Economics Bulletin

Volume 40, Issue 2

Air passengers during the economic crisis: The Spanish case

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Abstract

This paper examines whether there is a relationship between the recent economic and financial crisis and air passengers in Spain. Static and dynamic models are estimated using data for the period 2004-2016. Initially, no relationship can be discerned between the variables; however, the estimates also show a possible dynamic relationship between the economic crisis and the number of passengers using Spanish airports, depending on the proportion of low-cost airlines at each airport.

This article has benefited from funding from the Regional Government of Aragón (Grant S32_17R and FSE Aragón 2014-2020). We are grateful for the help of our assistant, Laura Rubio

Citation: Miriam Marcén and Marina Morales, (2020) "Air passengers during the economic crisis: The Spanish case", *Economics Bulletin*, Volume 40, Issue 2, pages 1232-1248

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Submitted: November 28, 2018. **Published:** May 06, 2020.

1. Introduction

The economic recession that broke in 2008 has had a particularly severe impact in Spain in which it was accompanied by unemployment rates over 25%, a reduction of the social services budget and a growing number of people living at risk of poverty as a result of a restrictive fiscal policy (Lopez-Valcarcel and Barber, 2017; Távora and Rodríguez-Modroño, 2018). The economic literature has shown its negative consequences on mental and physical health (Urbanos-Garrido and Lopez-Valcarcel, 2015), and fertility and divorce decisions, among others (Bellido and Marcén, 2016; González-Val and Marcén, 2017). In this context, tourism demand may had also react to these challenging times. The existing literature suggests a heterogeneous response of tourists to economic crisis (Eugenio-Martín and Campos-Soria, 2014; Smeral, 2009). According to the economic theory, the decrease in households' income should imply a decrease in consumption, especially, of luxury goods and services, such as tourism expenditure. At the same time, it is expected that tourist sectors anticipate these changes in consumption and reduce prices. It is also possible that some tourists react to economic crisis by cutting back on tourism expenditure (such us reducing the length of stay or traveling to closer destinations) instead of stopping travelling. Thus, tourist's response appears to be unclear. The aim of this paper is to study the relationship between the last great economic crisis and the evolution of the number of air passengers in Spain, a country that is one of the most popular global tourist destinations (UNWTO, 2016).

In recent years, low-cost airlines, which represent an important part of all regular flights (Dobruszkes, 2013), have considerably increased the number of flights, specially to and from secondary Spanish airports (see figures 1 and 2). The literature suggests a possible effect of low-cost airlines on tourism (Rey et al., 2011). Then, in this framework, it could be argued that our work is capturing changes in the expansion of low-cost airlines instead of, or in addition to, the impact of the economic crisis on air passengers. For this reason, we extend our empirical analysis to study the variations in the relationship between the proportion of low-cost airlines and the number of air passengers during the economic crisis. Because of seasonal fluctuations, we have separately examined each quarter (from the first to the fourth quarter) to check the consistency of our findings.

2. Data and empirical strategy

Data on numbers of air passengers cover 43 Spanish airports, from 2004 to 2016. This information comes from the Spanish Airports and Air Navigation (AENA). Figure 3 shows the location of the Spanish airports with regular flights during our period of study.[1] The majority of the airports are located at, or close to the coast, in Madrid, and in several provinces of the North of Spain; that is, close to the most touristic areas. Our sample contains 526 observations of the annual number of air passengers.[2]

In our empirical strategy, we first consider a static model. Formally, we estimate the following equation:

$$\boldsymbol{Passengers_{e,c,t}} = \boldsymbol{\beta Crisis_{e,t}} + \boldsymbol{\Sigma_c RegionFE_c} + \left[\boldsymbol{\Sigma_{c,t} Region_c \times Time_t} + \boldsymbol{\Sigma_{c,t} Region_c \times Time_t^2}\right] + \boldsymbol{u_{e,c,t}} \quad (1)$$

