

The economic impact of design in Catalonia and Spain

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KEY WORDS Design, Economy, Gross Value Added (GVA), Employment

This article aims to show readers the most significant results obtained from an analysis of design from an economic perspective which has attempted to evaluate, in a general sense, the impact of the design sector in terms of Gross Value Added (GVA) and Occupation on the economy of Catalonia and that of Spain.

The article therefore attempts to demonstrate the limitations which have been presented by way of economic information and statistics throughout the development of this analysis, and finally invite reflection on the conclusions obtained.

Over the years, in this country design has been studied and considered from, among others, the perspective of its social impact, its cultural influence, its role in industrial development, and as a means of communication, as a factor of innovation and for its business potential. Until now, however, another angle – economics – has been set aside, even though it could possible help to enrich our understanding of this activity in a way which complements what the other views mentioned here can offer us. This transversal, heterogeneous and sometimes disperse area which the world of design represents has already been analysed by state and non-governmental organisations promoting the sector in other countries, such as the United Kingdom, where the importance of design on the economy is highly significant.

A lack of either official and unofficial data which would make it possible to gain greater knowledge of the design sector in Catalonia and Spain, together with the non-

existence of reports or studies approaching the subject from this angle, and the fact that today design does not have its own section either in the economic statistics or in the National Classification of Economic Activities in this country are fundamental limitations to measure, directly or indirectly, the weight of design on the country's economy.

Despite these restrictions, this article attempts to make a primary evaluation of the impact of the design sector on the Catalan and Spanish economies, taking as a model the available data and information for the United Kingdom and applying it to the situation in Catalonia and Spain.

Finally, the fact that the data available for the design sector in the United Kingdom is from 1999 has meant that the evaluation presented here is for the period around 1999/2000.

The United Kingdom example

In order to make an evaluation of Gross Value Added (GVA) and employment in the design sector of our country, we have started with an analysis of the 1999 study commissioned by the Design Council, a non-governmental organisation for promoting design in the United Kingdom. This evaluation has been built up by taking the results of questionnaires circulated to a representative sample of British companies. The most significant results obtained following analysis of this data are the economic evaluation and occupational assessment in the design¹ sector in the context of the principal branches of activity which make up the economy of a country:

- Agriculture and extractive industries,
- Manufacturing,

- Construction, transport and communications,
- Services to business and finance, and
- Consumer services.

In this context, Table 1 shows a summary of the results presented by PACEC which enables us to conclude that the British design sector generated €26.736m (41,821 million euros) in 1999 and provided employment for 1,003,000 workers in the five branches mentioned above. There were clear differences in the distribution in these sectors, between activity and employment, with *Agriculture and extractive industries* making an economic contribution of £851,228 (1,331,500 euros) compared with £19,889 (31,112 euros) for *services to business and finance*.

Branches of activity	UK 1999: GVA Design			Active in design related occupations	
	[M. L] ⁽¹⁾	[M. L] ⁽²⁾	%	Number ⁽²⁾	%
Agriculture and extractive industries	1700	2643	4,37	2000	0,20
Manufacturing	5100	7928	19,10	245000	24,43
Construction, transport and communication	4300	9848	23,40	148000	14,74
Services to business and finance	8700	13427	32,58	438000	43,67
Consumer services	4900	7675	18,35	170000	16,95
Total	26700	41821	100,00	1003000	100,00

Table 1. Evaluation of the effects of design-related activity in Great Britain on the economy and employment, 1999.

⁽¹⁾ Source: PACEC 2000.

⁽²⁾ The exchange rate from pounds sterling to euros has been taken as 1.5663.

¹ PACEC considers the design sector to be that which emerges from the interpretation of design by the companies and organisations consulted. These criteria allow them to identify the shape of design in British businesses.

Branches of activity	UK 2000: GVA		UK 1999: Design	UK: Weighting
	(ML £) ⁽¹⁾	(ML €) ⁽²⁾	(ML €) ⁽²⁾	% ⁽⁴⁾
Agriculture, forestry and fishing	8912	13959		
Mining	24244	37973		
Agriculture and extractive industries		51932	3663	8,13
Industry	155531	243408		
Electricity, water and gas	15677	24555		
Manufacturing		268143	7988	2,98
Construction	43287	67800		
Commerce	104864	164233		
Transport and communications	68195	104814		
Construction, transport and communications		33847	9688	2,91
Financial services	-37094	-58100		
Financial intermediaries	42402	64728		
Services to business	191777	300380		
Services to business and finance		394688	13637	4,41
Hotels and restaurants	25928	40411		
Government services	42091	65927		
Education	44174	72325		
Health	54313	84203		
Other services	42540	64642		
Consumer services		333728	7675	2,30
Total GVA	831883	1301678	1391478	41821

Table 2. Economic impact of the design sector in Great Britain, 1999.

