On the impact of the euro on international tourism

Abstract

This paper studies the effect of the inception of the euro on the international tourism of the Eurozone. To do this, a gravity model is estimated using two different samples, the OECD countries and the European OECD countries, over the period 1995-2008. The results suggest a noticeable impact of the euro on tourism, bigger than estimated in previous research. However, evidence of tourism diversion is found. The estimates also indicate a greater impact of the introduction of coins and notes in 2002 than the effect of the irrevocable fixing of conversion rates in 1999. Furthermore, the results show that the euro effect on tourism could have been anticipated during earlier stages of the EMU.

Keywords: euro effect, panel data, international tourist arrivals

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0. Introduction

Since the inception of the euro, the bulk of the literature has focused its attention on the analysis of its economic effects. Indeed, empirical research in International Economics has adopted the euro effect as an area of main interest. In this sense, the effort has been put into estimating the impact of the euro on trade and its role in macroeconomic performance (Frankel, 2008).

However, the study of the effect of the euro on international tourism has received little attention. A common currency implies the elimination of exchange rate volatility and transaction costs. Furthermore, since 2002, the introduction of coins and notes in euros eliminated any currency conversion between countries belonging to the eurozone. As a consequence, no calculation by agents is needed and price transparency for international comparison is enhanced. These factors could facilitate and promote tourism among eurozone countries. Gil-Pareja et al (2004) and Santana-Gallego et al (2010a) estimate a moderate effect of a common currency on tourism that ranged between 6 and 12%. However in both studies, the euro effect on tourism was evaluated in the early stages of the Economic and Monetary Union (EMU) and updated evidence is necessary in order to know its true impact.

Another relevant concern is the timing of the euro effect as pointed out by Micco et al (2003). On the one hand, the influence of the euro on the magnitude of tourism flows takes time to be registered. On the other hand, its effect could have been anticipated and, as a consequence, it could have been measured even before the inception of the euro. Indeed the characterization of the dynamics of the impact of the euro on tourism would be of interest for future common currency experiences, but at the moment it remains unknown.

Finally, trade diversion is commonly tested when the effect of the euro on international trade is estimated (Frankel and Rose, 2005). The argument is direct if the change of relative bilateral resistances to trade is recognized, i.e., the increase of these relative costs for trade with third countries could lead to trade diversion. In the case of international tourism, the elimination of exchange rate volatility, transaction costs, and any calculus since 2002 may lead to more intense tourism flows within the eurozone but a reduction of international tourism between the eurozone and third countries.

This research helps to shed light on the impact of the euro on tourism flows in four ways: (i) the period of study is updated until 2008 and only the case of the euro is considered in order to obtain more reliable estimates of the euro effect, (ii) the dynamics of the impact of the euro is addressed to find out its time path and possible leads and lags, (iii) the relevance of 1999 and 2002 as dates of the inception of the euro for tourism flows is analyzed, and (iv) the potential tourism diversion from abroad to the eurozone is tested.

This paper is organized as follows. In Section 2, the main antecedents of this research are presented. Section 3 describes data and methods used in the empirical analysis. In Section 4 the results of this research are discussed. Finally, Section 5 draws some conclusions.

1. Background

This research has two main groups of antecedents: the literature on the role of the euro in the magnitude of international trade and a reduced number of papers studying the relevance of sharing a currency in the determination of the volume of international tourism.

The literature on the effect of currency unions on trade has become a dynamic and controversial area of International Economics. In Frankel (2008)'s words, Andrew Rose's (2000) paper has been perhaps the most influential international economics paper of the last ten years. The seminal paper written by Rose (2000) estimates an effect of currency unions on trade of 200% and Glick and Rose (2002), with a much larger dataset, confirmed a major impact of common currencies on international trade, i.e., countries with a common currency seemed to trade over three times more than other country pairs in the OLS estimation, and currency union almost doubled bilateral trade in the fixed effects estimation. These results led to a notable effort on empirical and theoretical work in this area (Rose and Stanley, 2005)[1].

One of the main contributions to this area was the recognition of the relevance of not only the bilateral resistances but also the multilateral resistances that allow the control of idiosyncratic factors of specific countries in the determination of the volume of trade (Anderson and van Wincoop, 2003; Rose and van Wincoop, 2001). This is particularly important in the case of tourism, where country-specific heritage and natural resources are major factors that explain the intensity of international tourism flows.

