
ESTUDIOS / RESEARCH STUDIES

Analysis of Spanish Participation in the Social Sciences and Humanities Research Projects within the 6th European Union Framework Programme (2002-2006)

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Recibido: 30-05-22; 2ª versión: 26-07-22; Aceptado 29-09-22; Publicado: 07-07-23

Cómo citar este artículo/Citation: Sulé, A., Somoza, M., Ardanuy, J. (2023). Analysis of Spanish participation in the Social Sciences and humanities research projects within the 6th European Union Framework Programme (2002-2006). *Revista Española de Documentación Científica*, 46 (3), e363. <https://doi.org/10.3989/redc.2023.3.1986>

Abstract: The objective of this paper is to describe the Social Sciences and Humanities projects with Spanish participation within the Sixth EU Framework Programme (FP6) (2002-2006) as well as the scientific production resulting from these projects. First, we determine the most significant characteristics of the projects with Spanish participation (duration, funding, topics, type of institution, etc.). Secondly, we analyse the scientific production derived from a selection of projects from the Scopus database to analyse some bibliometric features. The results show that the projects have a significant Spanish participation, but below other countries with a smaller demographic volume, and there is little leadership from Spanish institutions. The scientific production is characterized by articles written predominantly in English, published in first-quartile journals and prepared by one or two authors. However, only 14.7% of the articles analysed were coordinated by a Spanish author.

Keywords: FP6; European Commission; Spain; Social Sciences and Humanities; research projects; scientific publications; CORDIS; Scopus; bibliometric analysis.

Análisis de la participación española en los proyectos de investigación en Ciencias Sociales y Humanidades dentro del VI Programa Marco de la Unión Europea (2002-2006)

Resumen: El objetivo de este artículo es describir los proyectos de Ciencias Sociales y Humanidades con participación española dentro del Sexto Programa Marco de la UE (FP6) (2002-2006), así como la producción científica resultante de estos proyectos. En primer lugar, determinamos las características más significativas de los proyectos con participación española (duración, financiación, temática, tipo de institución, etc.). En segundo lugar, analizamos la producción científica derivada de una selección de proyectos de la base de datos Scopus para analizar algunas características bibliométricas. Los resultados muestran que los proyectos tienen una importante participación española, pero por debajo de la de otros países con un menor volumen demográfico, y hay poco liderazgo de las instituciones españolas. La producción científica se caracteriza por artículos escritos predominantemente en inglés, publicados en revistas de primer cuartil y elaborados por uno o dos autores. Sin embargo, sólo el 14,7% de los artículos analizados están coordinadas por un autor español.

Palabras clave: FP6, Comisión Europea; España; Ciencias Sociales y Humanidades; proyectos de investigación; publicaciones científicas; CORDIS; Scopus; análisis bibliométrico.

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1. INTRODUCTION

Since 1984 the Framework Programmes (also called Framework Programmes for Research and Technological Development) have given projects five years of funding. With this the European Union aims to support and promote research within the European Research Area (ERA) (https://web.archive.org/web/20220308055741/https://ec.europa.eu/eurostat/cros/content/research-projects-under-framework-programmes-0_en).

Compared to its predecessors, FP6 had an increased prominence of the Social Sciences and Humanities, and included a seventh priority theme directly related to the Social Sciences and Humanities called *Citizens and governance in a knowledge-based society*:

"The objective of the activities in this field is to mobilise in a coherent effort the European research capacity, in all its richness and diversity, in economic, political, social and human sciences, which is necessary to achieve the understanding and control of the problems linked to the emergence of the knowledge society and the new forms of relationship, on the one hand, between citizens and, on the other, between them and the institutions." (Decision No 1513/2002/EC of the European Parliament..., 2002, 16)

Previous research (Rietsche et al., 2009, p. 9; Katrinos, 2010; Schöglér and König, 2017) has analysed how Social Sciences and Humanities research has progressively become established in the European Union, mainly by analysing policy documents that set the research priorities for the calls for the framework programmes. Despite this, Kropp (2021) recently described the position of the social sciences as "fragile", and as occupying a "marginal" place within the European Union's research policy. Probably for this reason the Social Sciences and Humanities research have not been specifically analyzed in each program, data without which it seems difficult to know the evolution and understand its current situation. As Rietsche et al. (2009) highlights, there is no systematic evidence of the overall impact of FP6 projects.