The dependent variable is the number of passengers using airport *e*, located in region *c* in year *t* ($\boldsymbol{Passengers_{e,c,t}}$).[3] $Crisis_{e,t}$ is a dummy variable that takes value "1" when airport *e* is affected by the economic crisis in year *t*, and "0" otherwise.[4] Hence, the coefficient β is interpreted as the average change in the number of passengers that can be due to the economic crisis. From a theoretical point of view, it would be expected that the economic crisis, which has affected many countries, would have a negative impact on the number of passengers, because of a possible income effect. The economic crisis could also have a positive effect on the number of passengers, since there was an increase in the numbers of individuals going abroad, looking for better job opportunities, which can be considered as a migration effect. Opposite effects are operating and so the sign of this parameter β is not clear. Since the exact date in which the economic crisis began can be considered exogenous, the use of dummy variables can generate less concern that the used of other economic variables in order to study the

[1]Some of the airports do not have flights during the entire period considered in this work. We have excluded those airports and our results are unchanged.

[2]Departures and arrivals have been considered together. The analysis has been repeated separately for departures and arrivals and our results do not vary. This is not surprising, since there are no substantial differences between them. Although the raw data include information for 43 airports, there is no available information for all of them in all years. Additionally, those airports not providing information about whether an airline is low or non-low cost have been dropped from our sample. The number of airports is available for each year as follows: 2004 (40), 2005 (40), 2006 (40), 2007 (40), 2008 (42), 2009 (41), 2010 (41), 2011 (42), 2012 (42), 2013 (39), 2014 (40), 2015 (40), 2016 (39).

[3] This variable is measured in millions of passengers.

[4] The period 2008-2014 has been considered as the crisis period. Thus, in the static analysis, the variable crisis takes value 1 for all these years, and 0 in the rest of years.

relationship between the economic crisis and the last great recession. In this equation, we also include region fixed effects, in addition to region-specific linear and quadratic trends, to control for evolving unobserved region attributes.

Previous methodology only identifies a discrete series break. Nevertheless, it is conceivable that the economic crisis can have very different short-run and long-run effects. To tackle this issue, we follow the proposal of Wolfers (2006), estimating the dynamic response of the number of passengers using Spanish airports to the economic crisis:

$$\boldsymbol{Passengers_{e,c,t}} = \boldsymbol{\Sigma_k \beta_k Crisis_{e,k,t}} + \boldsymbol{\Sigma_c RegionFE_c} + \left[\boldsymbol{\Sigma_{c,t} Region_c \times Time_t} + \boldsymbol{\Sigma_{c,t} Region_c \times Time_t^2}\right] + \boldsymbol{u_{e,c,t}} \quad (2)$$

Where $Crisis_{e,k,t}$ is a set of dummy variables that takes value "1" when airport *e* is affected by the economic crisis in year *t* for *k* periods, and "0" otherwise. In this way, we include dummies showing the effect of the economic crisis for 1-2 years, 3-4 years, and so on. These dummy variables are supposed to capture the entire dynamic response of the air passengers to the crisis, while the region-specific time trends identify pre-existing trends.

3. Results

Table 1 shows the results. Column 1 reports the estimates of the static model presented in Eq. (1) and column 2 reports the dynamic model of Eq. (2). None of the estimated coefficients picking up the possible relationship between the economic crisis and the number of air passengers is statistically significant. Our results appear to indicate that the economic crisis does not have any static or dynamic effect on the number of passengers using Spanish airports in the period under consideration.[5] It can also be suggested that the opposite effects that we have described above are compensating for each other.

As mentioned in the Introduction, we also run a supplementary analysis in order to study whether the changes in the low-cost airlines are driving previous findings. To tackle this issue, we repeat our estimates, including the proportion of low-cost airlines

[5]Our estimations do not change when we redefine the dependent variable in logarithms, or by using monthly data instead of annual data. All estimates have been repeated with/without controls. Results remain similar. Our results are also the same when using other economic variables as measures of the economic crisis (see Table A1 in the Appendix) and when we use a specification with 3 dummy variables taking value 1 if the year belong to the pre-crisis, crisis or post-crisis period, respectively (see Table A2 in the Appendix).