In spite of the fact that a common currency can promote international tourism in a similar way to trade, the impact of sharing a currency on tourism has been less studied. Gil-Pareja et al (2007) estimated an effect of the euro on intra-eurozone tourist flows of 6.5%. This moderate effect could be explained by the shortness of the euro period studied (1999-2002), as well as by the fact that the launch of the circulating euro was precisely on 1 January 2002. Since 2002 any calculus is eliminated and the decisions of tourists, as consumers, could have been more affected by the introduction of coins and notes expressed in euros than by the inception of the irrevocable conversion rates for the euro in 1999. From a psychological point of view, Jonas et al (2002) and Wakker et al (2007) argue in favour of the year 2002, as from that time, consumers were physically confronted with the euro. Ranyard et al (2005) find that attitudes of consumers with respect to the euro focus on the economic and practical aspects of currency change.

The consideration of both, other common currency cases apart from the euro and a slightly longer dataset (1995-2004) allow Santana-Gallego et al (2010a) to almost double the effect of a common currency on tourism. However, the implication of this result on the euro case is hard to accept because of the very short euro period considered for the analysis and the mix of common currencies cases. This last argument is discussed by Frankel (2008) in the analysis of the differences between the estimations of the impact of currency unions on international trade in the case of the euro and other monetary unions among smaller countries. As a consequence, the mix of common currencies could lead to misleading estimations of the euro effect. Finally Thompson

[1] For possible explanations of Rose's result see, for instance, Thom and Walsh (2002), Micco et al (2003) and Wolf and Ritschl (2011).

and Thompson (2010) in an error correction framework estimate a significant impact of the euro on tourism revenue of 18% for the case study of Greece.

In summary, the abundance of literature measuring the relevance of common currencies on trade contrasts with the scarcity of references analyzing the effect of sharing a currency on international tourism. It is more noticeable for the specific case of the euro, given the growing number of countries adopting or planning to adopt the euro.

2. Data and methods

As mentioned in Section 1, this paper contributes to the study of the impact of the euro on international tourism flows in four ways. First, the dataset used is amplified with respect to previous work. Second, the timing of the effect of the euro on tourism is estimated by analyzing possible leads and lags. Third, the relevance of 1999 and 2002 as effective dates of the introduction of the euro is studied. Fourth, the possible tourism diversion in the eurozone is tested.

To do this, a gravity equation for tourism is estimated by including country-specific effects to control for multilateral resistances (Rose and van Wincoop, 2001). As mentioned above, these resistances are especially relevant in the case of tourism flows, where idiosyncratic factors such as, natural resources and cultural heritage are relevant in the determination of its magnitude. Furthermore, a bilateral trade variable is included as an additional regressor based on the assumption that trade and tourism may be both complementary and substitutive in several ways (Santana et al, 2010b). Moreover, bilateral trade could be interpreted as a proxy for the intensity of economic relations between countries (Eilat and Einav, 2004).

The following gravity equation is estimated by OLS-FE

$$LnTou_{ijt} = \beta_0 + \beta_1 LnTrade_{ijt} + \beta_2 LnGDPpc_{it} + \beta_3 LnGDPpc_{jt} + \beta_4 LnPop_{it} + \beta_5 LnPop_{jt}$$
$$+\beta_6 LnDist_{ij} + \beta_7 LnPPP_{ijt} + \beta_8 Colony_{ij} + \beta_9 Lang_{ij} + \beta_{10} Border_{ij} + \beta_{11} RTA_{ijt} + \beta_{12} \mathrm{Re}lig_{ij}$$
$$+\alpha' E + \gamma_i + \delta_j + \lambda_t + u_{ijt}$$

where *ln* denotes natural logs, *i* and *j* indicate destination and origin countries respectively, *t* is time, and the variables introduced are defined as:

Tou_{ijt} is the number of tourist arrivals to country *i* from country *j* in year *t*,
$Trade_{ijt}$ denotes the real bilateral trade, as the sum of exports and imports, between country i and country j in year t,
$GDPpc_{it}$ is the real GDP per capita of the destination country *i* in year *t*,
$GDPpc_{jt}$ is the real GDP per capita of the origin country *j* in year *t*,
Pop_{it} denotes the population of the destination country *i* in year *t*,
Pop_{jt} denotes the population of origin country *j* in year *t*,
$Dist_{ij}$ is the great-circle distance between capital cities of countries *i* and *j*,
PPP_{ijt} denotes the purchasing power parity of the country i relative to j in year *t*,
$Colony_{ij}$ is a binary variable which is unity if one country ever colonized the other or vice versa and zero otherwise,

