UK Tourists, The Great Recession and Irish Tourism Policy

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Abstract: Inbound tourism to Ireland fell sharply in 2009 and 2010. Visits to Ireland from the UK, the dominant country of origin of visitors to Ireland, did not fall faster than UK visits elsewhere. We use micro-data for UK travellers to estimate price elasticities of tourism demand for various market segments. The proposed reduction in the travel tax, and the reduction in the VAT rate for "tourism goods and services" would lead to a modest increase in visitor numbers and expenditure. However, the increase in expenditure is small compared to the foregone tax revenue.

Key words: tourism demand, price elasticity, United Kingdom, Ireland

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1. Introduction

Like many sectors of the Irish economy, tourism was hit hard by the Great Recession. Between 1985 and 2008, the number of international visitors to the Republic of Ireland rose from 1.9 million to 8.5 million visitors per year, a growth rate of 6.7% per year. Between 2008 and 2010, the number of visitors fell to 6.0 million, a shrink rate of 15% per year. The government of Ireland is duly concerned. The VAT rate on "tourism" products was lowered from 13.5% to 9%, and the aviation tax was lowered from €10 to €3 (and may be reduced further). What is the impact of these measures?

Ireland, as the UK's closest neighbour and one of their main trading partners, is a key tourist destination for UK residents. 2010 estimates place the revenue generated by overseas visitors in Ireland at €2.7 billion, 32% of which is attributable to UK tourists (Failte Ireland 2011). Figure 1 shows the total number of international visitors over the period 1985-2010. It also shows the origin of the visitors. Not surprisingly, British tourists are the largest group. Their market share is large, but falling. In the second half of the 1980s, 6 out of 10 visitors were from Great Britain. In 2010, 45% of visitors were Brits. Figure 1 reveals that the market share of Great Britain in Irish tourism started to fall in 2003. In terms of the trend in market shares, 2009 and 2010 were not exceptional.

As visitors from Great Britain continue to dominate tourism in Ireland, we study their behaviour in this paper.[1] We specifically focus on the question of prices and price elasticities. This requires detailed data, which are more easily obtained and analysed for a single country.

Although there is a vast literature on tourism, the number of studies that use micro-data to estimate a demand function is not that large, and there are only a few papers on the demand of UK tourists. Our data source is the International Passenger Survey, which has been extensively used to study migration (Findlay 1988) and the spread of diseases (Phillips-Howard et al. 1990). Other studies use these data to study the effect of climate and weather (Agnew and Palutikof 2006;Maddison 2001), to forecast tourist numbers and travel patterns (Ashley 1987;Graham 2000;Grubb and Mason 2001), or to analyse the impact of shocks (Coshall 2005). (Bojczuk 2008) studies the competition between coach and air trips to Poland. (Lyssiotou 2000) estimates a demand system, but is primarily interested in habituation. (Njegovan 2006) also estimates a demand system, with price and cross-price elasticities of airfares and other expenditure abroad and at home. Below, we also estimate price elasticities of tourism demand, segmenting the market by trip purpose and duration, and focusing on Ireland as a destination.

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[1] or rather, we study UK tourists; where Irish statistics count visitors from Great Britain, UK statistics count departures from the UK.

The paper continues as follows. Section 2 presents the data used and the results of the econometric analysis. Section 3 uses these findings to explore the implications for Ireland of recent tax changes. Section 4 concludes.

2. Data, methods, and results

2.1. Data

The main source of data is the International Passenger Survey[2] data by the UK Office of National Statistics. International visitor data to Ireland were taken from the Central Statistics Office.[3] We obtained the number of visits, expenditures at destination and air fares to 52 countries for 11 years (1996-2010). Exports from the UK were provided by HM Revenue and Customs.[4] Area and GDP per capita of each destination country was obtained from the CIA Fact Book.[5] The distance between London and the capital city of each destination country was calculated as the great circles distance.

2.2. Methods

The average cost of a visit to each destination country was calculated by dividing the total expenditure at destination by the total number of visits. The average air fare from the UK to each destination country was calculated for each of the observed years and added to the average expenditure. The result is an estimate of the average cost of an entire trip abroad. The prices were then adjusted for inflation.[6] Two simple price indices were calculated. One compares the average costs for visits to Ireland over time. The other compares the weighted average of the average costs for visits to all other destinations, with visitor numbers serving as weights.