(PLCA), in addition to interactions between the proportion of low-cost airlines and the dummies capturing the dynamic effects of the economic crisis. After adding these variables, we can see the relationship between the proportion of low-cost airlines and the numbers of air passengers during the economic crisis. Our results do not vary when we include the proportion of low cost airlines, in columns 3 and 4 (static and dynamic analysis, respectively). We do not observe a relationship between the economic crisis and the number of air passengers in Spain. The more striking result is that the proportion of low-cost airlines appears to be negatively related to the number of passengers: the greater the proportion of low-cost airlines in a given airport, the lower the number of passengers. This can be due to the fact that, in the largest airports, with many passengers, the proportion of low-cost airlines is lower than in secondary airports, with fewer passengers per year. In fact, the proportion of low-cost airlines results to be positively related to the number of passengers when we repeat our estimations without including the four airports with the highest number of passengers (Suárez Madrid-Barajas, Barcelona-El Prat, Palma de Mallorca, Málaga-Costa del Sol). Thus, our previous results may simply be capturing the differences between primary and secondary airports (see Table A3 in the Appendix).

After the inclusion of the interactions between the proportion of low-cost airlines and the variables capturing the dynamic effect of the economic crisis (years after the beginning of the economic crisis: 1-2, 3-4, 5-6, and ≥7) in column 5, we detect statistically significant relationships. Although the interaction terms are not statistically significant, the F-tests show statistically significant relationships when considering both coefficients. The proportion of low-cost airlines appears to be negatively associated with the number of passengers, regardless of the period considered (pre-crisis or after the beginning of the crisis), but the sign of the coefficients of the interaction terms changes. We find that the number of air passengers using the airports with a high proportion of low-cost airlines is higher during years 1 to 4 since the beginning of the crisis, than the number of passengers using those airports in the pre-crisis years (the aggregate coefficients decrease in absolute value). This relationship changes after 5 years from the beginning of the crisis. In this setting, it is possible to suggest that the primary airports (with low proportions of low-cost airlines) lost more passengers during the initial period of the crisis than did the secondary airports (with high proportion of low-cost airlines). However, from the fifth year of crisis to the end of the period, the

aggregate coefficients increase in absolute value, suggesting that those airports with high proportions of low-cost airlines have lower numbers of passengers than those airports with low proportions of low-cost airlines, relative to the pre-crisis period. This may be due to a decrease in the number of low-cost flights in secondary airports in those years. The same is observed when the dependent variable is defined by quarter, in columns 6 to 9. Although almost all of the coefficients are slightly larger (in absolute value) during the summer season (3rd quarter, in column 8), no differences in our findings may be inferred. To solve the endogeneity concerns that the use of our empirical model may generate, all our estimates have been repeated using a Poisson model in Table 2. Our findings do not change. Although a similar pattern appears to be observed when we plot the evolution of the number of passengers for each quarter, separately (see figure 4), we have repeated our estimations by redefining the dependent variable as the seasonally-adjusted quarterly number of passengers instead of using the annual number of passengers. As can be seen in Table 3, nothing changes.[6]

4. Conclusions

Our goal has been to explore the possible association between the economic and financial crisis and air passengers in Spain. No relationship appears to be found between both variables, although this can also be explained by the fact that the positive effects of the economic crisis on the number of passengers can be compensated for by the possible negative effects. Unfortunately, with the data available we cannot examine this issue further, since we do not have information on, for example, price fluctuations of plane tickets or changes in tourism patterns because of terrorism, among other factors.

However, since the use of low-cost airlines can be important in mitigating the negative effects of the economic crisis, we examine the relationship between the proportion of low-cost airlines and the number of passengers using Spanish airports during the economic crisis. Our results suggest that, until the fourth year after the onset of the economic crisis, low-cost airlines attracted passengers to the secondary airports, but this pattern changed from the fifth year onwards, when the primary airports are seen to be those attracting more passengers.

[6] Our findings are also maintained without including linear and quadratic trends (see Table A4 in the Appendix).

