Figure 1. Basic characteristics of LAs in England and Spain

Public Services		English LAs	Spanish LAs
Public Services		Provide all the public services	Provide the same public services as the English LAs except health and education
Political Structure		Leader + cabinet	Leader + cabinet
Political Ideology		57% left-wing	72% right-wing
Funding	Government Grants	58%	33%
Funding	Local taxes	22%	42%
Funding	Other*	20%	25%
Education		28%**	
Public Health		-0.1%***	
LAs with deficit		68%	6%

Source: English LAs: LGA (www.local.gov.uk); Spanish LAs: BOE (www.boe.es). www.minhafp.gob.es. .administracion.gob.es

Data for 2014
LA: Local authority
* Such as interest payments, capital receipts, sales, fees and charges
** % of the net cost of services. This percentage is positive because in all the English LAs the cost of the service is higher than the corresponding revenue.
*** % of the net cost of services. This percentage is negative because in most English LAs the revenue from the service covers the cost.

Figure 2. Financial sustainability

Concept	Amount
Income statement for the financial year obtained by applying the current IPSAS	(1)
+ Negative entries for extraordinary activities	(2)
- Positive entries for extraordinary activities	(3)
Corrected income statement for the financial year (intergenerational equity for financial sustainability)	(1) + (2) – (3)

Figure 3. Variables

Variables	Acronym	Description	Source	Calculation
		Dependent Variable		
Financial Sustainability	FS	Adjusted Income Statement results per capita	LA financial statement[1,2,3]	Corrected income statement for the financial year per capita
		Independent Variables		
		RQ 1: Institutional and Macroeconomic Variables		
Administrative Culture (H1)	AC	Administrative tradition and organizational culture of the LAs	Dichotomic variable. Own elaboration	1= Spanish LAs 0=English LAs
Competences (H2)	COMP	Services that each LA provides to citizens	LA financial statement[1,2,3]	Services costs per capita
Funding Scheme (H2)	GG	% of the Public revenues obtained by Government Grants	LA financial statement[1,2,3]	Government Grants/Total public revenues * 100
	LT	% of the Public revenues obtained by Local taxes	LA financial statement[1,2,3]	Local taxes/Total public revenues * 100
	OT	% of the Public revenues obtained by other sources	LA financial statement[1,2,3]	Revenues of other sources/Total public revenues * 100
Political control (H3)	OP	% of right-wing parties	Historical data[1,2,3]	Number of right-wing parties/Total of LAs*100
Credit Risk Premium (H4)	CRP	Difference between Spanish and German Treasury bond price.	European Central Bank	Annual average of the Risk premium of each country
Economic Level (H5)	EC	GDP per capita*	INE[1];ONS[2]	GDP/Labour force
Political Stability (H6)	PS	Measures perceptions of the likelihood of political instability and/or politically-motivated violence. including terrorism	The World Bank Group	Estimate of governance (ranges from approximately -2.5 (weak) to 2.5 (strong) governance performance)
Government Effectiveness (H7)	GE	Captures perceptions of the quality of public services. the degree of LA`s independence from political pressures. the credibility of the government's commitment to such policies	The World Bank Group	Estimate of governance (ranges from approximately -2.5 (weak) to 2.5 (strong) governance performance)
Regulatory Quality (H8)	RQ	Captures perception of the LA`s ability to formulate and implement regulations that permit and promote private sector development	The World Bank Group	Estimate of governance (ranges from approximately -2.5 (weak) to 2.5 (strong) governance performance)
The rule of law (H9)	RL	Captures perceptions of the extent to which agents have confidence in and abide by the rules of society. and in particular the quality of contract enforcement. property rights. the police and the courts.	The World Bank Group	Estimate of governance (ranges from approximately -2.5 (weak) to 2.5 (strong) governance performance)
The control of corruption (H10)	CC	Captures perceptions of the extent to which public power is exercised for private gain. including both petty and grand forms of corruption. as well as "capture" of the state by elites and private interests.	The World Bank Group	Estimate of governance (ranges from approximately -2.5 (weak) to 2.5 (strong) governance performance)
		RQ2: Microeconomic Variables: Demographic Variables		