Price elasticities were calculated using univariate regression. This was done separately by purpose, trip length, and destination. Furthermore, more complete demand models were estimated to ascertain the robustness of the estimated price elasticity.

The following two demand equations were estimated:

$$\ln(V_i) = \alpha + \beta_1 \ln(P_i) + \beta_2 D_i + \beta_3 A_i + e_i \qquad\qquad (1)$$

$$\ln(V_i) = \alpha + \beta_1 \ln(P_i) + \beta_2 \ln(EX_i) + \beta_3 \ln(G_i) + e_i \qquad\qquad (2)$$

where: V_i is the number of UK tourists travelling to the analysed destination countries; P_i is the average price of the trip including travel costs; D_i is the distance from the UK to the capital city of the destination country; A_i is the area of the destination country; EX_i is the

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[2] http://www.statistics.gov.uk/statbase/Product.asp?vlnk=14013
[3] http://www.cso.ie/statistics/TourismandTravel.htm
[4] https://www.uktradeinfo.com/index.cfm?task=data
[5] https://www.cia.gov/library/publications/the-world-factbook/
[6] The prices were adjusted for inflation using the ONS Consumer Price Index;
http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-223807

value of exports from the UK to the destination country; G_i is GDP per capita adjusted for purchasing power parity in the destination country.

2.3. Descriptive statistics

Figure 2 shows that steady growth occurred in UK outbound tourism over the period 2001-2006. A downward trend developed in the subsequent years which may be attributed to the Great Recession. UK outbound tourism fell by 11% per year between 2008 and 2010. Outbound tourism to Ireland fell by 14% per year (15% according to the Irish numbers; cf. Figure 1), suggesting that Ireland lost competitiveness. Interestingly, total outbound tourism fell by 15% in 2009 and by 6.3% in 2010; tourism to Ireland fell by 9.5% in 2009 and by 18% in 2010. A survey comparing consumer costs between 18 major international cities indicates that Dublin's ranking improved from sixth most expensive to ninth most expensive between 2009 and 2010 indicating that the capital city improved its cost competitiveness (Forfas 2011). With competitiveness now improving due to internal devaluation taking place within Ireland, the downward trend in inbound tourism figures can hopefully be reversed in the future. Tourism figures were not aided by the particularly bad weather conditions in 2010 combined with the ash cloud resulting from the eruption of an Icelandic volcano causing the cancellation of many flights.

Table 1 shows the market share of Ireland in UK outbound tourism by trip duration and by trip purpose. Due to the close proximity, Ireland is a particularly important destination for short trips. While the Irish market share was around 11-12% (of expenditure) for 1999-2009, it fell to 10.7% in 2010. UK tourists visiting friends and relatives (VFR) in Ireland comprise the most important contribution in terms of expenditures.[7] Business and holiday tourists are second and third respectively. Ireland maintained its market share in each segment in 2009, but VFR and holidays fell sharply in 2010.

Figure 3 shows the price index of holidays in Ireland and holidays elsewhere. Table A1 has the data. Tourism prices in Ireland roughly track those in the rest of the world, except in 2008 when Irish prices jumped 17% (compared to 7.9% elsewhere). After that, Ireland cut its prices sooner and faster (-7.0% per year versus -6.2%) than competing destinations. Figure A1 in the appendix shows the fluctuations in the UK sterling/euro exchange rate over the decade from 1999-2009. The weakness of the pound in recent years, particularly from 2007 onwards, may have contributed to the decline in visits to Ireland. The Tourism Barometer report (Failte Ireland 2011) warns that Ireland has developed a reputation as an expensive destination in the eyes of UK tourists and that such a label may be difficult to lose.

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[7] Note the IPS is based on residence in the UK. Many of these visitors may be Irish working or studying in the UK.

Failte Ireland statistics[8] show that the arrival of UK tourists to Ireland was shared equally among air and sea in 2000. Since then with the help of ever decreasing air fares, the fraction of passengers traveling by air rose to 84% in 2008. This point illustrates the importance of air travel as a source of revenue especially with regard to the UK market.

2.4. Regression results

Table 2 reports the price elasticity for holiday and business trips to all destinations. Both trip purposes are price inelastic but business trips more so. This result is intuitive as business trips are generally deemed more necessary and the costs are generally borne by a company rather than an individual. Price elasticities for different trip durations were also estimated. The results in Table 2 indicate that shorter trips are significantly more price sensitive. As short trips dominate for Ireland, its price elasticity is fairly high too.