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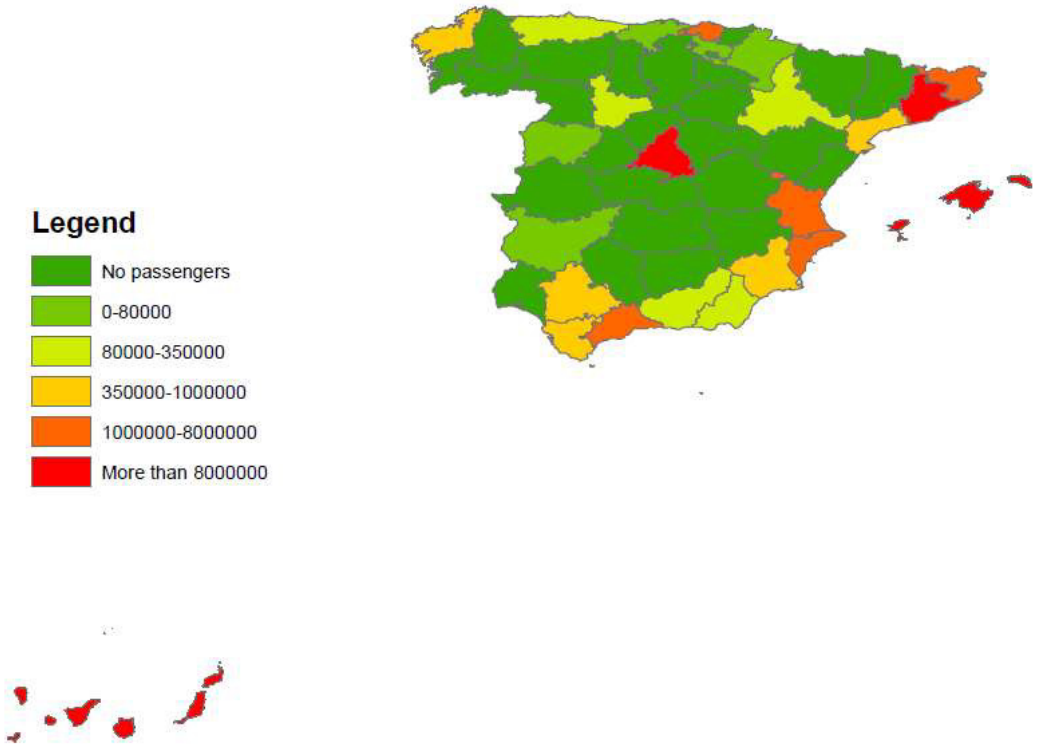
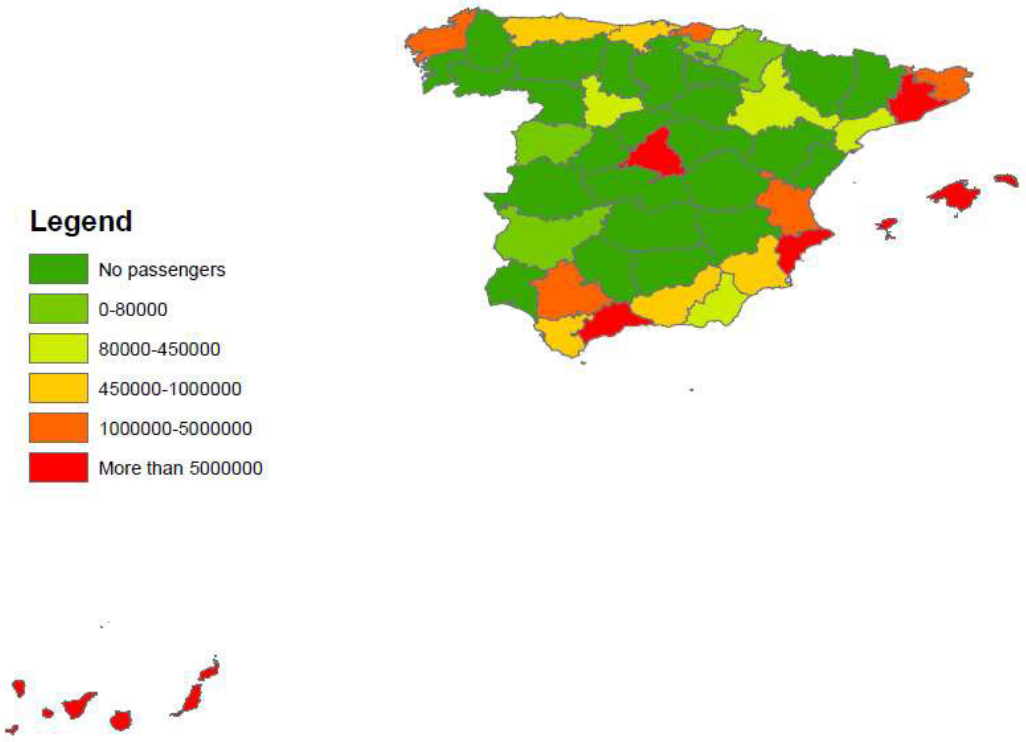
Figure 1: Air passengers using low-cost airlines, by region, in 2004



Note: Data comes from AENA.

