



The formation of tourism cities and their effect on the Spanish Mediterranean urban system

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Research group on
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1 Background

Research on relations between economic development and the distribution of the cities within urban systems is one of the classical subjects in economic and urban geography (Berry, 1961). It has been object of numerous empirical researches, especially aiming to validate the *rank-size* model (Carroll, 1982; Chesire, 1999; Gabaix & Ioannides, 2003).

Several studies evidence the existence of a deep relation between the distribution of the *rank-size* of an specific urban system and its economic development (Davis and Weinstein, 2002; Ioannides & Overman, 2004, Eaton & Eckstein, 1997).

In spite of his effects on the creation of new cities along the coast and the growth of the already existing, do not exist empirical studies analyzing the relation between the development of tourism and the evolution of the Mediterranean Spanish coastal urban system as a whole and within each provincial urban system.

2 Objectives

Describe the evolution of the Mediterranean Spanish coastal urban system since the second half of the 20th century.

Validate the relation between the deployment of the tourist activity into the coastal provinces and the distribution of cities according with their size.

Determine if the growth derived from the tourism development has had a significant impact on the coastal urban systems.



3 Study Area

The Spanish Mediterranean coast has become, after 60 years of continued and dynamic tourist development one of denser urban regions in Europe.

Some authors have developed the concept of compact “long linear” city constituted by a conglomerate of hotels and leisure facilities to refer to the Spanish Mediterranean coast (Mass, 2001).

The Spanish Mediterranean tourist development has created an urban structure that deploys the regional scale and has effects over the whole regional system of cities.



4 Methodology

Rank size model

- indicates the relation between the number of cities of one specific region and their size
- establishes a relation between the size of the biggest city and the remaining cities of the urban system of the region
- is an useful tool to evaluate the changes in the distribution of the size of the cities along the time.

The growth of the population in the cities of a system can be as follows:

- 1) Divergent, when the greater relative increase of the size corresponds to the biggest cities;
- 2) Convergent, when the more important relative growth is among the smallest cities;
- 3) Parallel, when rates of relative growth are similar between cities of different size.

4 Methodology

Rank size model (log function)

$$\log P_i = \log C - q \log r_i$$

P_i = inhabitants of city i ;

r_i = rank population of city i ;

C = a constant value that equals to the number of inhabitants of the first city 1;

q = slope coefficient, meaning the degree of concentration of the urban system.

4 Methodology

Data available

Population data from National Census of 1960, 1970, 1981, 1991, 2001 i 2010.

Municipalities of costal Mediterranean provinces plus Balearic and Canary Islands.

4 Methodology

Types of cities according with their touristic function (places over 5,000 inhabitants) in the Spanish Mediterranean coast in 2010 (1,953 cities and towns):

- M1. Province capital cities. N=15 (0,7%)
- M2. Cities greater than 50,000 inhabitants . N=30 (1,5%)
- M3. International tourist hubs (more than 10,000 beds). N=41 (2,1%)
- M4 . Regional tourist centres (more than 3,000 and less than 9.999 beds). N=63 (3,2%)
- M5. Secondary tourist centres (more than 1000 and less than 2.999 beds). N=66 (3,4%)
- M6. Regular Towns (less than 1,000 beds and less than 50.000 inhabitants) (2005). N=1.738 (88,9%)

5 Results

	1960-1970	1970-1980	1980-1990	1990-2000	2000-2010	Total 1960-2010
Less than 3.000 inhabitants	Negative	Negative	Negative	Negative	Positive	-273976
3001 to 10.000	Positive	Positive	Positive	Positive	Positive	1282428
10.001 to 50.000	Positive	Positive	Positive	Positive	Positive	4423715
50.000 to 250.000	Positive	Positive	Positive	Positive	Positive	3428737
250.001 to 500.000	Positive	Positive	Positive	Positive	Positive	926322
>500.000 inhabitants	Positive	Positive	Negative	Negative	Positive	669730
Total Mediterranean Urban System	Positive	Positive	Positive	Positive	Positive	10344967
In bold the highest interannual urban segment growth						
In red the lowest interannual urban segment growth						

Interannual urban growth of the Spanish Mediterranean urban system (+/-trend)