Table A1 compares the price elasticities for a handful of countries, distinguishing between holiday and business purposes. In most cases, visits for the purpose of a holiday are significantly more price sensitive than trips for business purposes. For example, UK business tourists to Finland have a price elasticity of 0.72 while holiday tourists have a price elasticity of 1.73. The only exception is Poland with business trips more price elastic than holiday trips.

Table 3 displays the results of the estimated demand models and highlights the factors affecting the choice of destination for UK business tourists. The two models suggest that business tourism is price inelastic with an approximate value of 0.5. Table 3 reports that distance has a negative effect and area a positive effect on the level of business tourism. These findings are in line with the gravity model of trade in international economic literature (Tinbergen 1962). The second model demonstrates the importance of exports and income per capita. UK tourists are more likely to travel to countries to which they export goods and services. The level of imports from the destination country to the UK proved to be insignificant suggesting that the majority of business trips are undertaken in search of export contracts as opposed to sourcing imports. GDP per capita of the destination country has a negative effect perhaps signifying that business travel to poorer countries is more beneficial.[9] Most importantly, Table 3 shows that the univariate regressions (Table 2) do not bias the price elasticity estimates.

3. Implications for Ireland

Table 4 shows the impact of an abolition of the €3 travel tax. Using the estimated price elasticity of Table 2, removal of the tax would have resulted in approximately 34,000-51,000 additional UK tourists in Ireland in 2010. This is a modest increase: 0.4-0.9%.

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[8]
http://www.failteireland.ie/FailteCorp/media/FailteIreland/documents/Research%20and%20Statistics/Tourism%20Facts/2009/British_Visitors_and_Holidaymakers_1999-2009.pdf
[9] This may be in search of new markets etc.

These tourists would have spent an additional €9-16 million. The increase in producer surplus and tax revenue would be a fraction of this. However, the lost tax revenue amounts to €16 million. The abolition of the travel tax thus results in a net welfare loss for the Republic of Ireland, and in a net loss for the exchequer.

As taxes distort the market, the abolition of the travel tax must have a larger effect on consumer surplus, but these consumers are UK residents.

This result is intuitive, and independent of the exact assumptions. The travel tax is a fraction of the total air fare; and the air fare is a fraction of total travel costs. Therefore, a modest change in the travel tax (€3, the price of a cup of coffee at the airport) will have a modest impact on traveller numbers. With demand so price inelastic, air travel is a reliable source of tax revenue.

If the price elasticities in Table 4 are multiplied by a factor 1.9, then the change in tourism expenditure is greater than the change in tax revenue. If producer surplus and tax revenue are 10% of tourism expenditure, then the price elasticities in Table 4 have to be multiplied by a factor 19 for the abolition of the travel tax to improve welfare in Ireland.

Table 5 repeats the analysis of Table 4 for a reduction of the VAT rate (from 13.5% to 9.0%) for accommodation, restaurants, and recreation. This reduces prices by 4%, but as these expenditures make up about half of total tourist expenditures (see Table A3), the cost of a holiday in Ireland falls by 2% only. We assume that the VAT reduction is passed on to customers, and that customers do not change the composition of their expenditure. These assumptions are wrong, but may cancel each other. Although the VAT reduction is effective from July 2011 onwards, we here consider the effect it would have had on 2010 tourism.

The VAT reduction has a bigger effect on holiday costs than the travel tax abolition. Still, trip numbers and tourism revenue increase by a modest 1.1-1.7%. Tourists would have spent €20-34 million less in 2010 had the VAT been left unchanged. This compares to forgone exchequer revenues of €43 million.[10] The reasons are as above.

4. Discussion and conclusion

In this paper, we consider the impact of recent and proposed tax reforms on the UK demand for tourism in Ireland. The UK is by far the largest source of visitors to Ireland, and Ireland is the largest tourist destination for UK tourists. Visitor numbers to Ireland have dropped sharply. The main reason is that tourism numbers have fallen everywhere, although Ireland has also lost market share in the UK holiday and visiting friends and family segments. Using a pooled travel cost model, we estimate price elasticities of UK tourism demand for various

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[10] Note that this figure omits the forgone revenues from recreation spending by Irish residents.

market segmentations. Short trips are more sensitive to changing prices than long trips, and holiday travel is more price sensitive than business travel. We apply these estimates to assess the impact of the abolition of the travel tax (proposed but not enacted) and the reduced VAT rate for tourism products (enacted). We find that the impact is small on total trip costs and hence on visitor numbers and expenditures. The impact of tax revenue is small too, but larger than the impact on visitor expenditures (let alone on the taxes and profits generated by that expenditure). A reduction of taxes on visitors is thus a net transfer from Ireland to the United Kingdom.