Figure 2: **Air passengers using low-cost airlines, by region, in 2016**

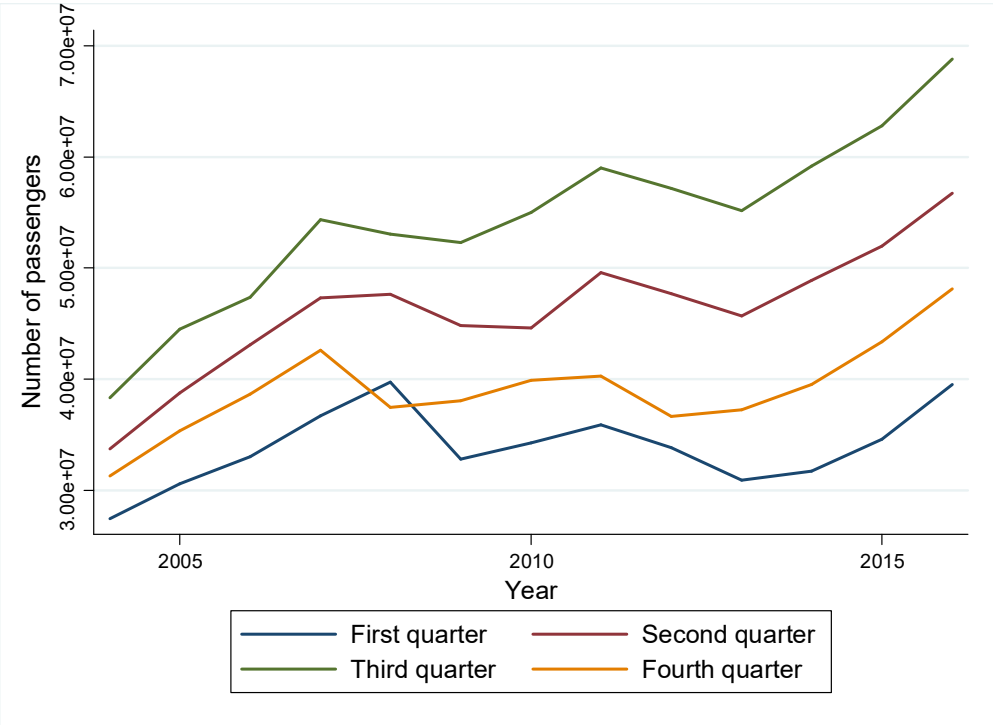


Note: Data comes from AENA.

Figure 3: The location of Spanish airports

Notes: Data comes from AENA.

Figure 4: The evolution of the number of passengers across years for each quarter



Notes: Data comes from AENA

Table 1: The relationship between the economic crisis and air passengers in Spain