$Lang_{ij}$ is a binary variable which is unity if *i* and *j* have a common language and zero otherwise,
$Border_{ij}$ is a binary which is unity if *i* and *j* share a common land border and zero otherwise,
RTA_{ijt} is a binary which is unity if *i* and *j* are common members of a regional free-trade agreement in year *t*,
$Relig_{ij}$ is a binary variable which is unity if *i* and *j* have a common first religion (with a share over 60%) and zero otherwise,

E is a set of variables of interest, γ_i, δ_j and λ_t are specific effects of destination country, origin country and year, respectively, β_0 is the constant, $\beta_1, \ldots, \beta_{11}$ are the set of coefficients and α' represents the set of the parameters of interest. Finally u_{ijt} is a well-behaved disturbance term.

Since dependent variable in tourism equation is unidirectional, GDP per capita and population are introduced separately for the origin and destination country. This allows for a different effect of these origin and destination variables on tourism arrivals. For instance, a greater effect of origin GDP per capita and population is expected than for the destination ones. For the same reason, PPP_{ijt} is introduced as a proxy of competitiveness in order to avoid biased estimates.

Following Cheng and Wall (2005), the gravity equation is estimated by Ordinary Least Squares (OLS), adding country specific-effects γ_i and δ_j and year effects λ_t. This model is a special case of the panel fixed-effect (FE) model given that it has a unique value for each trading pair's intercept, with the restrictions that a country's fixed effect as origin or destination is the same for all of its trading partners. As mentioned above, Rose and van Wincoop (2001) follow a similar approach recognizing the relevance of not only the bilateral resistances but also the multilateral resistances that allow control of idiosyncratic factors of specific countries in the determination of the volume of international flows (Anderson and van Wincoop, 2003).

The empirical analysis uses two datasets. The first one considers 30 OECD countries. The second dataset includes a smaller but more homogeneous sample, introducing only 22 European OECD countries. In both cases, the sample period covers annual data from 1995 to 2008.

The source of annual international arrivals by country of origin is the United Nations World Tourism Organisation (UNWTO). *GDPpc* and *Trade* are converted to real terms by using US GDP deflator. *GDPpc*, population and US GDP deflator were obtained from the World Development Indicators (2006) and the UNCTAD Handbook of Statistics (2008). *Trade* variable is expressed in millions of US$ and is collected from the Direction of Trade dataset of the International Monetary Fund and OECD Statistics. Distance and variables *Colony*, *Land* and *Border* were obtained from the Centre d'Etudes Prospectives et d'Informations Internationales (CEPII) dataset. Finally PPP_{ijt} is the purchasing power parity as calculated in the World Development Indicators of World Bank.

3. Results

The estimation results for equation (1) are presented in Table 1. The results for the OECD countries are shown in columns a and b, while the estimates for the European OECD countries are presented in columns c and d. In both cases, the estimates defining the euro variable as a dummy for the period 1999-2008 appear in the first column, while the results splitting the euro variable into two dummies, one for the period 1999-2001 and the other one for 2002-2008, are presented in the second column. As mentioned above, the latter allows us to test the relative relevance of the inception of the irrevocable exchange rates and the introduction of coins and notes expressed in euros. The sign and magnitude of the estimated coefficients of the gravity variables are plausible and a majority of these variables are statistically significant. The coefficient of *Trade* suggests that international trade promotes international tourism. Relative purchasing power parity is not significant for the case of the European OECD countries. Perhaps non-price competition is especially relevant in European countries, thus reducing the importance of relative prices.

As can be observed in Table 1 columns a and c, when the euro effect is tested for the period 1999-2008, the estimates suggest an impact of about 14% for the OECD sample and about 34% for the European OECD countries. The impact of the euro seems to be more sizeable when it is tested with respect to other European countries not adopting the euro.