Tourism tax breaks are thus comparable to export subsidies: Although the sector benefits from increased visitor numbers (export), this comes at the expense of the taxpayer. The trading partner benefits from lower prices.

Although the analysis here is limited to UK visitors, the same results would obtain for visitors from further afield. The travel tax has a smaller effect as it is a smaller proportion of the total air fare, and as people who stay longer are less sensitive to price. The VAT reduction probably has a larger effect as the length of stay is longer for visitors from further afield (although travel costs are higher too). However, also in this case, the price change is less than 2%.

Therefore, it appears that the Irish government is wrong to seek to stimulate inbound tourism through tax breaks. While effective, the costs exceed the benefits. It would be better, in fact, to increase travel taxes and VAT for tourism products. That would hurt visitors and the tourism industry, but it would benefit the general population.

Table 1. Irish market share (%) of UK outbound tourism expenditure by duration of visit and purpose

	1-3 nights	4-13 nights	14-27 Nights	28-90 nights	3-6 months	6-12 months	Business	Holiday	Study	VFR
1999	12.13	5.50	1.52	1.42	1.48	0.52	5.20	3.68	0.77	8.95
2000	11.92	4.51	1.22	1.00	0.89	0.08	4.84	2.88	0.39	8.70
2001	11.42	4.40	1.24	1.49	1.80	0.20	4.67	2.58	0.23	9.24
2002	12.63	4.47	1.17	2.44	0.41	0.26	5.31	2.72	0.32	9.06
2003	12.29	4.49	1.15	1.91	1.34	0.00	5.31	2.52	0.87	9.68
2004	12.15	4.33	1.02	1.36	1.43	0.00	4.75	2.62	0.40	8.84
2005	12.16	4.23	0.86	1.11	2.44	0.00	4.53	2.67	1.39	8.08
2006	11.22	4.07	1.00	1.44	0.30	0.37	4.29	2.62	2.02	8.15
2007	10.73	3.51	0.95	2.38	0.22	0.01	5.13	2.33	0.37	7.55
2008	11.52	3.65	0.88	1.18	0.54	1.05	4.54	2.68	0.85	7.30
2009	12.21	4.01	1.10	0.90	0.36	0.00	4.63	2.32	0.63	8.25
2010	10.29	3.05	1.04	1.48	1.81	2.13	4.84	2.01	0.74	6.92

Table 2. Price elasticities.

	Price Elasticity	N
Holiday	-0.655 (0.051)***	696
Business	-0.576 (0.032)***	696
1-3 nights	-1.11 (0.053)***	696
4-13 nights	-0.869 (0.057)***	696
14-27 nights	-0.565 (0.064)***	694
28-90 nights	-0.00200 (0.00003)***	688
Ireland	-0.916 (0.121)***	44

Table 3 Business purpose regression results for equation 1

Price Elasticity	Distance	Area	R2	N
-0.493 (0.042)***	-0.108 (0.023)***	0.08 (0.007)***	0.42	685
Price Elasticity	Exports	GDP per capita	R2	N
-0.513 (0.037)***	0.111 (0.007)***	-0.055 (0.012)***	0.63	253
Price Elasticity				N
-0.576 (0.032)***				696