Reorganization of the urban system in favour of the mid-sized cities

5 Results

	1960	1970	1980	1990	2000	2010
Almería	43,1	55,65	62,67	65,94	66,83	75,75
Cádiz	86,84	88,83	91,77	91,67	91,18	92,62
Granada	41,69	46,55	54,04	58,68	60,3	66,89
Huelva	45,14	45,29	53,22	58,84	64,76	69,82
Málaga	63,39	71,57	81,7	85,8	86,3	87,8
Illes Balears	57,46	64,91	74,68	78,16	78,69	84,39
Palmas, Las	74,68	83,22	86,49	86,18	90,56	93,97
Santa Cruz de Tenerife	60,14	73,01	77,34	75,46	79,86	84,77
Barcelona	81,76	86,03	89,55	88,86	87,53	88,83
Girona	22,11	42,5	51,46	53,71	53,06	62,65
Tarragona	41,96	48,96	57,41	60,96	63,84	67
Alacant	62,71	70,96	77,93	79,97	82,55	86,16
Castelló	49,65	59,25	68,02	68,44	71,85	74,45
València	60,61	72,65	77,17	77	79,5	81,06
Murcia	83,56	86,27	81,7	90,36	91,47	95,46
Spain	56,78	66,49	73,27	74,53	75,89	78,96

Coastal Mediterranean Spanish urbanization tax and taxes of urbanization per provinces

High growth of urbanization of coastal Spanish provinces

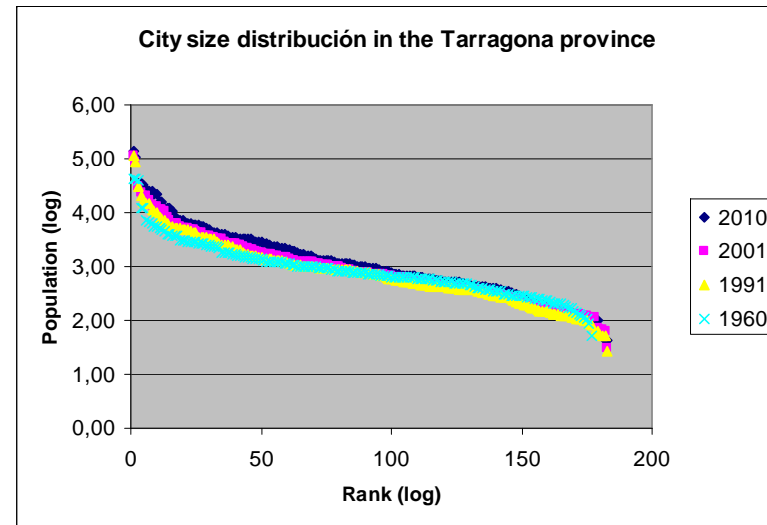
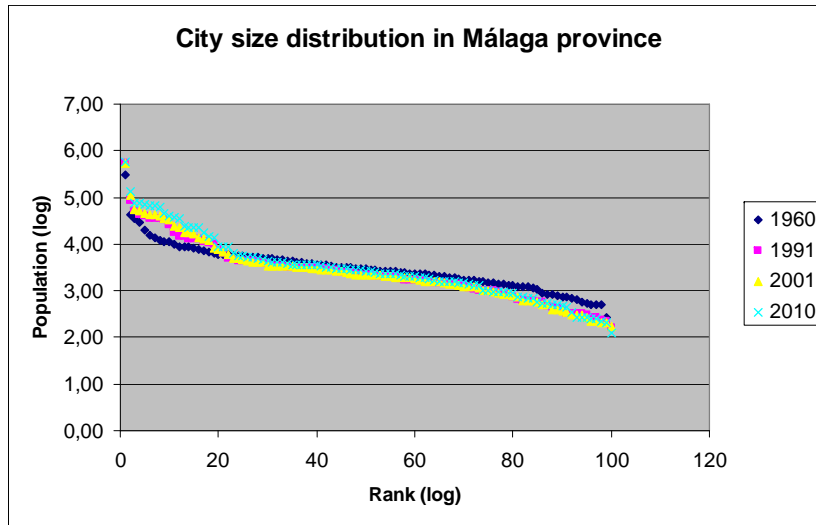
5 Results