Then, the euro is split into two dummies regarding the date of inception, $Euro99\text{-}01_{ijt}$ or $Euro02\text{-}08_{ijt}$, and the results are presented in columns b and d for the OECD and the European OECD samples, respectively. Results suggest that the euro effect is not significant at 10% confidence level for the sample of OECD countries over the period 1999-2001, i.e., before the introduction of coins and notes expressed in euros. However, when the euro effect is evaluated for the same countries for the period 2002-2008, its coefficient is significant and its magnitude is about 16%. For the sample of the European OECD countries, the estimates of the impact of the euro are 33% and 35%, respectively. These results may suggest that the euro impact has been gaining more relevance for the period of physical circulation of the euro[2].

Table 2 focuses on the euro effect over time. Particularly, the dynamics of this effect is estimated by creating dummy variables for each year. Before the inception of the euro, several arguments were proposed to limit the magnitude of the euro effect. One of the main arguments was that it had been anticipated by the earlier stages of the EMU. To deal with this idea, we have studied the effect of EMU membership since the beginning of the sample period. In this case, the model is estimated by adding euro dummy variables which are unity if the two countries of the pair belong to the euro, regardless of the year, and zero otherwise. As can be observed, some of the lowest values of the coefficient are found for the years 1999-2000. This strengthens the finding that the introduction of coins and notes expressed in euros seems to have had a greater influence on tourism than the irrevocable fixing of conversion rates. Figure 1 presents the details

[2] Following Gil-Pareja et al (2007), we also analyse the effect of the euro by single country and so we see if the effect is different between countries. In Table A1 of the Appendix, the euro effect by individual country is estimated by comparing the individual impact with the impact in rest of the eurozone. The results suggest the presence of some heterogeneity. Particularly Austria, Italy, Luxembourg, and Spain present a higher impact of the euro than the rest of the eurozone in the two samples.

of the dynamics of the euro effect for the two samples of countries. Results seem to suggest that the impact of the euro on tourism is greater from the physical introduction of the euro in 2002 and then decreases slightly until 2008.

The estimates also provide sizeable effects of the EMU before the introduction of the irrevocable conversion rates in 1999. What is more, the estimates for the previous years of the irrevocable exchange rates reach similar levels than the estimates after the introduction of the coins and notes expressed in euro. These results suggest that part of the impact of the euro could have been anticipated during the earlier stages of the EMU.

As mentioned in Section 1, in this research, the potential tourism diversion from abroad to the eurozone is also addressed. Similar to the analysis carried out in the international trade literature, we explore the existence of tourism diversion. Note that for both reasons, the nature of the international flow is tourism but not trade, and the adoption of the euro does not change tariffs, any switch in the destination country of tourists involves a change from high-cost to low-cost suppliers and thus tends to be welfare improving (Micco et al, 2003). The objective of this analysis is to study whether the adoption of the euro makes countries more open in terms of tourism movements, i.e. tourism creation, or in contrast, it implies more intense intra-eurozone tourist movements at the expense of tourism flows with third nations. In the former case, the expected sign of the dummy variable would be positive, while in the latter, the coefficient should be negative. To test this, we estimate equation (1) by considering the dummy variable $Euro99\text{-}nonEuro99_{ijt}$ (and $Euro02\text{-}nonEuro02_{ijt}$) taking the value one when only one country in the pair uses the euro. Table 3 shows that although the euro stimulates tourism, it does seem to imply a diversion of tourism from abroad to the countries adopting the euro[3].

4. Concluding remarks

This paper analyzes the effect of the introduction of the euro on the international tourism in the eurozone. This paper contributes to this literature in several ways: (i) we provide updated estimates of the euro effect, (ii) we study the euro effect over time to know its time path, (iii) we test the relevance of 1999 and 2002 as dates of the inception of the euro, and (iv) we try to shed light on the potential tourism diversion from abroad to the eurozone.

The estimates indicate a noticeable euro effect, larger than the estimates of previous research. Perhaps the updated sample period allows us to reach the euro effect in a more complete way. Precisely, the results suggest a greater euro effect after the introduction of coins and notes expressed in euro in 2002 than in the period of the irrevocable exchange rates between 1999 and 2001. This suggests that the impact of the euro on tourism comes not only from the elimination of exchange rate volatility and exchange costs but also from the elimination of any calculus and the use of the same physical

[3] In Table A2 of the appendix, the dummy for tourism diversion is built in a different way. In this case the value one is taken when the origin of tourist is the eurozone and the destination is a country which has not adopted the euro. The negative sign of the estimated parameter suggests that tourists from the eurozone are switching their tourist destination from third countries to the eurozone.

currency. Furthermore, the analysis indicates that part of the euro effect was anticipated in earlier stages of the EMU.