Table 4 Effect of the abolition of the €3 airport tax on trips and revenues.*

	Elasticity	ΔDemand	ΔVisitors***		ΔRevenue***		Exchequer cost
	-	%	Number of people		Thousand euro		Thousand euro
Business**	-0.655	0.44	4,883	(380)	2,019	(157)	-3,357
Holiday**	-0.576	0.39	6,130	(341)	2,495	(139)	-4,725
Study	-0.655	0.12	9	(1)	15	(1)	-23
VFR	-0.576	0.56	12,788	(710)	3,469	(193)	-6,842
Miscellaneous	-0.576	0.27	2,439	136	875	49	-1,675
Total		0.39	26,249	885	8,872	289	-16,622
Day trip	-1.11	2.59	11,723	(560)	1,505	(72)	-1,356
1-3 nights**	-1.11	0.94	26,113	(1,247)	9,230	(441)	-8,315
4-13 nights**	-0.869	0.63	12,822	(841)	5,267	(345)	-6,061
14-27 nights**	-0.565	0.25	508	(58)	348	(39)	-616
28-90 nights**	-0.002	0.00	0	(0)	0	(0)	-205
3-6 months	-0.002	0.00	0	(0)	0	(0)	-7
6-12 months	-0.002	0.00	0	(0)	0	(0)	-63
Total		0.92	51,167	(1,606)	16,350	(566)	-16,622

* The analysis is based on observations for 2010
** Price elasticity was estimated (see Table 2); other price elasticities were imputed.
*** Numbers in brackets are standard deviations.

Table 5 Effect of the VAT reduction on trips and revenues.*

	Elasticity	ΔDemand	ΔVisitors***		ΔRevenue***		Exchequer cost
	-	%	Number of people		Thousand euro		Thousand euro
Business**	-0.655	1.18	13,206	(1,028)	5,459	(425)	-10,305
Holiday**	-0.576	1.04	16,324	(907)	6,644	(369)	-14,280
Study	-0.655	1.26	97	(8)	159	(12)	-282
VFR	-0.576	1.00	22,694	(1,261)	6,156	(342)	-13,781
Miscellaneous	-0.576	1.00	41,609	(2,312)	2,052	(114)	-4,461
Total		1.04	93,930	(2,969)	20,471	(669)	-43,109
Day trip	-1.11	1.55	7,016	(335)	901	(43)	-921
1-3 nights**	-1.11	1.95	54,076	(2,582)	19,113	(913)	-19,543
4-13 nights**	-0.869	1.61	31,359	(2,057)	12,881	(845)	-16,824
14-27 nights**	-0.565	1.06	2,154	(244)	1,476	(167)	-2,965
28-90 nights**	-0.002	0.00	3	(0)	3	(0)	-1,885
3-6 months	-0.002	0.00	0	(0)	1	(0)	-597
6-12 months	-0.002	0.00	1	(0)	1	(0)	-374
Total		1.17	94,609	(3,327)	34,376	(1,256)	-43,109