Mediterranean urban system	1960	1970	1981	1991	2001	2010
q	-1.03	-1.05	-1.07	-1.03	-0.97	-0.94
Intercep	6.24	6.37	6.5	6.47	6.4	6.44
Regions	1960	1970	1981	1991	2001	2010
Alacant						
q	-1.01	-1.08	-1.08	-1.12	-1.08	-1.01
Intercep	6.18	6.33	6.48	6.66	6.66	6.82
Tenerife						
q	-0.94	-1.05	-1.09	-1.11	-1.08	-1.11
Intercep	4.93	6.12	6.22	6.32	6.32	6.48
Las Palmas de Gran Canaria						
q	-1.06	-1.23	-1.3	-1.18	-1.1	-1.08
Intercep	6.02	6.22	6.39	6.39	6.38	6.47
Illes Balears						
q	-0.89	-0.94	-0.99	-1.01	-0.99	-0.99
Intercep	4.81	4.94	5.08	5.14	5.21	5.33
Nîlaga						
q	-1.14	-1.21	-1.3	-1.31	-1.34	-1.32
Intercep	6.17	6.3	6.46	6.67	6.86	6.77
Tarragona						
q	-1.26	-1.26	-1.17	-1.09	-1.03	-1.02
Intercep	4.93	6.06	6.1	6.08	6.09	6.22

Mediterranean urban system rank size coefficients

1960-1980 main urban system concentration tendency
 1980-2010 de-concentration tendency all over the coastal region

5 Results



Urban de-concentration spread out to the whole coastal urban system

Different patterns according to the metropolitan nature of the urban system

5 Results

	Big cities (>500.000 inhabitants)	Intermediate cities (50.000 to 500.000 inhabitants)	Medium-sized cities (20.000 to 50.000 inhabitants)	Small cities (less than 20.000 inhabitants)	Total
Regional capital cities (M1)	20	80	0	0	100
No tourist cities with >50.000 inhabitants (M2)	0	100	0	0	100
International tourist cities (M3)	0	29,27	46,34	24,39	100
Regional tourism cities (M4)	0	12,7	42,86	44,44	100
Local tourism cities (M5)	0	12,12	24,24	63,64	100
No tourism cities and villages (M6)	0	0	5,64	94,36	100

Distribution of tourist and non tourist cities by city size in % (2010)

Tourism cities spread to all urban types, except Regional capital cities

Tourism cities account for 38% of Spanish mid size cities

5 Results

	1960	1970	1980	1990	2000	2010
International tourist cities (M3)	27	29	36	39	39	41
Regional tourism cities (M1)	38	41	46	61	66	83
Local tourism cities (M6)	31	34	36	41	47	66
Total number of cities (>5.000 inhabt)	94	104	116	131	141	170
% on Mediterranean urban system	14.87	18.71	23.14	28.38	25.38	28.90

Evolution of the total number of cities (>5,000 inhabitants) by tourism cities types

Tourist cities increases their presence in the coastal Mediterranean Spanish urban system