Finally, the results show that the inception of the euro could have led to both a creation of tourism in the Eurozone and also a diversion of tourism from abroad. Indeed the reduction of bilateral resistances to tourism between countries sharing the euro could reduce tourism between the countries belonging to the eurozone and third countries.

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Table 1: The Euro Effect

	OECD		OECD(European)	
	a	b	c	d
Cons	-69.471***	-69.430***	-87.112***	-86.666***
	(-5.360)	(-5.360)	(-5.300)	(-5.300)
$LnTrade_{ijt}$	0.101***	0.101***	0.055***	0.055***
	(8.200)	(8.200)	(4.860)	(4.860)
$LnGDPpc_{it}$	0.253**	0.258**	-0.306*	-0.303*
	(2.160)	(2.200)	(-1.770)	(-1.750)
$LnGDPpc_{jt}$	0.592***	0.595***	0.344*	0.346*
	(4.530)	(4.550)	(1.619)	(1.619)
$LnPop_{it}$	0.629	0.626	2.037***	2.021***
	(1.350)	(1.350)	(3.170)	(3.180)
$LnPop_{jt}$	3.612***	3.608***	4.061***	4.045***
	(7.600)	(7.590)	(5.730)	(5.710)
$LnDist_{ij}$	-0.853***	-0.853***	-0.739***	-0.739***
	(-38.410)	(-38.400)	(-18.16)0	(-18.160)
$LnPPP_{ijt}$	0.086***	0.086***	-0.049	-0.048
	(2.980)	(2.980)	(-0.390)	(-0.390)
$Colony_{ij}$	0.624***	0.625***	0.693***	0.693***
	(11.440)	(11.440)	(7.420)	(7.420)
$Lang_{ij}$	0.292***	0.292***	0.037	0.037
	(7.650)	(7.650)	(0.650)	(0.650)
$Border_{ij}$	0.616***	0.616***	0.921***	0.921***
	(11.850)	(11.850)	(15.380)	(15.380)
RTA_{ijt}	0.345***	0.346***	0.522***	0.522***
	(11.740)	(11.780)	(13.020)	(13.070)
$Relig_{ij}$	0.233***	0.234***	0.255***	0.256***
	(6.800)	(6.810)	(6.300)	(6.310)
$Euro_{ijt}$	0.1281***		0.2965***	
	(4.15)		(7.46)	
$Euro99\text{-}01_{ijt}$		0.0890		0.2852***
		(1.63)		(4.56)
$Euro02\text{-}08_{ijt}$		0.1444***		0.3014***
		(4.45)		(7.46
Obs	9035	9035	4836	4836
F	904.19	895.58	687.08	677.8
R2	0.879	0.879	0.869	0.869

Notes: Origin, destination and year fixed effect are not reported
t-statistics appear between parentheses
Significance at 1% (***), 5% (**) and at 10% (*)

Table 2: Euro effect over time

	OECD	OECD (European)
Cons	-67.889***	-98.822***
	(-5.22)	(-6.06)
$LnTrade_{ijt}$	0.105***	0.059***
	(8.57)	(5.36)
$LnGDPpc_{it}$	0.271**	-0.244
	(2.30)	(-1.43)
$LnGDPpc_{jt}$	0.607***	0.375*
	(4.64)	(1.79)
$LnPop_{it}$	0.583	2.428***
	(1.25)	(3.83)
$LnPop_{jt}$	3.549***	4.356***
	(7.44)	(6.16)
$LnDist_{ij}$	-0.848***	-0.738***
	(-38.31)	(-18.42)
$LnPPP_{ijt}$	0.083***	-0.107
	(2.86)	(-0.85)
$Colony_{ij}$	0.628***	0.707***
	(11.62)	(7.70)
$Lang_{ij}$	0.290***	0.054
	(7.60)	(0.95)
$Border_{ij}$	0.614***	0.904***
	(11.82)	(15.26)
RTA_{ijt}	0.332***	0.505***
	(11.42)	(12.92)
$Relig_{ij}$	0.234***	0.267***
	(6.83)	(6.61)
	0.191**	0.502***
$Euro\text{-}1995_{ij}$	(2.02)	(4.66)
	0.132	0.424***
$Euro\text{-}1996_{ij}$	(1.48)	(4.07)
	0.302***	0.533***
$Euro\text{-}1997_{ij}$	(3.34)	(5.81)
	0.321***	0.496***
$Euro\text{-}1998_{ij}$	(3.06)	(4.61)
	0.133	0.410***
$Euro\text{-}1999_{ij}$	(1.23)	(3.49)
	0.059	0.372***
$Euro\text{-}2000_{ij}$	(0.55)	(3.19)
	0.205***	0.512***
$Euro\text{-}2001_{ij}$	(2.90)	(6.57)
	0.251***	0.541***
$Euro\text{-}2002_{ij}$	(3.55)	(6.97)
	0.268***	0.487***
$Euro\text{-}2003_{ij}$	(3.82)	(6.32)
	0.178***	0.516***
$Euro\text{-}2004_{ij}$	(2.64)	(6.52)
	0.154**	0.467***
$Euro\text{-}2005_{ij}$	(2.35)	(6.17)
	0.170***	0.459***
$Euro\text{-}2006_{ij}$	(2.61)	(6.13)
	0.124*	0.389***
$Euro\text{-}2007_{ij}$	(1.89)	(5.13)
	0.114*	0.387***
Euro-2008ij	(1.72)	(5.19)