Variable	Code	Description	Source	Formula
Population (H11)	LN_POP	Population residing in the Local Authority	INE[1]; ONS[2]	Neperian logarithm of the population
Population density (H12)	PD	Population residing in the municipality per km^2	INE[1]; ONS[2]	Population divided by km^2
Dependent population 16 years (H13)	DP16	Population aged under 16 years residing in the municipality	INE[1]; ONS[2]	Population aged under 16 years/Labour force
Dependent population 65 years (H14)	DP65	Population aged over 65 years residing in the municipality	INE[1]; ONS[2]	Population aged over 65 years/Labour force
Immigrant population (H15)	IP	Immigrant population residing in the municipality	INE[1]; ONS[2]	% Immigrant population
RQ2: Microeconomic Variables: Socioeconomic Variables				
Unemployment rate (H16)	UR	Unemployment rate in the municipality	SEPE[1]; ONS[2];Nomis[2]	Unemployed population /Labour force
Business Count (H17)	BC	Business count	Business Register[1]; Nomis[2]	Business /1000 inhabitants

Note: LA: Local authority

INE: Statistic Institute of Spain (www.ine.es)

SEPE: Public Employment Service of Spain (www.sepe.es)

Business Register: (www.rmc.es)

ONS: Office for National Statistics (www.ons.gov.uk)

Nomis: official labour market statistics (www.nomisweb.co.uk)

Note 1: Spanish data source; 2: English data sources; 3: Data obtained from the website of each LA; * We used the English Local Authorities GVA per capita as a proxy of the GDP.

Source: Own elaboration

Figure 4. The models (2)

A) English local authorities microeconomic model: demographic and socioeconomic factors

(1) $FS_{it}=\beta_0+\beta_1 LN\_POP_{it}+\beta_2 PD_{it}+\beta_3 DP16_{it}+\beta_4 DP65_{it}+\beta_5 INM_{it}+\beta_6 UR_{it}+\beta_7 BC_{it}+u_{it}$

B) Spanish local authorities microeconomic model: demographic and socioeconomic factors

(1) $FS_{it}=\beta_0+\beta_1 LN\_POP_{it}+\beta_2 PD_{it}+\beta_3 DP16_{it}+\beta_4 DP65_{it}+\beta_5 INM_{it}+\beta_6 UR_{it}+\beta_7 BC_{it}+u_{it}$

where "i" is the i-th transversal unit (English or Spanish LAs) and "t" is the time (year).

Figure 5. Statistical tests

	English LAs (Model A)		Spanish LAs (Model B)	
	Demographic and Socio-Economic model (1)		Demographic and Socio-Economic model (2)	
	z	P	z	P
Arellano test (1)	-4.35	0	-6.17	0
Arellano test (2)	1.25	0.21	-0.49	0.621
	Chi2	P	Chi2	P
Hansen test	chi2(47)=46.77	0.482	chi2(39)=45.88	0.208
Instruments	53		56	
Groups	55		138	

Note:
LA: Local authority
The Arellano-Bond test reveals serial correlation in the first-differenced errors.
The Hansen test of over-identifying restrictions confirms the validity of the instruments used.

Figure 6. Descriptive statistics

Variable	Acronym		English Local Authorities				Spanish Local Authorities			
			Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max
Financial Sustainability	FS	overall		265.6799	-1119.879	800.1127		167.3197	-558.69	841.17
		between	-134.1163	112.3651	-579.2166	189.9312	107.8106	94.252	-258.43	348.3257
		within		241.1548	-1097.254	777.8538		140.814	-608.7794	822.0431
Institutional and Macroeconomic Variables										