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dependent variable:	Number of passengers	Number of passengers	Number of passengers	Number of passengers	Number of passengers	Number of passengers in the 1st quarter	Number of passengers in the 2nd quarter	Number of passengers in the 3rd quarter	Number of passengers in the 4th term
PLCA			-15.516***	-15.877***	-17.425***	-3.485***	-4.670***	-5.133***	-4.135***
			(1.795)	(1.820)	(3.551)	(0.704)	(0.954)	(1.092)	(0.816)
Crisis	-0.651		-0.867						
	(0.853)		(0.794)						
Years since crisis 1-2		-0.102		0.078	-2.816	-0.469	-0.693	-0.758	-0.897
		(1.142)		(1.061)	(2.588)	(0.513)	(0.695)	(0.795)	(0.595)
Years since crisis3-4		-0.158		-1.249	-3.186	-0.737	-0.864	-0.717	-0.869
		(1.249)		(1.166)	(2.709)	(0.537)	(0.728)	(0.833)	(0.623)
Years since crisis5-6		-0.494		-1.428	-1.523	-0.557	-0.217	-0.016	-0.755
		(1.323)		(1.234)	(3.020)	(0.599)	(0.812)	(0.928)	(0.694)
Years since crisis≥7		0.384		-0.600	0.930	-0.163	0.415	0.686	-0.010
		(1.409)		(1.313)	(3.070)	(0.609)	(0.825)	(0.944)	(0.706)
PLCA x Years since crisis 1-2					5.779	1.081	1.479	1.617	1.601
					(4.709)	(0.934)	(1.265)	(1.448)	(1.082)
PLCA x Years since crisis 3-4					4.151	1.010	1.137	0.924	1.077
					(5.070)	(1.005)	(1.362)	(1.559)	(1.165)
PLCA x Years since crisis 5-6					-0.021	0.405	-0.268	-0.669	0.574
					(5.577)	(1.106)	(1.498)	(1.714)	(1.282)
PLCA x Years since crisis ≥7					-3.220	-0.154	-1.054	-1.554	-0.456
					(5.389)	(1.069)	(1.448)	(1.657)	(1.239)
Region FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region*time	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region*time^2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
P-value (F-test of PLCA + PLCA x Crisis years 1-2 =0)					0.0008	0.0005	0.0006	0.001	0.0015
P-value (F-test of PLCA + PLCA x Crisis years 3-4 =0)					0.0004	0.0008	0.0004	0.0002	0.0004
P-value (F-test of PLCA + PLCA x Crisis years 5-6 =0)					0.0001	0.0003	0	0	0.0003
P-value (F-test of PLCA + PLCA x Crisis years ≥7 =0)					0	0	0	0	0
Observations	526	526	526	526	526	526	526	526	526
R^2	0.668	0.668	0.713	0.714	0.717	0.752	0.702	0.687	0.733

Notes: Estimates are weighted using data on the population of each region. Robust standard errors are in parentheses. *** Significant at the 1% level, ** Significant at the 5% level, * Significant at the 10% level.

Table 2: The relationship between the economic crisis and air passengers in Spain using Poisson model

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dependent variable:	Number of passengers	Number of passengers	Number of passengers	Number of passengers	Number of passengers	Number of passengers in the 1st quarter	Number of passengers in the 2nd quarter	Number of passengers in the 3rd quarter	Number of passengers in the 4th quarter
PLCA			-2.114***	-2.131***	-2.250***	-1.970***	-2.425***	-2.431***	-2.096***
			(0.161)	(0.161)	(0.300)	(0.646)	(0.594)	(0.564)	(0.606)
Crisis	-0.126*		-0.175**						
	(0.069)		(0.069)						
Years since crisis 1-2		-0.035		-0.043	-0.240	-0.205	-0.234	-0.231	-0.319
		(0.090)		(0.091)	(0.179)	(0.385)	(0.352)	(0.336)	(0.368)
Years since crisis 3-4		-0.051		-0.159	-0.240	-0.290	-0.242	-0.185	-0.302
		(0.107)		(0.107)	(0.197)	(0.431)	(0.386)	(0.365)	(0.403)
Years since crisis 5-6		-0.107		-0.222*	-0.205	-0.353	-0.121	-0.073	-0.370
		(0.122)		(0.123)	(0.223)	(0.490)	(0.437)	(0.413)	(0.459)
Years since crisis >=7		0.017		-0.053	0.019	-0.271	0.158	0.218	-0.160
		(0.146)		(0.146)	(0.256)	(0.567)	(0.501)	(0.471)	(0.524)
PLCA x Years since crisis 1-2					0.506	0.531	0.531	0.519	0.493
					(0.376)	(0.818)	(0.738)	(0.695)	(0.782)
PLCA x Years since crisis 3-4					0.220	0.316	0.212	0.211	0.219
					(0.411)	(0.911)	(0.808)	(0.751)	(0.851)
PLCA x Years since crisis 5-6					-0.053	0.153	-0.157	-0.172	0.082
					(0.451)	(0.997)	(0.886)	(0.826)	(0.935)
PLCA x Years since crisis>=7					-0.164	0.220	-0.356	-0.440	0.060
					(0.458)	(0.993)	(0.911)	(0.856)	(0.926)
Region FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region*time	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region*time2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
P-value (F-test of PLCA + PLCA x Years since crisis 1-2=0)					0	0.0187	0.0005	0.0002	0.0071
P-value (F-test of PLCA + PLCA x Years since crisis 3-4=0)					0	0.0145	0.0001	0	0.0029
P-value (F-test of PLCA + PLCA x Years since crisis 5-6=0)					0	0.0169	0.0001	0	0.0048
P-value (F-test of PLCA + PLCA x Years since crisis >=7=0)					0	0.019	0	0	0.0032
Observations	526	526	526	526	526	526	526	526	526

Notes: Robust standard errors are in parentheses. *** Significant at the 1% level, ** Significant at the 5% level, * Significant at the 10% level.