Obs	4836	4836
F	608.2	577.16
R2	0.869	0.871

Notes: Origin, destination and year fixed effects are not reported
t-statistics appear between parentheses
Significance at 1% (***), 5% (**) and at 10% (*)

Figure 1: Euro effect over time

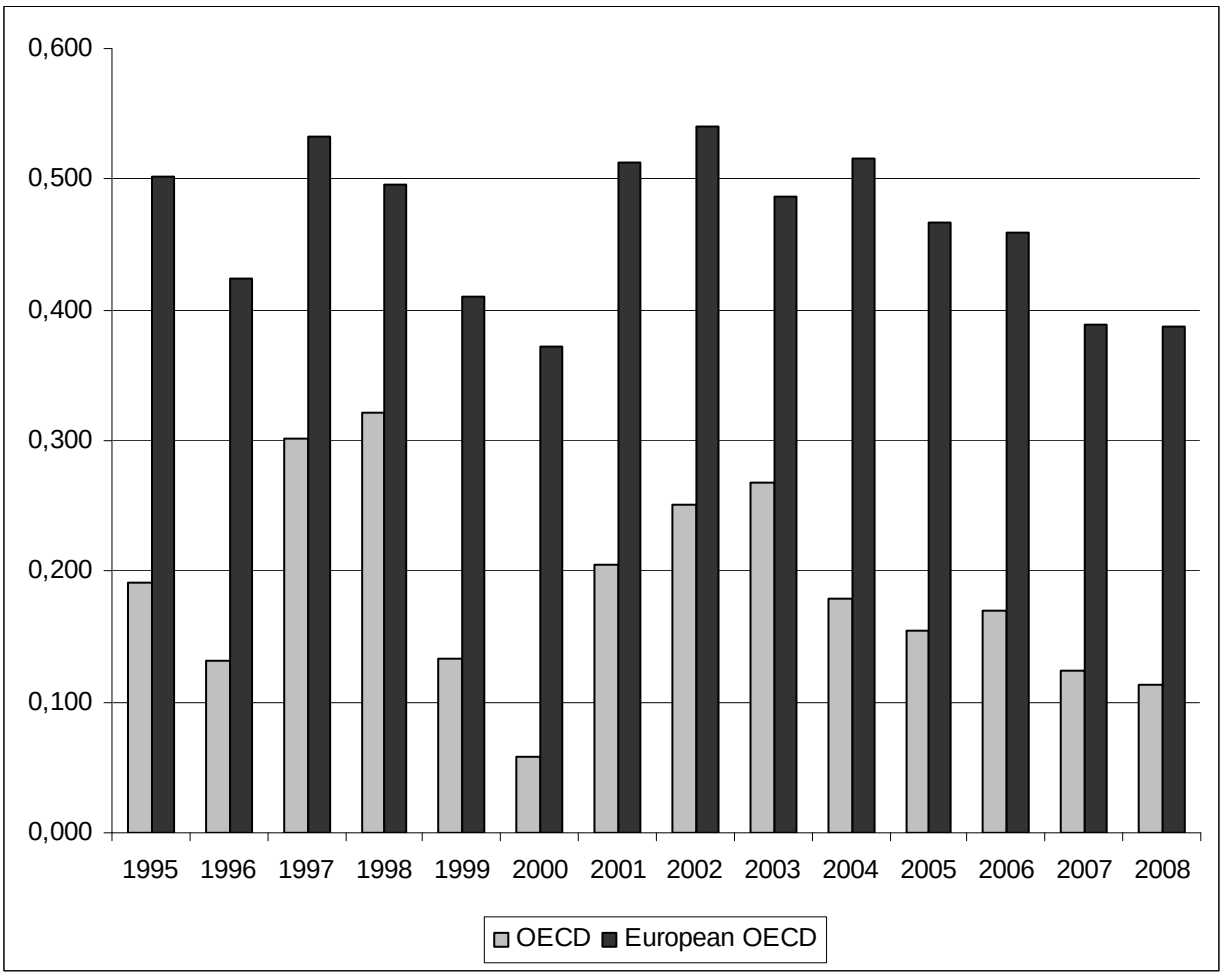

Table 3: Tourism diversion

	OECD		OECD(European)	
	a	b	c	d
Cons	-52.904***	-52.724***	-88.652***	-91.600***
	(-5.590)	(-5.570)	(-5.430)	(-5.560)
$LnTrade_{ijt}$	0.102***	0.102***	0.055***	0.057***
	(8.320)	(8.340)	(4.980)	(5.140)
$LnGDPpc_{it}$	0.266**	0.260**	-0.274	-0.266
	(2.270)	(2.220)	(-1.600)	(-1.550)
$LnGDPpc_{jt}$	0.607***	0.601***	0.362*	0.363*
	(4.650)	(4.600)	(1.720)	(1.700)
$LnPop_{it}$	0.534	0.524	2.113***	2.211***
	(1.150)	(1.130)	(3.280)	(3.420)
$LnPop_{jt}$	3.521***	3.528***	4.077***	4.161***
	(7.390)	(7.400)	(5.810)	(5.860)
$LnDist_{ij}$	-0.851***	-0.852***	-0.734***	-0.735***
	(-38.530)	(-38.540)	(-18.290)	(-18.130)