⁽¹⁾ Source: ONS Quarterly National Accounts and United National Accounts.

⁽²⁾ The conversion rate for pounds sterling to euros was 1.5663.

⁽³⁾ See Table 1. Evaluation of the effects of design-related activity in Great Britain on the economy and employment, 1999.

⁽⁴⁾ The GVA for design corresponds to 1999 while the overall GVA for the UK corresponds to the year 2000.

Relative value of GVA and employment in the design sector on the British economy.

Through the British *Office for National Statistics* (ONS), we have been able to see the Gross Value Added for the year 2000 in the United Kingdom, in the form of a breakdown of the main branches of activity (see Table 2). This information, together with the data provided by PACEC (Table 1) on the extent of design-related activity in 1999, has enabled the calculation of a relative value of the weight of the design sector within the British economy as a whole. In this context therefore, it can be concluded that the economic impact of the design sector on the five main branches of activity concerned stands at 3.21% on the total GVA in Britain, taking into account, however the sector fluctuations which occurred from 2.3% in *consumer services* to 5.13% in *agriculture and extractive industries*.

In terms of employment, the *Office for National Statistics* was also the source for information relating to June 2000, as it describes total employment for the UK

divided into the five main branches of traditional activity (see Table 3). With this information it has been possible to contrast the figure of a little under one million people employed in the design sector with that of 29.3 million total employed in Britain. It can therefore be established that the relative weight of the design sector in terms of employment in Great Britain is an average 3.42%. This weighting is distributed unevenly and there is a large degree of variation among the five main branches of activity: from 0.4% for *agriculture and extractive industries* to 8.01% for *services to business and finance*.

Obtaining compatible information for the economy and employment

In order to obtain information on the economy and employment in Spain which is compatible and comparable with the structure of the information available for Great Britain, research has been carried out into sources of information for economy and employment, for the Spanish economy as a whole on one hand and on the

Branches of activity	UK employment (people)		Design weighting UK (%) ⁽³⁾
	2000 ⁽¹⁾	1999: Design ⁽²⁾	
Agriculture and extractive industries	504000	2000	0,40
Manufacturing	4442000	245000	5,52
Construction, transport and communications	3632000	148000	4,07
Services to business and finance	5445000	438000	8,01
Consumer services	15255000	170000	1,11
Total GVA	29298000	1003000	3,42

Table 3. Impact of the design sector on the employment market in Great Britain, 2000.

⁽¹⁾ Source: ONS Labour Market Statistics. November 2002.

⁽²⁾ See Table 1 Evaluation of the effects of design-related activity in Great Britain on the economy and employment, 1999.

⁽³⁾ Design related employment figures correspond to 1999 while the overall UK employment figures correspond to the year 2000.

Branches of activity	GVA		Spain
	UK 2000 ⁽¹⁾	Spain 1999 ⁽²⁾	UK ⁽³⁾
Agriculture and extractive industries	51732	24351	44,89
Manufacturing	248163	107873	40,23
Construction, transport and communications	338847	144811	43,33
Services to business and finance	309008	81194	26,28
Consumer services	333728	150447	45,09
Total GVA	1301678	510676	39,23

Table 4. Gross Value Added in Great Britain 2000 and Spain 1999. Figures in millions of euros.

⁽¹⁾ See Table-2 Economic impact of the design sector in Great Britain, 1999.

⁽²⁾ Regional Accounting by the Spanish National Statistical Institute (INE).

⁽³⁾ The GVA for Spain corresponds to 1999 while the overall GVA for the UK corresponds to the year 2000.

Branches of activity	Occupation (employees)		Spain
	UK 2000 ⁽¹⁾	Spain 1999 ⁽²⁾	UK ⁽³⁾
Agriculture and extractive industries	504000	1104200	219,48
Manufacturing	4442000	2957700	66,58
Construction, transport and communications	3432000	2404400	64,24
Services to business and finance	5445000	1388600	25,41
Consumer services	15255000	7543700	49,45
Total GVA	29296000	16482600	52,67

Table 5. Employment in Great Britain 2000 and Spain 1999.

⁽¹⁾ See Table 3. Impact of the design sector on the employment market in Great Britain, 2000.

⁽²⁾ Regional Accounting by the Spanish National Statistical Institute (INE).

⁽³⁾ Design-related employment figures correspond to 1999 compared with the total figures for UK employment which correspond to the year 2000.