Although the issue is of European and international interest, at regional level, it is important to determine what role Spanish institutions have played in the Social Science and Humanities projects and evaluate their achievements. The only detailed study on Spanish participation in the 6th EU Framework Programme refers to the areas of Health Sciences (Ortega and Aguillo, 2010).

Determining the characteristics of FP6 research projects in the Social Sciences and Humanities with Spanish participation (typologies, duration, funding,

themes, collaborations, etc.), the role played by Spanish organizations (coordinator or partner), as well as the resulting bibliographic production (documentary typologies, number of documents per project, authorships, collaborations, etc.) can be of great use for the European Union and for the other actors involved (Spanish administrations, institutions and researchers), both for evaluating the degree of success of the projects, and for optimizing the calls and funding allocations of future Framework Programmes.

2. METHODOLOGY

2.1. Identifying funded projects in the Social Sciences and Humanities

To identify Social Science and Humanities research projects with Spanish participation under the 6th EU Framework Programme (FP6) (2002-2006), we obtained a list of all projects funded by FP6 from *CORDIS - EU research projects under FP6 (2002-2006)* website. This list included a total of 10,098 projects.

Three calls were identified as relevant for the Social Sciences and Humanities: "FP6-Citizens" (144 projects funded), "FP6-Policies" (519 projects) and "FP6-Society" (164 projects). The description (title, keywords and summary) of each of these 827 projects was then examined to identify projects related to the Social Sciences and Humanities. In case of doubt, we visited the project's website, if available, to determine its disciplinary scope. We identified 275 projects, which corresponds to 2.7% of the total. Some of these projects are not exclusively in the Social Science or Humanities fields, but rather also include disciplines in Experimental Sciences, Engineering or Health Sciences.

Out of these 275 projects we selected those projects in which the coordinator or a participant or participants were from a Spanish organization, according to CORDIS. This resulted in a total of 107 projects.

The projects were manually classified into 20 major disciplines (the same project could belong to more than one discipline). This classification is an adaptation of the first hierarchical level of the *UNESCO nomenclature for fields of science and technology*, although we made some additions and minor changes.

To allocate the projects to the different disciplines, we first considered the explicit explanations included in the abstracts of some projects. In other cases, these explanations were inferred because, although the project did not explicitly name the discipline,

it could be identified based on the methodological descriptions, scope, research institutions, and profiles, etc. Finally, in other projects the general description of the objectives made it possible to classify them, although sometimes we consulted the project results for confirmation.

In addition, we also identified the specific topic or topics that the projects addressed. This classification of projects into topics is independent of the discipline, since a specific topic can be studied from several fields. For example, the topic of "migration" can be studied according to its economic impact, and also in relation to the social response, law, political science, public administration, education, cultural and social anthropology, history, etc.

Finally, we then carried out a detailed analysis of the characteristics and bibliographic production of these 107 projects.

2.2. Retrieving the bibliographic production of the funded projects

We chose Scopus to identify the bibliographic production of the projects because it has a better coverage of the Social Sciences and Humanities than Web of Science (although, in both cases, journals in English are overrepresented to the detriment of other languages).

For each of the 107 projects with Spanish participation, a search was carried out based on the following equation:

(FUND-ALL ([ID]) AND (FUND-ALL (CT) OR FUND-ALL (EC) OR FUND-ALL (European Commission) OR FUND-ALL (FP)) OR FUND-ALL ([acronym]))

With this equation we obtained the bibliographic records containing:

a) The project ID and the terms "CT" (meaning Call for Tender), "EC" (meaning European Commission) or "European Commission"; or

b) The acronym for the project in any Scopus funding field.

However, since project acronyms tend to be vague (e.g., "abstract", "aim" or "analogy"), many searches retrieved a large number of irrelevant records. When the number of records retrieved in a search was greater than 25, an additional filter was added to the previous equation to force the presence of a reference to the funder in the funding field:

AND (FUND-ALL(CT) OR FUND-ALL(EC) OR FUND-ALL(European Commission))

In these two searches, we only downloaded the bibliographic production of the projects with

a maximum of 25 records. It should be taken into account that in some cases the search result generated several thousands of records, which are clearly impossible to analyse one by one, which is added to the lack of specificity already mentioned. Scopus affiliation fields often include elements that do not really correspond to funding, such as bibliographic references, probably because they contain terms related to funding ("funded", etc.), and because Scopus automatically fills in these fields. This lack of quality control has already been reported in previous studies (Liu, 2020).

