Where a country does not feature in the top 10 in a given year (but does at some point over the period), the imputed flow for the year was zero – this creates additional variance in the data, and is likely to understate the real flow in the year.

B.4 Various forms of the migration variable were constructed – the least restrictive form was of four increasing balances – foreign citizen inflows to the UK, foreign citizen outflows, UK citizen inflows and UK citizen outflows. In both the EU and non-EU models, only the accumulated foreign inflows to the UK and accumulated UK national outflows were found to be significant at the 10% level, and with broadly similar coefficients (particularly in the EU dataset). Thus these two variables were combined to generate a 'migration experience' variable.

B.5 Rather than being a measure of the stock of 'current' migrants, the migration experience variable is a measure of the number of people who have immigrated or emigrated, regardless of whether they have subsequently returned home. This allows for the possibility of VFR journeys as a result of relationships built during the period

of migration, even after the migrant has returned. No account is taken of migrant stock who have died, or the residual effect of prior migration on VFR travel to diminish over time. However, over a short time period, both these factors are likely to have a relatively small impact.

Fares

B.6 The fares data used were taken from the CAA Passenger Survey for the Continuous Airports between 2000 and 2007. A number of restrictions were placed on the data to facilitate the fares calculations:

- Unweighted data were used.
- Only fares reported as paid in GBP were included, which means foreign-paid fared have been excluded from the calculations. We assume that these will generally move in line with the sterling equivalents.
- Only fares for the ticket type 'Economy full fare' and 'Economy other' have been included.
- Return fares have been used, and where necessary it has been assumed that a single is equivalent to 50% of a return fare – (the majority of interviewees with a return fare in any year was generally around 95%).
- Fares for each year were expressed in 2007 prices, a conversion being made from the survey data using the annual RPI index.

UK GDP and country-specific GDP

B.7 UK GDP in sterling at 2003 prices was obtained from the ONS (data series ABMI). For other countries, GDP at Purchasing Power Parity (PPP) in current international dollars was sourced from the World Economic Outlook (WEO), April 2008 database[125].

B.8 Country-specific GDP was not found to be a significant explanatory variable. It is likely that the magnitude of variation in this variable over time relative to the difference in comparative sizes across the countries is small. Therefore, this variable was considered again when looking at time-invariant factors as an indicator for relative income and size of a country.

EU accession

B.9 In the EU model, a dummy variable which captured the joining of the accession states in 2004 was included. However, it was not found to be statistically significant, and it is likely that the effect of accession is incorporated into the fares and migration variables.

Second-homes abroad

B.10 There are only limited data on UK ownership of homes overseas. The available data are from the Survey of English Housing carried out by the UK ONS. Although data have been collected in total for a number of years, the location of second-homes has only been asked since the 2003/04 survey, and is published as a percentage split of the total. As the total number of second-homes abroad are published for other years, and assuming the same distribution across locations, the actual number of houses prior to 2003/4 can be imputed. However, the assumptions made in order to carry out the imputation will certainly have reduced the variability one might expect to see in the actual data on location of second-homes, if they were available.

125.The PPP rate between two countries is the rate at which the currency of one country needs to be converted into that of a second country to ensure that a given amount of the first country's currency will purchase the same volume of goods and services in the second country as it does in the first. In these data, GDP is expressed in US dollars at PPP. By using consumer inflation data, also from the WEO database, these GDP figures were expressed in 2007 prices.

B.11 Discussion earlier in the study indicates that a number of factors impacting on VFR traffic will also have impacted on the growth in ownership of second-homes (for instance, increased route networks operated in the EU). This is reflected in the positive correlation seen between VFR traffic and the imputed second-homes data.

B.12 However, given the extent of the imputation necessary to generate this variable (over both time and country) it was not considered robust enough to be included in the regression analysis, although the imputed data showed a high correlation with VFR traffic (0.7 in the EU dataset).

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Annex C EU Member States

C.1 For the purposes of this study, the following definitions are used to refer to different groupings of the 27 EU countries:

EU15	EUA8	Other EU
Austria	Czech Republic	Malta
Belgium	Estonia	Cyprus
Denmark	Hungary	Bulgaria
Finland	Latvia	Romania
France	Lithuania	
Germany	Poland	
Greece	Slovakia	
Ireland	Slovenia	
Italy		
Luxembourg		
Netherlands		
Portugal		
Spain		
Sweden		

Note: For the purposes of this study domestic traffic and thus the UK is excluded.

C.2 EU15 refers to those countries (aside from the UK) that were all members of the EU by 1995. No further enlargement took place until 2004 when the EU expanded to include the EUA8 countries plus Malta and Cyprus. Bulgaria and Romania joined in 2007 bringing the total number of member states (including the UK) to 27.

C.3 Where all these countries are referred to in aggregate, the term EU27 is used.

C.4 Where comparisons are made over time, all 27 current members of the EU are included in historical figures.

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