$LnPPP_{ijt}$	0.085***	0.086***	-0.059	-0.092
	(2.950)	(2.970)	(-0.470)	(-0.740)
$Colony_{ij}$	0.628***	0.626***	0.704***	0.695***
	(11.560)	(11.500)	(7.660)	(7.480)
$Lang_{ij}$	0.291***	0.292***	0.055***	0.038***
	(7.620)	(7.640)	(0.980)	(0.680)
$Border_{ij}$	0.614***	0.615***	0.911***	0.922***
	(11.820)	(11.830)	(15.390)	(15.360)
RTA_{ijt}	0.334***	0.339***	0.512***	0.505***
	(11.430)	(11.590)	(13.010)	(12.700)
	0.232***	0.234***	0.267***	0.257***
$Relig_{ij}$	(6.750)	(6.800)	(6.620)	(6.350)
$Euro99\text{-}nonEuro99_{ijt}$	-0.108***		-0.232***	
	(-6.220)		(-10.460)	
$Euro02\text{-}nonEuro02_{ijt}$		-0.118***		-0.243***
		(-5.960)		(-9.120)
Obs	9035	9035	4836	4836
F	907.63	904.93	694.69	682.63
R2	0.8793	0.8792	0.8706	0.8695

Notes: Origin, destination and year fixed effects are not reported
t-statistics appear between parentheses
Significance at 1% (***), 5% (**) and at 10% (*)