Finally, the funding text of each downloaded record was reviewed to determine whether the article was actually relevant to the project in question or not.

This process resulted in 306 records corresponding to 49 projects, 45.8% of the total of 107 projects with Spanish participation.

The production sampling was therefore not random, but rather based on the results obtained in Scopus. For similar analysis of subsequent FPs, it will be possible to rely on OpenAIRE, that allows retrieving the outputs submitted by researchers, but this option is not available for FP6.

An important point to consider is that the data were collected in 2020, which is 14 years after the end of the programme. However, if the total of 275 projects of Social Sciences and Humanities is considered, there are some papers published in 2020 that still acknowledge funding from the FP6.

3. RESULTS

3.1. Description of Spanish FP6 projects

As we said before, we obtained a total of 107 projects with Spanish participation, which represents 38.9% of the total 275 FP6 projects related to the Social Sciences and Humanities. This places Spain in seventh position behind UK (73.1%), Germany (69.8%), Italy (52.3%), Netherlands (49.4%), France (48.0%) and Belgium (39.2%). As can be seen, Spain is below other countries with a smaller demographic volume. But the figure is higher than 22.9% of the total Spanish participation in the total of projects.

Of these 107 projects analysed, only six (5.6%) were coordinated by a Spanish institution. This is a lower figure than the set of FP6 projects (713 of 10,098, 7.1%). Such a low figure makes it impossible in many cases to separate the statistical data of the projects with coordination from the

other, which are predominately coordinated by institutions in the United Kingdom, Italy, Germany, the Netherlands and France (table I).

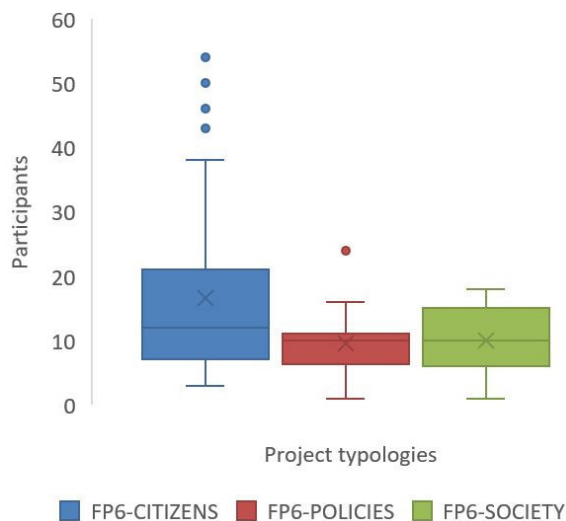
Table I: The ten countries that coordinate the highest number of projects with Spanish participation.

Coordinating country	Projects	
United Kingdom	20	18.7%
Italy	15	14.0%
Germany	14	13.1%
Netherlands	11	10.3%
France	11	10.3%
Belgium	7	6.5%
Austria	7	6.5%
Spain	6	5.6%
Norway	3	2.8%
Greece	2	1.9%
TOTAL	96	89.7%

By typology, among the projects with Spanish participation, *citizen* projects clearly predominate, followed by *policies* and next, although far behind, *society* (in the latter case without any Spanish coordination). On the whole, these figures are in line with the set of all FP6 projects related to the Social Sciences and Humanities (table II). However, in comparison, in the Spanish case there is a significant increase in the weight of *citizen* projects to the detriment of the other two calls.

The relationship between the number of participants in a project and its typology (*citizens*, *policies* or *society*) clearly shows that projects with a greater number of participants belong to the *citizens* category (figure 1). It is not until projects have 15 or fewer participants that the typological distribution becomes more balanced.

Figure 1. Relationship between the number of participants and the project typology



The duration of projects with Spanish participation ranges from 13 to 71 months (from 23 to 61 in the cases of Spanish coordination), with almost half of the total (46.7%) lasting between two and three years. The figures are very similar to the set of all FP6 projects related to the Social Sciences and Humanities. However, in the projects with Spanish participation the weight of long-term projects (four or more years) is greater. Table III shows these data and the dispersion of the few projects with Spanish coordination.