Branches of activity	GVA (1999)		Catalonia
	Spain ⁽¹⁾	Catalonia ⁽²⁾	Spain %
Agriculture and extractive industries	24351	1765	8,07
Manufacturing	107873	28222	26,16
Construction, transport and communications	146811	25494	17,37
Services to business and finance	81194	15999	19,70
Consumer services	150467	24038	15,98
Total GVA	510896	98718	19,74

Table 6. Gross Value Added by branch of activity in Catalonia 1999. Figures in millions of euros.

⁽¹⁾ See Table 4. Gross Value Added in Great Britain 2000 and Spain 1999.

⁽²⁾ Regional Accounting by the Spanish National Statistical Institute (INE).

Branches of activity	Employment (1999)		Catalonia
	Spain ⁽¹⁾	Catalonia ⁽²⁾	Spain %
Agriculture and extractive industries	1106200	92800	8,39
Manufacturing	2957700	733900	24,81
Construction, transport and communications	2406400	402500	16,73
Services to business and finance	1388600	282500	20,34
Consumer services	7543700	1207400	16,01
Total GVA	15402600	2719100	17,65

Table 7. Employment by branch of activity on Catalonia 1999.

⁽¹⁾ See Table 5. Employees in Great Britain 2000 and Spain 1999.

⁽²⁾ Regional Accounting by the Spanish National Statistical Institute (INE).

Branches of activity	GVA Spain	Design weighting	GVA design
	1999 ⁽¹⁾	UK ⁽²⁾	Spain ⁽²⁾
Agriculture and extractive industries	24351	5,13	1249
Manufacturing	107873	2,98	3213
Construction, transport and communications	146811	2,91	4275
Services to business and finance	31194	4,41	3581
Consumer services	150467	2,30	3440
Total GVA	510696	3,21	18778
Economic weighting of design in Spain (%)			3,67

Table 8. Economic impact of the design sector in Spain, 1999, in accordance with the standard values for Great Britain. Figures in millions of euros.

⁽¹⁾ See Table 4. Gross Value Added in Great Britain 2000 and Spain 1999.

⁽²⁾ See Table 2. Economic impact of the design sector on the different branches of activity in Great Britain. 1999.

Branches of activity	Employment	Design weighting	Design employment in Spain	
	Spain ⁽¹⁾	UK ⁽²⁾	Number	%
Agriculture and extractive industries	1106200	0,40	4390	0,95
Manufacturing	2957700	6,62	163133	35,39
Construction, transport and communications	2406400	4,07	98058	21,27
Services to business and finance	1388600	8,01	111291	24,14
Consumer services	7543700	1,11	34066	18,24
Total GVA	15482600	3,42	468938	180,08
Design-related employment weighting in Spain (%)			2,97	

Table 9. Occupational impact of the design sector in Spain in accordance with the standard values for Great Britain 1999.

⁽¹⁾ See Table 5. Employment in Great Britain 2000 and Spain 1999.

⁽²⁾ See Table 3. Impact of the design sector on the employment market in Great Britain, 2000.

other for the disaggregated figures for the Autonomous Regions. Therefore the information contained in the Regional Accounting of the National Statistical Institute (INE) fulfils all the requisites to enable it to be compared with the British information.

Table 4 allows a comparison between the British and the Spanish GVA for the five branches of activity under consideration and enables us to see that the Spanish GVA overall represents 39.23% of the British figure but that the mix of sector activity is appreciably different between the two countries (26.28% for *services to business and finance* compared to 46.89% for *agriculture and extractive industries*).

Table 5 therefore allows a comparison between the employment level for the UK and that for Spain by the five main branches of activity analysed and it can be seen that the number of Spanish workers represents overall 52.57% that of the UK figure but the employment mix by sector is also clearly different between the two countries (25.41% for *services to business and finance* compared with 219.48% for *agriculture and extractive industries*).

From the disaggregated figures for the Gross Value Added by Autonomous Regions offered by the *Regional Accounting of the Spanish National Statistical Institute* in Table 6 Catalonia's contribution can be compared to the overall figure for Spain of 18.74%.

Finally, Table 7 shows the comparison between employment levels in Catalonia and Spain, with an overall figure of 17.65%.

Application of relative British weightings to the Spanish situation

In order to estimate the value of Spanish GVA which corresponds to design-related activity, the weighting obtained in terms of GVA and employment provided by

the PACEC study and the Office for National Statistics as it relates to the British economy has been applied to the Spanish economy, both in total and disaggregated figures by branch of activity.

In this way it can be estimated that the value of GVA in Spain for design-related activity rose to 15,788 million euros, equivalent to 3.09% of the total GVA. In other words, 3.74% less than the British model and due to the different production infrastructure.

In terms of employment in design-related activity in Spain, it is important to emphasise that in accordance with the application of the British model under consideration 460,938 people or 2.99% of the active population worked in the sector (see Table 9).