* The analysis is based on observations for 2010
** Price elasticity was estimated (see Table 2); other price elasticities were imputed.
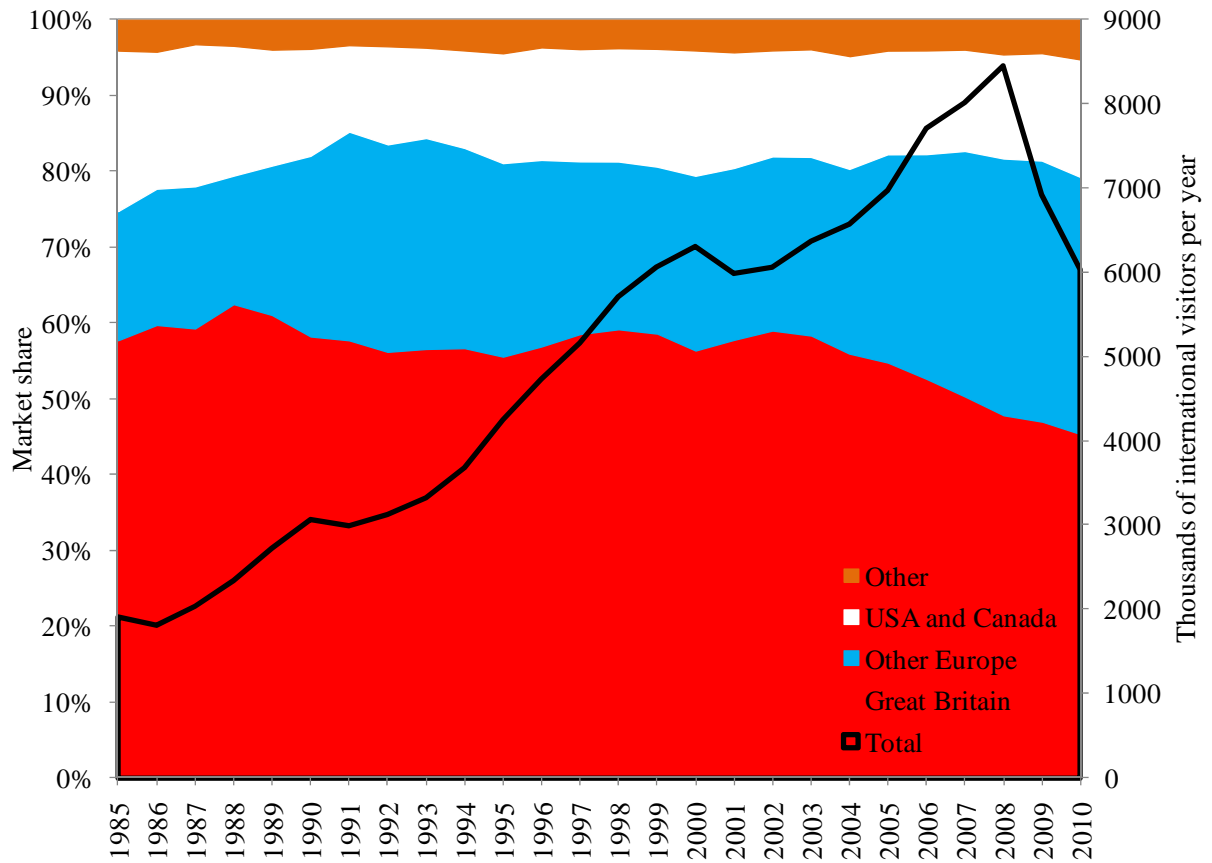*** Numbers