Regarding the total cost of the projects, it is worth noting that half of the Spanish projects (50.4%) have a total cost between half a million and 1.5 million euros. The costs of the rest of the projects have a relatively homogeneous distribution, although from 5 million euros the number of projects decreases considerably (table IV). As far as the projects coordinated from Spain, one of the Universitat de Barcelona had a budget of more than three million euros.

Table II. Projects by typology

Typologies	Total		Spanish participation						
	Participations	% Respect typology	Coordinator			Partner		Total	
			Participations	% Respect typology	% Respect total with Spanish participation	Participations	% Respect typology	Participations	% Respect typology
Citizens	140	50.9%	4	66.6%	5.7%	66	65.3%	70	65.4%
Policies	101	36.7%	2	33.3%	6.5%	29	28.7%	31	29.0%
Society	34	12.4%	0	0%	0%	6	5.9%	6	5.6%
TOTAL	275	100%	6	100%	5.6%	101	100%	107	100%

Table III. Duration of projects

Total		Spanish participation						
Participations	% Respect duration	Coordinator			Partner		Total	
		Participations	% Respect duration	% Respect total with Spanish participation	Participations	% Respect duration	Participations	% Respect duration
6	2.2%	0	0.0%	0.0%	0	0.0%	0	0.0%
57	20.7%	1	16.7%	1.8%	11	10.9%	12	11.2%
116	42.2%	2	33.3%	1.7%	48	47.5%	50	46.7%
70	25.5%	2	33.3%	2.9%	21	20.8%	23	21.5%
14	5.1%	0	0.0%	0.0%	13	12.9%	13	12.1%
12	4.4%	1	16.7%	8.3%	8	7.9%	9	8.4%
275	100%	6	100%	2.2%	101	100%	107	100%

Table IV. Total cost of Spanish projects

Cost (EUR)	Total		Spanish participation						
	Participations	% Respect cost	Coordinator			Partner		Total	
			Participations	% Respect cost	% Respect total with Spanish participation	Participations	% Respect cost	Participations	% Respect cost
1-500,000	46	16.8%	1	16.7%	12.5%	7	6.9%	8	7.5%
500,001-1,000,000	71	25.9%	2	33.3%	7.4%	25	24.8%	27	25.2%
1,000,001-1,500,000	72	26.3%	2	33.3%	7.4%	25	24.8%	27	25.2%
1,500,001-2,000,000	34	12.4%	0	0.0%	0.0%	10	9.9%	10	9.3%
2,000,001-2,500,000	15	5.5%	0	0.0%	0.0%	6	5.9%	6	5.6%
2,500,001-14,500,000	36	13.1%	1	16.7%	3.4%	28	27.7%	29	27.0%
TOTAL	274 ¹	100%	6	100%	5.6%	101	100%	107	100%

1 Of the total of 275 projects, one does not provide any financial data.

Here the differences with the results for all projects are more noticeable than in the previous cases. Therefore, 42.7% of all FP6 projects related to the Social Sciences and Humanities had funding of up to one million euros, while in the Spanish case this figure decreased to 32.7%.

The relationship between the funds with respect to the duration of the projects follows a logarithmic growth rate (Pearson coefficient = 0.734). With a few minor deviations, the longer the duration of the project, the greater the funding (figure 2).

The specific study topics represented in the projects with Spanish participation are very diverse.

Up to 105 different topics were identified, of which only 11 have 5 or more projects in common (the same project can have more than one topic). The topics corresponding to the interests expressed in the EU research calls include topics such as governance (11), migration, tools for developing socio-economic policies (8), metrics and indicators (8), rural development (7), social cohesion (7), sustainable development (6), labour market (5), gender issues (5), political participation (5) and knowledge-based economy (5).

The results show (table V) that only nine disciplines have five or more projects, and that projects related to the Economy predominate over the total (21.7%). In the case of projects with