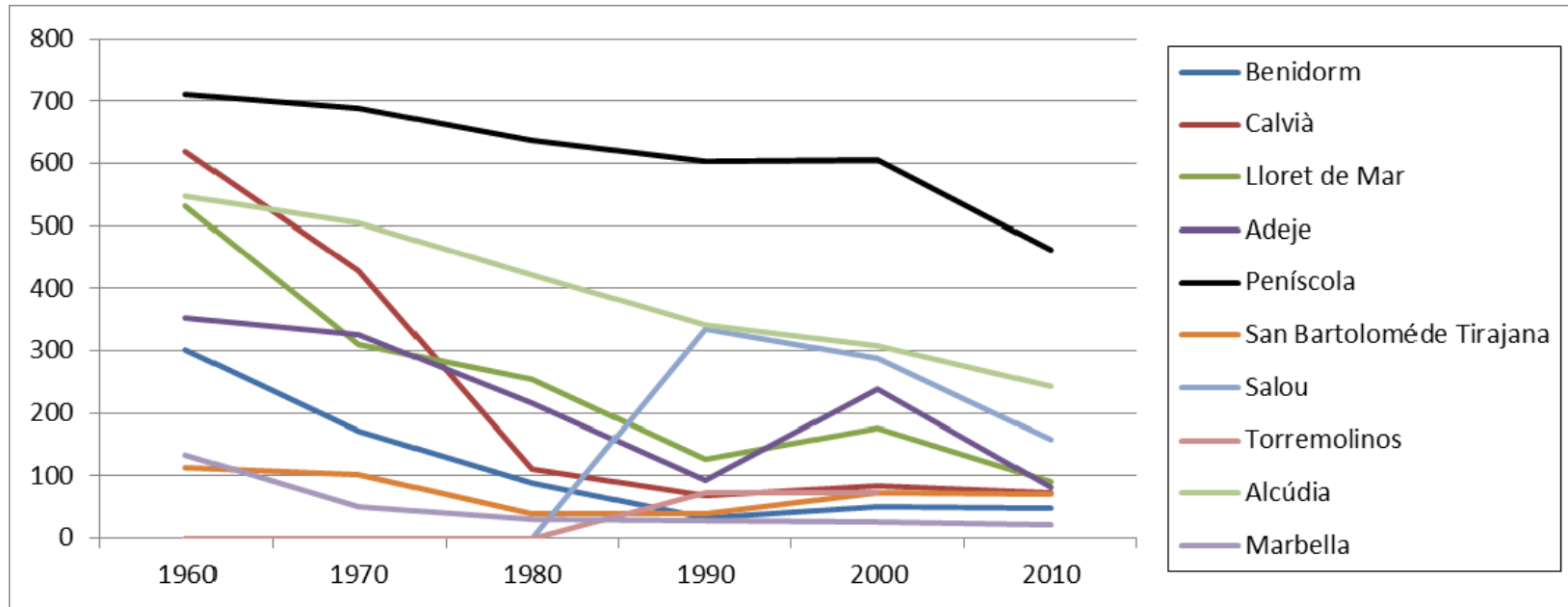
5 Results

	1960	%	1970	%	1981	%	1991	%	2001	%	2010	%
Most populated cities of the Mediterranean urban system (1 to 100 ranking)	4	0.21	7	0.37	9	0.72	14	0.72	16	0.77	18	0.92
Most populated cities of the Mediterranean urban system (1 to 25 ranking)	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	0.00
Total number of localities of the Mediterranean Urban system	1902		1906		1922		1942		1947		1963	

Evolution of the presence of tourist cities among the top cities of the urban system

Some tourism cities become regional urban nodes

5 Results



Urban rank evolution of the 10 greater tourist cities (1960-2010)

International tourist cities increase urban hierarchy
Most tourist cities, previously villages, have become mid cities in a few decades

5 Results

	Mean urban rank 1960	Mean urban rank 2010	Rank Increase/decrease
Regional capital cities (M1)	12	12	0
No tourist cities with >50.000 inhabitants (M2)	78	44	32
International tourist cities (M3)	359	172	167
Regional tourism cities (M4)	398	282	134
Local tourism cities (M5)	495	377	118
Number of no tourism cities and villages (M6)	1026	1072	-46


Mean urban rank evolution by group of cities (1960-2010)

Urban hierarchy of tourist cities has increased considerably
Growth is higher among cities with higher tourism specialization

According to the rank size model, it must be hypothesized that some tourist cities are becoming new service regional centres

6 Concluding remarks

- **It exists a relationship between the changes detected in the distribution of cities according with their size and the irruption of the tourism since the years 60.**
- There is a trend to a light deconcentration of the system motivated by the increase of the weight of the average cities. The model of growth is **convergent** (taxes of growth of the small and average cities are higher than taxes of the big cities) and extensive (new medium cities are created). Tourist cities have driven both phenomena.
- **Tourist cities behave as a differentiated urban group within the urban system. They have a greater demographical dynamism (in relation to mid size cities or big cities without tourism) derived of their capacity of attraction of population. This makes them win weight within the whole system (especially as a mid-sized cities).**
- Tourism development is fundamental to understand the growth of the urban system based in the weight of mid-sized cities. Mid-sized cities have the most stressed increases in the rank and the urban hierarchy. These increases are elder if the city is more specialized in tourism.
- **Tourist cities equate to other types of cities that have boosted the development of the urban system in previous periods. They have capacity to structure new urban relations at a regional level.**



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Thanks for your attention!

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