Variable	Acronym	Stat								
Administrative Culture (H1)	AC		0	0	0	0	1	0	1	1
Competences (H2)	COMP		1385.924	183.3033	1089.946	1627.474	706.5629	93.4353	562.2238	838.0533
Funding Scheme (H2)	GG		0.6475	0.0323	0.59	0.7	0.3767	0.0422	0.31	0.45
	LT		0.1975	0.0083	0.19	0.21	0.3156	0.053	0.26	0.4
	OT		0.155	0.0292	0.11	0.19	0.3067	0.0474	0.25	0.39
Political Control (H3)	OP		0.4889	0.0529	0.38	0.55	0.5744	0.1308	0.45	0.72
Credit Risk Premium (H4)	CRP		65.032	29.9046	30.1043	127.9963	158.6251	140.0874	1.6393	431.5869
Economic Level (H5)	EC		32288.89	2872.066	27600	36600	23128.89	582.652	22518	24300
Political Stability (H6)	PS		0.4365	0.1446	0.1216	0.6692	-0.1502	0.2178	-0.4738	0.2431
Government Effectiveness (H7)	GE		1.5858	0.0600	1.4955	1.6710	1.0171	0.1043	0.8372	1.1597
Regulatory Quality (H8)	RQ		1.7451	0.0923	1.5843	1.8666	1.0783	0.1569	0.7505	1.2548
The rule of law (H9)	RL		1.7443	0.0629	1.6507	1.8896	1.1200	0.0827	0.9526	1.1981
The control of corruption (H10)	CC		1.6869	0.0595	1.6048	1.7923	1.0416	0.1658	0.6298	1.1902
Microeconomic Variables										
Population (H11)	LN_POP	overall		0.4567	10.51	13.21		0.7368	10.42	15
		between	12.195	0.4598	10.5289	13.1833	11.601	0.7383	10.4656	14.9822
		within		0.0227	12.1139	12.2606		0.0375	11.3399	11.761
Population Density (H12)	PD	overall		1573.393	62.1	5174.09		3093.868	51.55	18474.43
		between	1639.828	1584.922	62.7756	5007.913	2326.146	3102.627	53.5233	18175.84
		within		65.3494	1296.762	1911.793		88.1827	1530.875	2904.835
Dependent population under 16 rate (H13)	DP16	overall		2.8406	22.92	38.27		3.3563	15.44	33.61
		between	29.5034	2.808	23.3222	36.95	23.8924	3.2365	16.8922	33.1244
		within		0.5586	27.2945	32.3546		0.9262	19.5602	27.7191
Dependent population over 65 rate (H14)	DP65	overall		6.2038	13.69	43.66		6.5546	5.21	43.12
		between	25.7149	6.0325	14.4011	40.0056	21.8223	6.3508	6.0778	36.7378
		within		1.6386	20.886	30.126		1.6998	15.4978	29.0512
% foreign people (H15)	INM	overall		4.8955	0.33	24.82		9.5201	0.94	53.54
		between	6.2323	4.7277	0.7463	21.0433	12.8915	9.4574	1.2189	51.6389
		within		1.3958	0.5967	12.6367		1.3294	4.9359	16.6948
Unemployment rate (H16)	UR	overall		2.755	1.44	16.99		4.9826	3.12	27.38
		between	6.9462	2.2555	3.82	12.48	12.3889	3.1237	5	21.1378
		within		1.6091	2.1217	11.4562		3.8899	3.3444	20.2766
Business unit count (H17)	BC	overall		9.1566	18.6578	65.1597		9.9558	5.32	72.74
		between	37.2612	8.6989	23.6802	61.1529	26.557	9.0957	7.1913	60.5975
		within		3.0655	28.7355	42.7042		4.1122	13.5932	40.1682

Note: Financial sustainability and Microeconomic Variables at local levels. Data used: 138 Spanish LAs and 55 English LAs (neither Welsh nor Scottish LAs are included)

Institutional and Macroeconomic variables at national level.

Figure 7. Institutional and macroeconomic models

		English LAs	Spanish LAs
Variable	Acronym	Correlation Matrix	Correlation Matrix
Competences	COMP	-0.1858*	0.1188*
Funding Scheme	GG	-0.1848*	0.181*
	LT	0.1458*	-0.0767

		English LAs	Spanish LAs
	OT	0.2202 *	-0.0893 *
Political Control	OP	0.0399	-0.1501 *
Credit Risk Premium	CRP	-0.0829	-0.1299 *
Economic Level	EC	0.0726 *	0.0908 *
Political Stability	PS	0.2303 *	-0.0426
Government Effectiveness	GE	0.0274	-0.1321 *
Regulatory Quality	RQ	0.0127	0.0071
The rule of law	RL	-0.0518	-0.0538
The control of corruption	CC	0.0398	-0.1079 *
Culture Administrative	CA	0.4742 *	

(1) Coefficients obtained from Pearson's matrix of correlations. Linear relationship with financial sustainability.

(2) Stata 12: *P-value < 0.05

(3) The variable Administrative Culture was analysed using English and Spanish LAs in the same correlation matrix to determine its possible influence in the financial sustainability of these LAs.

(4) To exclude information which is irrelevant to this study, we only include the Pearson coefficients which show the linear relationship between the dependent variable (Financial sustainability) and the independent variables (institutional and macroeconomic variables).

Figure 8. The models

Acronym	English LAs (Model A) Model (1)	Spanish LAs (Model B) Model (2)
FS_L1.	0.15 ***	0.18 **
LN_POP	-200.11 ***	-388.49 **
PD	-0.06	-0.035
DP16	-55.82 ***	-47.34 ***
DP65	-5.52	11.75
INM	-20.29	-8.76 *
UR	-50.65 **	-10.58*
BC	-22.96 **	10.25
_cons	5664.63 ***	3073.5 **
Wald test	Chi2(16)=12601.01 P=0	chi2(16)=638.17 P=0

Note: (1)GMM-Dynamic Panel data–Two Step

(2) Fixed effect of time considered; All independent variables are considered as endogenous variables

(3) The 'collapse' option was used in order to reduce the instruments (Roodman. 2009)

(4) Stata 12:*P-value < 0.10.** P-value < 0.05.*** P-value < 0.01