Figure 2. Relationship between project duration and amount of funding

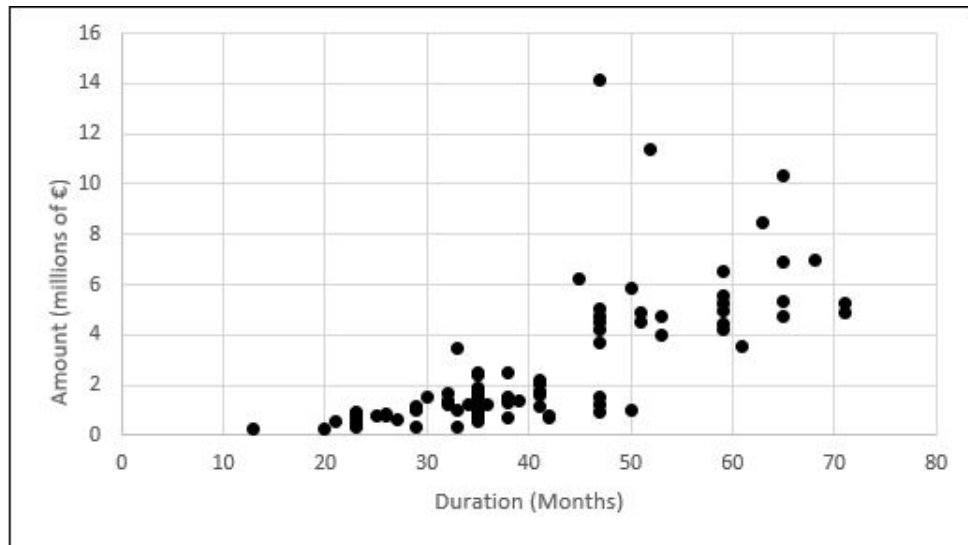


Table V. Disciplines with five or more projects

Disciplines	Projects		Average number of participants
Economy	47	21.7%	15.5
Sociology	39	18.0%	15.9
Political Science	33	15.2%	18.6
Public Administration and Management	24	11.1%	18.1
Law and legal sciences	17	7.8%	14.5
Education	11	5.1%	11.2
Social and Cultural Anthropology	7	3.2%	15.4
Philosophy	5	2.3%	14.8
History	5	2.3%	22.0
TOTAL	188	86.7%	16.2

Figure 3. Number of countries per project

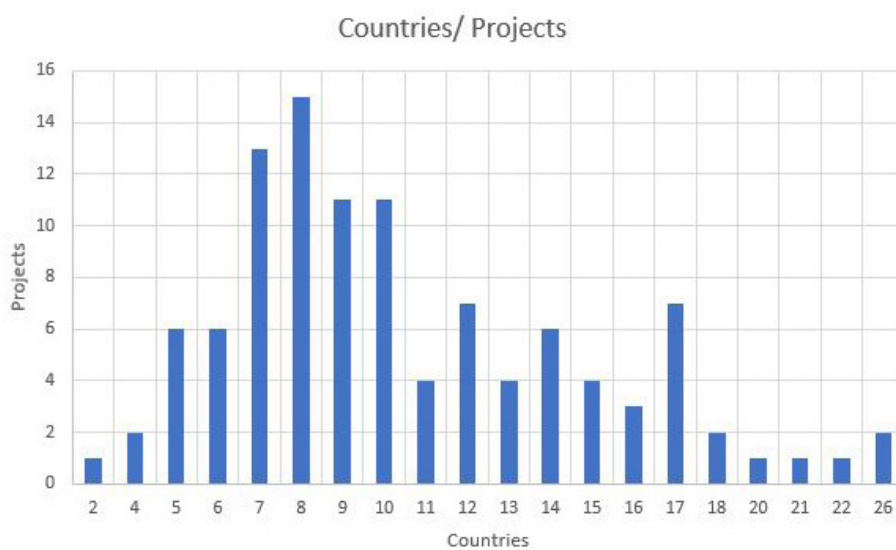


Table VI. The ten countries with the highest participation in Spanish projects

Participating Country	Projects	
Germany	78	8.4%
United Kingdom	80	8.6%
Italy	67	7.2%
France	66	7.1%
Netherlands	60	6.5%
Belgium	48	5.2%
Poland	42	4.5%
Hungary	38	4.1%
Austria	36	3.9%
Czech Republic	33	3.6%
TOTAL	548	59,1%

Spanish coordination, only one discipline, Public Administration and Management, has five (out of six) projects.

In the total number of projects, the average participation per discipline is 16.2 institutions. Among the disciplines with five or more projects, History stands out with an average participation of 22 institutions.

The analysis of the countries involved in the projects with Spanish participation shows an average of 10 countries per project, which is higher than the average of 7.8 if all projects are considered. The main range is from 7 to 10 countries per project (figure 3).