Application of relative British weightings to the Catalan situation

In order to estimate the value of Catalan GVA which corresponds to design-related activity, the weighting obtained in terms of GVA and employment provided by the PACEC study and the Office for National Statistics as it relates to the British economy has been applied to the Catalan economy, both in total and disaggregated figures by branch of activity.

In this way it can be estimated that the value of GVA in Catalonia which responds to design-related activity rose to 2,942 million euros, equivalent to 3.07% of total GVA for Catalonia. In other words, 4.37% less than the British model and due to the different production infrastructure.

In terms of employment in design-related activity in Spain, it is important to emphasise that in accordance with the application of the British model under consideration 93,345 people or 3.43% of the active population worked in the sector (see Table 11).

Branches of activity	GVA Catalonia	Design weighting	GVA design
	1999 ⁽¹⁾	UK (%) ⁽²⁾	Catalonia
Agriculture and extractive Industries	1965	5,13	101
Manufacturing	28222	2,98	841
Construction, transport and communications	25494	2,91	742
Services to business and finance	15999	4,41	706
Consumer services	24038	2,30	553
Total GVA	96718	3,21	2942
Design-related employment weighting in Catalonia (%)			3,87

Table 10. Economic impact of the design sector in Catalonia, 1999, in accordance with the standard values for Great Britain. Figures in millions of euros.

⁽¹⁾ See Table 6. Gross Value Added by branch of activity in Catalonia 1999.

⁽²⁾ See Table 2. Economic impact of the design sector on the different branches of activity in Great Britain, 1999.

Branches of activity	Employees	Design weighting	Design employment Catalonia	
	Catalonia ⁽¹⁾	UK ⁽²⁾	Number	%
Agriculture and extractive Industries	92800	0,40	368	0,39
Manufacturing	733100	6,62	40479	43,36
Construction, transport and communications	402500	4,07	16401	17,57
Services to business and finance	282500	8,01	22641	24,24
Consumer services	1207400	1,11	13455	14,41
Total GVA	2719100	3,42	93345	109,80
Design-related employment weighting in Catalonia (%)			3,43	

Table 11. Occupational impact of the design sector in Catalonia in accordance with the standard values for Great Britain 1999.

⁽¹⁾ See Table 3. Impact of the design sector on the employment market in Great Britain, 2000.

Conclusions and considerations

In this article, we have attempted to evaluate the impact that the design sector, as identified by the perceptions of companies and institutions, has on the Catalan and Spanish economies as a whole, both in terms of GVA and employment.

It is estimated that in 1999, the area of design in Spain represented 3.09% of Spanish GVA as a whole, that is, 15,778m euros and that the level of employment reached 2.99% of the active population, or 460,938 people. In Catalonia this area represented 3.07% of Catalan GVA, that is 2,942m euros and employed 3.43% of the active population, or 93,345 people.

The lack of direct information on the situation in Spain and Catalonia has made it necessary to apply information which exists for Great Britain. For that reason, the use of perceived British patterns in the Spanish and Catalan situations may lead to the inclusion of uncertainties as to its reliability.

Similarly, there is some doubt about whether the presence of design is the same within each branch of activity in Catalonia and Spain as it is in Great Britain. Unfortunately, there is no sure answer to this and the use of this methodology is considered to be a path that offers a preliminary reference for the impact of the design sector in Catalonia and in Spain.

All things considered, it should be pointed out that the information on GVA and Employment for Catalonia and Spain and for the United Kingdom are highly comparable, since the classification are the same and the different sources of information use them in a highly standardised way.

Obviously, it should also be stressed that the possibility of carrying out the same kind of survey as was done by the *Public and Corporate Economic Consultants* (PACEC) in Great Britain would lead to much more reliable information on the impact and needs of the design sector within the context of economic development in Catalonia and Spain, as well as the opportunity to compare and contrast the results obtained.

In all, the extrapolation of the Catalan and Spanish situations from the British figures show that in fact the design sector has had a significant impact on the economy.

It is hoped that the most significant results obtained during this evaluation of the economic impact of design, the methodology employed, the obstacles which have been encountered and the reliability of the information presented will act as a complement to that which is already known about the design sector and incentive for it to occupy its rightful place.

Bibliography

INSTITUTO NACIONAL DE ESTADÍSTICA (INE). *El Directorio Central de Empresas (DIRCE)*. Resultados Estadísticos 2002. Madrid, 2002. INE Publications.

PUBLIC AND CORPORATE ECONOMIC CONSULTANTS (PACEC); *National Survey of Firms Data*. United Kingdom, 2000.

DEPARTMENT OF CULTURE, MEDIA & SPORT; *Creative Industries Mapping Document*; United Kingdom, March 2001.