in brackets are standard deviations.
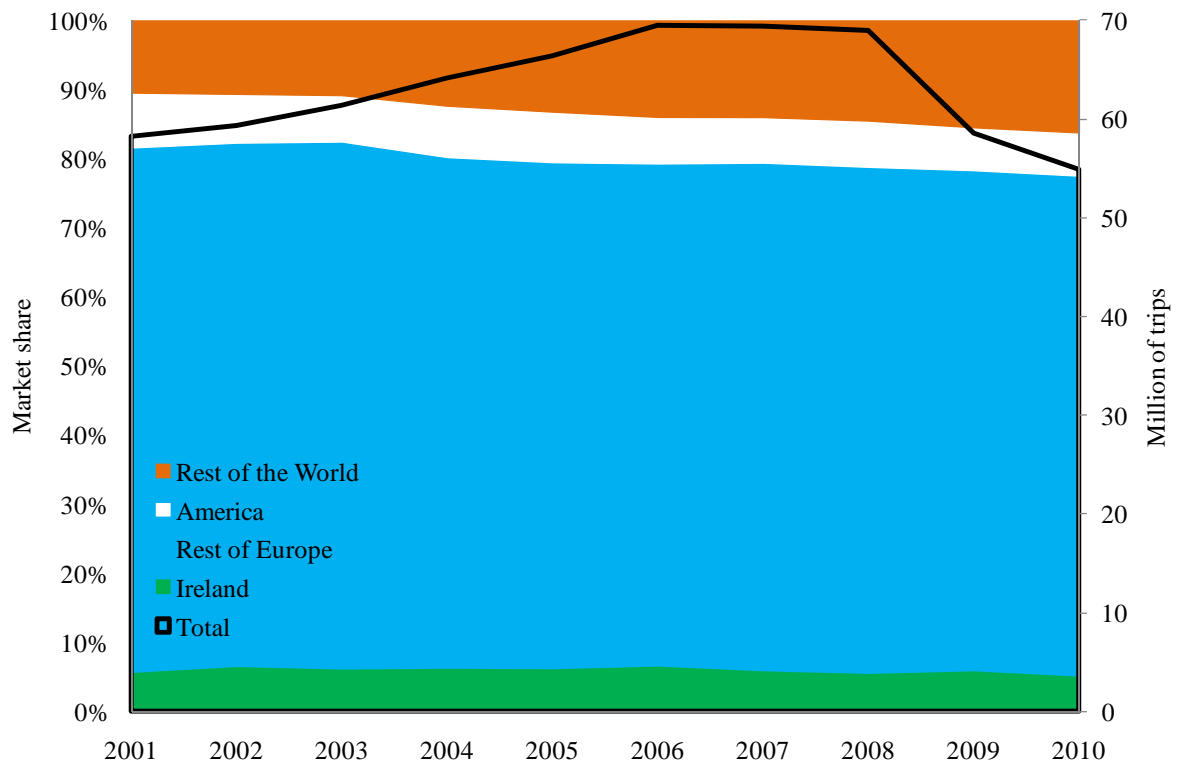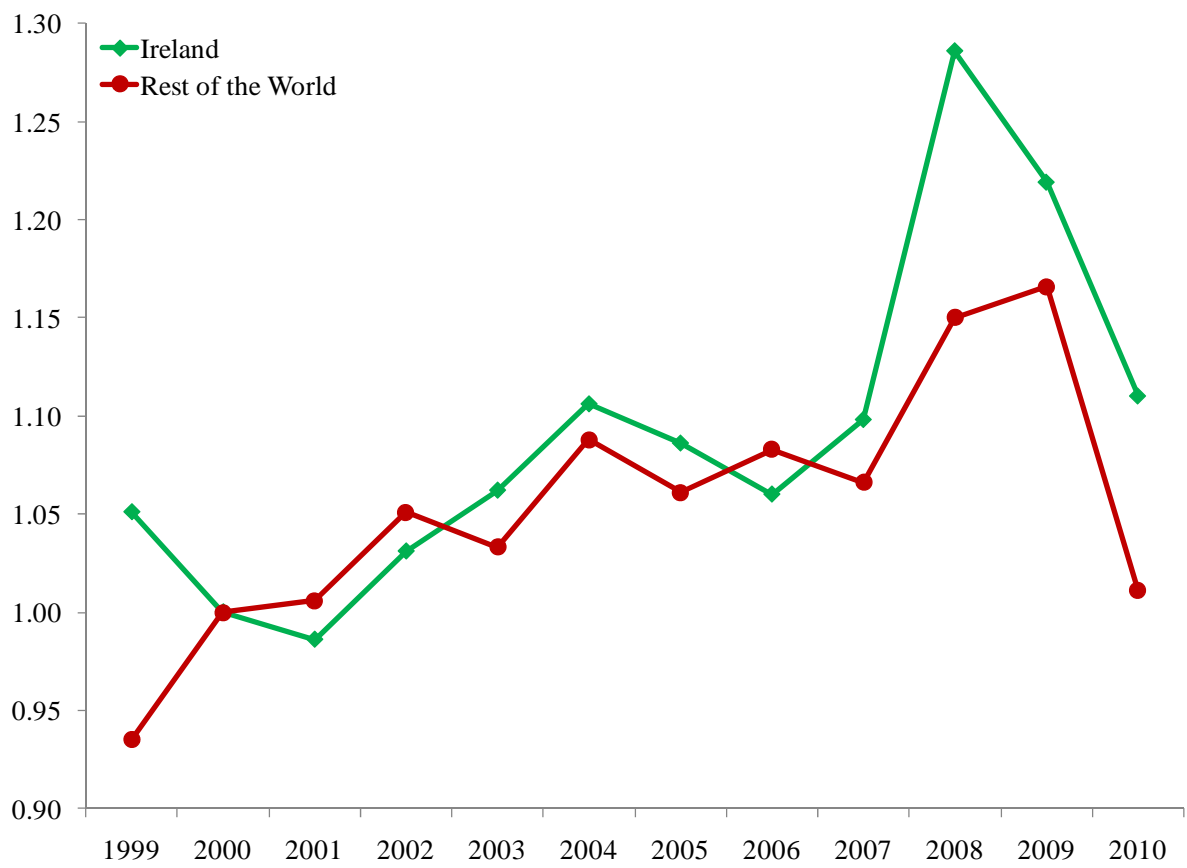
Figure 1. Inbound tourism in Ireland.