APPENDIX

Table A1: Euro effects by individual country-Euro2002

	OECD		OECD(European)	
	coefficient	Wald-test	coefficient	Wald-test
Austria-Euro02	0.231***	4.850	0.488***	26.620
	(4.260)	[0.028]	(7.770)	[0.000]
Rest of countries	0.103***		0.167***	
	(3.010)		(4.320)	
Belgium-Euro02	-0.128*	17.610	0.204***	0.170
	(-1.830)	[0.000]	(3.240)	[0.676]
Rest of countries	0.176***		0.231***	
	(5.340)		(5.900)	
Finland-Euro02	0.220***	5.590	0.187***	0.940
	(5.060)	[0.018]	(3.870)	[0.332]
Rest of countries	0.105***		0.236***	
	(3.000)		(5.860)	
France-Euro02	0.083	0.690	0.219***	0.020
	(1.470)	[0.406]	(3.850)	[0.877]
Rest of countries	0.134***		0.228***	
	(3.920)		(5.750)	
Germany-Euro02	-0.322***	48.580	-0.043	19.610
	(-4.150)	[0.000]	(-0.560)	[0.000]
Rest of countries	0.227***		0.291***	
	(7.240)		(7.700)	
Greece-Euro02	0.217***	2.290	-0.041	15.450
	(3.060)	[0.130]	(-0.490)	[0.000]
Rest of countries	0.108***		0.282***	
	(3.310)		(7.630)	
Ireland-Euro02	-0.054	11.100	0.355***	4.580
	(-0.920)	[0.001]	(5.630)	[0.032]
Rest of countries	0.158***		0.208***	
	(4.610)		(5.210)	
Italy-Euro02	0.321***	26.930	0.351***	7.750
	(-7.870)	[0.000]	(6.730)	[0.005]
Rest of countries	0.083**		0.201***	
	(2.380)		(5.030)	
Luxembourg-Euro02	0.201***	1.330	0.388***	4.920
	(2.720)	[0.250]	(4.670)	[0.027]
Rest of countries	0.113***		0.201***	
	(3.440)		(5.260)	
Netherlands-Euro02	0.015	5.020	0.261***	0.490
	(0.260)	[0.025]	(4.440)	[0.484]
Rest of countries	0.152***		0.219***	
	(4.450)		(5.570)	
Portugal-Euro02	0.237***	3.090	0.134*	1.630
	(3.400)	[0.079]	(1.640)	[0.202]
Rest of countries	0.109***		0.241***	
	(3.280)		(6.260)	
Spain-Euro02	0.509***	42.880	0.304***	1.080
	(7.240)	[0.000]	(3.390)	[0.298]
Rest of countries	0.045		0.212***	
	(1.420)		(5.810)	

Notes: Origin, destination and year fixed effects are not reported
t-statistics appear between parentheses
Significance at 1% (***), 5% (**) and at 10% (*)

Table A2: Tourism diversion (origin Euro/destination non-Euro member)

	OECD		OECD(European)	
cons	-54.178***	-54.518***	-101.397***	-102.315***
	(-5.750)	(-5.790)	(-5.750)	(-5.790)
LnTrade	0.103***	0.103***	0.059***	0.059***
	(8.400)	(8.390)	(5.320)	(5.260)
LnGDPpcdest	0.245**	0.255**	-0.385**	-0.279
	(2.080)	(2.180)	(-2.220)	(-1.610)
LnGDPpcorig	0.633***	0.607***	0.455**	0.371*
	(4.830)	(4.640)	(2.130)	(1.730)
LnPopdest	0.614	0.598	2.137***	2.037***
	(1.320)	(1.290)	(3.300)	(3.140)
LnPoporig	3.534***	3.587***	4.499***	4.619***
	(7.430)	(7.560)	(6.370)	(6.520)
LnDist	-0.851***	-0.853***	-0.732***	-0.739***
	(-38.570)	(-38.520)	(-18.150)	(-18.060)
LnPPP	0.101***	0.097***	0.130	0.023
	(3.500)	(3.370)	(1.040)	(0.190)
Colony	0.627***	0.623***	0.703***	0.689***
	(11.530)	(11.390)	(7.630)	(7.360)
Lang	0.292***	0.293***	0.045	0.029
	(7.650)	(7.690)	(0.790)	(0.520)
Border	0.614***	0.616***	0.915***	0.925***
	(11.820)	(11.840)	(15.310)	(15.350)
RTA	0.338***	0.346***	0.508***	0.515*
	(11.530)	(11.810)	(12.770)	(12.790)
Relig	0.233***	0.235***	0.259***	0.248***
	(6.780)	(6.840)	(6.370)	(6.120)
origEuro99/destnonEurot99	-0.179***		-0.387***	
	(-6.190)		(-9.220)	
origEuro02/destnonEurot02		-0.127***		-0.243***
		(-4.600)		(-6.390)
Obs	9035	9035	4836	4836
F	903.66	899.64	687.23	676.18
R2	0.8793	0.8791	0.8701	0.8685

Notes: Origin, destination and year fixed effects are not reported
t-statistics appear between parentheses
Significance at 1% (***), 5% (**) and at 10% (*)