Table 3: The relationship between the economic crisis and air passengers using seasonally-adjusted quarterly count of passengers

	(1)	(2)	(3)	(4)	(5)
Dependent variable:	Number of passengers	Number of passengers	Number of passengers	Number of passengers	Number of passengers
PLCA			-15.516***	-15.877***	-17.425***
			(0.862)	(0.872)	(1.696)
Crisis	-0.651		-0.867**		
	(0.410)		(0.381)		
Years since crisis 1-2		-0.102		0.078	-2.816**
		(0.547)		(0.508)	(1.236)
Years since crisis 3-4		-0.158		-1.249**	-3.186**
		(0.599)		(0.559)	(1.294)
Years since crisis 5-6		-0.494		-1.428**	-1.523
		(0.634)		(0.591)	(1.442)
Years since crisis >=7		0.384		-0.600	0.930
		(0.675)		(0.629)	(1.466)
PLCA x Years since crisis 1-2					5.779**
					(2.249)
PLCA x Years since crisis 3-4					4.151*
					(2.421)
PLCA x Years since crisis 5-6					-0.021
					(2.663)
PLCA x Years since crisis>=7					-3.220
					(2.573)
Region FE	Yes	Yes	Yes	Yes	Yes
Region*time	Yes	Yes	Yes	Yes	Yes
Region*time^2	Yes	Yes	Yes	Yes	Yes
P-value (F-test of PLCA + PLCA x Years since crisis 1-2=0)					0
P-value (F-test of PLCA + PLCA x Years since crisis 3-4=0)					0
P-value (F-test of PLCA + PLCA x Years since crisis 5-6=0)					0
P-value (F-test of PLCA + PLCA x Years since crisis >=7=0)					0
Observations	2,104	2,104	2,104	2,104	2,104
R^2	0.668	0.668	0.713	0.714	0.716

Notes: We use the seasonally-adjusted quarterly number of passengers as the dependent variable instead of the annual number of passengers in all estimations. Estimates are weighted using data on the population of each region. Robust standard errors are in parentheses. *** Significant at the 1% level, ** Significant at the 5% level, * Significant at the 10% level.

Appendix

Table A1: The relationship between the economic crisis and air passengers in Spain using other economic variables

	(1)	(2)
Dependent variable:	Number of passengers	Number of passengers
PIB pc	0.0004	
	(0.000)	
Unemployment rate		-0.020
		(0.057)
Region FE	Yes	Yes
Region*time	Yes	Yes
Region*time^2	Yes	Yes
Observations	526	526
R^2	0.669	0.668

Notes: This table includes other economic variables as alternative measures of the economic crisis. We include the PIB per capita and the unemployment rate by region and year, instead of including our variable Crisis. Estimates are weighted using data on the population of each region. Robust standard errors are in parentheses. *** Significant at the 1% level, ** Significant at the 5% level, * Significant at the 10% level.

Table A2: The relationship between the economic crisis and air passengers in Spain using pre-crisis, crisis and post-crisis indicators

	(1)	(2)
Dependent variable:	Number of passengers	Number of passengers
PLCA		-15.486***
		(1.799)
Crisis	-0.256	-0.672
	(1.023)	(0.954)
Post-crisis	0.999	0.492
	(1.424)	(1.326)
Region FE	Yes	Yes
Region*time	Yes	Yes
Region*time^2	Yes	Yes
Observations	526	526
R^2	0.668	0.713

Notes: We create 3 dummies variables taking value 1 if the year belong to the pre-crisis, crisis or post-crisis period, respectively. The pre-crisis indicator is the excluded variable in the estimations. Estimates are weighted using data on the population of each region. Robust standard errors are in parentheses. *** Significant at the 1% level, ** Significant at the 5% level, * Significant at the 10% level.