Figure 2. Visits abroad (thousands) by UK tourists 2001-2010 by region.

Figure 3. The price index (2000=1) for tourism in Ireland and the Rest of the World.

APPENDIX: ADDITIONAL RESULTS

Table A1 Tourism Price Indices for Ireland and Rest of the World

Year	Ireland	Rest of the World
1999	1.051	0.935
2000	1.000	1.000
2001	0.986	1.006
2002	1.031	1.051
2003	1.062	1.033
2004	1.106	1.088
2005	1.086	1.061
2006	1.060	1.083
2007	1.098	1.066
2008	1.286	1.150
2009	1.219	1.166
2010	1.110	1.011

Table A2. Price elasticities for selected destinations

Country	Holiday Price Elasticity	Business Price Elasticity
Austria		-0.708 (0.167)***
Belgium	-0.669 (0.318)*	
Bulgaria		-0.342 (0.145)*
China		-0.286 (0.119)*
Croatia		-1.08 (0.32)**
Czech Republic	-2.689 (0.646)***	-0.356 (0.121)*
Denmark		-1.06 (0.23)**
Egypt	-3.20 (0.48)***	-0.730 (0.262)**
Estonia	-0.751 (0.287)*	-0.717 (0.184)**
Finland	-1.73 (0.63)*	-0.718 (0.311)*
France	0.659 (0.174)**	
Germany	-1.01 (0.30)**	
Hong Kong		-0.647 (0.155)***
Hungary	-1.03 (0.36)*	-0.780 (0.175)***
Italy	-3.31 (0.30)***	
Latvia	-0.646 (0.232)*	
Lithuania		-0.940 (0.190)***
Luxembourg	-0.564 (0.252)*	
Netherlands	-2.12 (0.49)***	
Poland	-0.932 (0.186)***	-1.15 (0.20)***
Romania		-0.647 (0.189)**
Russia		-0.592 (0.158)**
Slovakia		-0.642 (0.117)***
Slovenia		-0.544 (0.151)**
Spain		-1.55 (0.29)***
Sweden	-1.16 (0.47)*	-0.560 (0.216)**
Switzerland	-1.31 (0.44)*	-0.711 (0.204)**
Turkey		-0.772 (0.210)**
United Arab Emirates	-2.70 (1.00)*	-1.83 (0.56)**

Table A3. Expenditure pattern and VAT rates.

	Expenditure*		VAT		Price
	mln euro	share	Old	new	change
Accommodation	672	18.5%	13.5%	9.0%	-3.96%
Food and drink	932	25.6%	13.5%	9.0%	-3.96%
Transport	1,062	29.2%	21.0%	21.0%	0.00%
Travel agents	12	0.3%	21.0%	21.0%	0.00%
Recreation	197	5.4%	13.5%	9.0%	-3.96%
Miscellaneous	169	4.7%	21.0%	21.0%	0.00%
Non-specific	593	16.3%	21.0%	21.0%	0.00%
Total	3,637				-1.96%

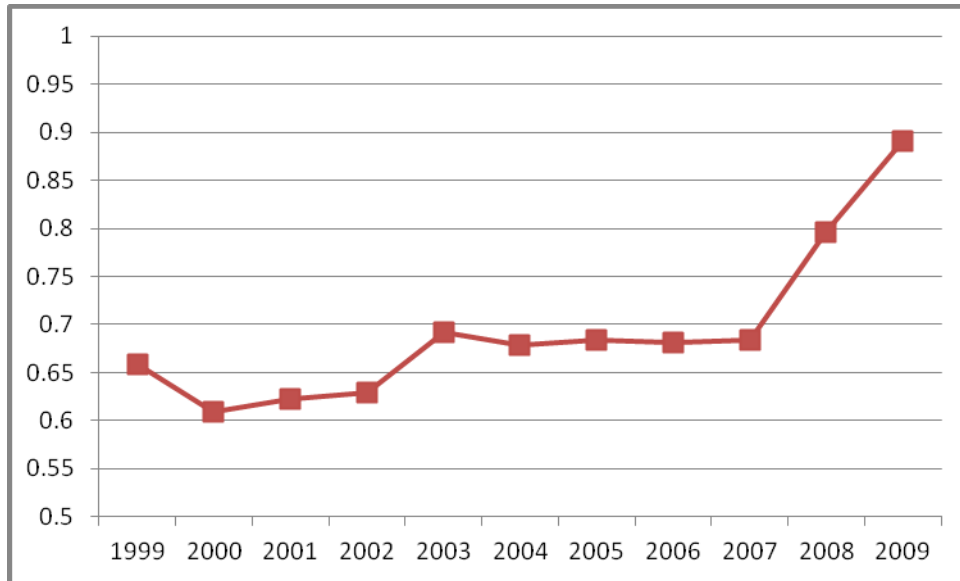* 2000; Source: (Failte Ireland 2005)

Figure A1. UK pound sterling/euro reference exchange rate 1999-2009[11]

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[11] ECB reference exchange rate, Source: European Central Bank

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