Table A3: The relationship between the economic crisis and air passengers in Spain using pre-crisis, crisis and post-crisis indicators (excluding Suárez Madrid-Barajas, Barcelona-El Prat, Palma de Mallorca, Málaga-Costa del Sol)

	(1)	(2)
Dependent variable:	Number of passengers	Number of passengers
PLCA	1.382***	1.373***
	(0.472)	(0.479)
Crisis	-0.165	
	(0.208)	
Years since crisis 1-2		0.031
		(0.277)
Years since crisis 3-4		0.007
		(0.305)
Years since crisis 5-6		-0.238
		(0.324)
Years since crisis >=7		-0.004
		(0.347)
Region FE	Yes	Yes
Region*time	Yes	Yes
Region*time^2	Yes	Yes
Observations	474	474
R^2	0.558	0.559

Notes: The four airports with the highest number of passengers have been excluded in both columns. Robust standard errors are in parentheses. *** Significant at the 1% level, ** Significant at the 5% level, * Significant at the 10% level.

Table A4: The relationship between the economic crisis and air passengers in Spain without including linear and quadratic trends

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dependent variable:	Number of passengers	Number of passengers	Number of passengers	Number of passengers	Number of passengers	Number of passengers in the 1st quarter	Number of passengers in the 2nd quarter	Number of passengers in the 3rd quarter	Number of passengers in the 4th quarter
PLCA			-14.770***	-14.955***	-14.649***	-2.750***	-4.018***	-4.540***	-3.339***
			(1.695)	(1.705)	(2.907)	(0.577)	(0.782)	(0.895)	(0.667)
Crisis	0.012		-0.009						
	(0.601)		(0.561)						
Years since crisis 1-2		0.504		1.055	-0.205	0.104	0.002	-0.054	-0.256
		(0.928)		(0.867)	(2.156)	(0.428)	(0.580)	(0.664)	(0.495)
Years since crisis 3-4		0.684		0.232	-0.142	-0.049	-0.075	0.081	-0.098
		(0.924)		(0.863)	(2.066)	(0.410)	(0.556)	(0.636)	(0.474)
Years since crisis 5-6		0.479		0.343	1.723	0.193	0.590	0.831	0.090
		(0.936)		(0.873)	(2.294)	(0.455)	(0.617)	(0.707)	(0.527)
Years since crisis >=7		1.332		1.344*	2.853	0.341	0.788	1.117*	0.605
		(0.834)		(0.778)	(2.096)	(0.416)	(0.564)	(0.646)	(0.481)
PLCA x Years since crisis 1-2					2.573	0.303	0.647	0.845	0.778
					(4.196)	(0.832)	(1.129)	(1.292)	(0.963)
PLCA x Years since crisis 3-4					0.918	0.161	0.328	0.227	0.202
					(4.353)	(0.863)	(1.171)	(1.341)	(0.999)
PLCA x Years since crisis 5-6					-3.130	-0.469	-0.987	-1.290	-0.322
					(4.788)	(0.950)	(1.288)	(1.475)	(1.099)
PLCA x Years since crisis>=7					-3.341	-0.467	-0.852	-1.221	-0.799
					(4.321)	(0.857)	(1.163)	(1.331)	(0.992)
Region FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region*time	No	No	No	No	No	No	No	No	No
Region*time^2	No	No	No	No	No	No	No	No	No
P-value (F-test of PLCA + PLCA x Years since crisis 1-2=0)					0.0003	0.0002	0.0002	0.0003	0.0007
P-value (F-test of PLCA + PLCA x Years since crisis 3-4=0)					0.0001	0.0002	0.0001	0.0001	0.0001
P-value (F-test of PLCA + PLCA x Years since crisis 5-6=0)					0	0.0001	0	0	0.0001
P-value (F-test of PLCA + PLCA x Years since crisis >=7=0)					0	0	0	0	0
Observations	526	526	526	526	526	526	526	526	526
R^2	0.663	0.664	0.707	0.709	0.710	0.747	0.695	0.679	0.728

Notes: This table shows estimates without including linear and quadratic trends. Estimates are weighted using data on the population of each region. Robust standard errors are in parentheses. *** Significant at the 1% level, ** Significant at the 5% level, * Significant at the 10% level.