The maximum number of countries participating in the same project is 26 and occurs in two cases (*Wider Europe, deeper integration? "Constructing Europe" network*, coordinated by the Universität zu Köln; and *Creating links and innovative overviews for a new history research agenda for the citizens of a growing Europe*, led by the University of Pisa). At the other extreme is the project *European expert platform for measuring human feelings and emotions*, coordinated by Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung e.V., with only two countries: Germany and Spain.

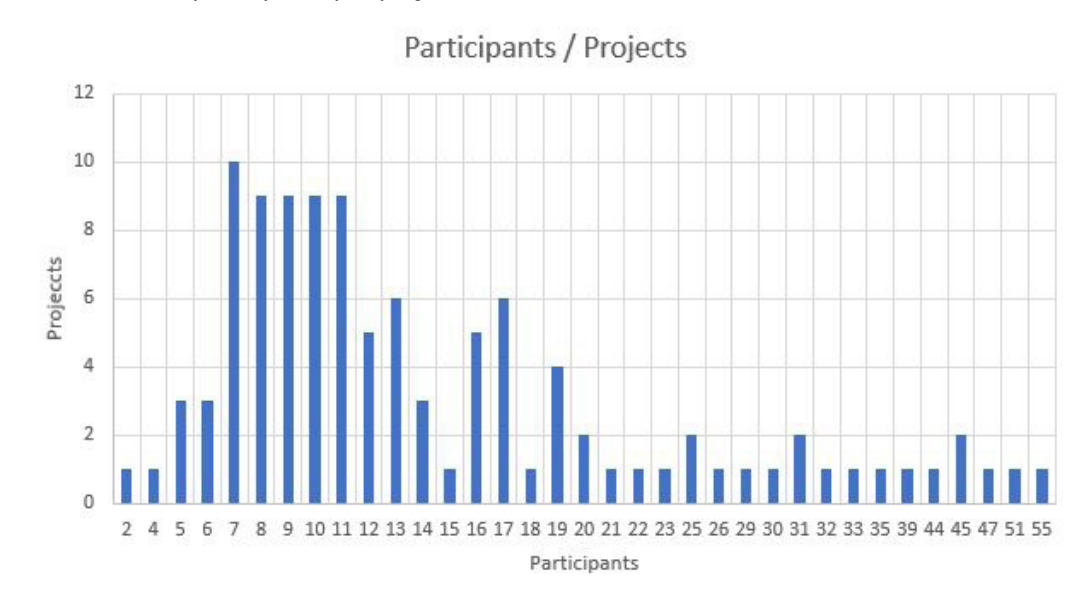
If we take into account the number of participations of each country (excluding Spain), we find that Germany and the United Kingdom predominate (table V).

The analysis of the number of institutions shows an average participation of 15.4 institutions per project, the most frequent number being 7 to 11 institutions per project (figure 4).

Like the average number of participating countries, the average number of institutions involved in projects with Spanish participation is significantly higher than that found for all FP6 projects related to the Social Sciences and Humanities (10.8 institutions). If we consider only the six projects led by Spanish institutions, the average collaboration is 12 institutions, with a maximum of 17 and a minimum of 9.

The institution that has participated in the largest number of projects is the Centre National

Figure 4. Number of participants per project



de la Recherche Scientifique (17). The institutions that participate in ten or more projects are shown in Table VII. Universitat Autònoma de Barcelona is the only Spanish institution in this list.

Table VII: The institutions that participate in ten or more projects with Spanish participation

Institution	Projects
Centre National de la Recherche Scientifique	17
London School of Economics and Political Science	15
Universiteit van Amsterdam	13
Université catholique de Louvain	12
Central European University Budapest Foundation	11
Universitat Autònoma de Barcelona	10
University of Sussex	10
TOTAL	88

In the specific case of Spanish institutions, the analysis shows a total number of 67 organizations, 38 public (56.7%) and 29 private (43.3%). The results of this public/private categorization are quite balanced; however, this is not true when they are classified following the sectoral typologies established in the *Frascati Manual* (Frascati manual, 2002).

Table VIII. Spanish institutions by sector typology and comparison of types of institution between the Social Science and Humanities field and the Health field

Type of Institution	N.º	%	Social Sciences and Humanities	Health
Higher education	37	55.2	55.2%	32.08%
Public Administration	10	14.9	14.9%	25.47%
Company/ Business	10	14.9	14.9%	34.91%
Non-profit organization	10	14.9	14.9%	7.55%
TOTAL	67	100	100%	100%

As can be seen (table VIII), the prevalence of higher education institutions is overwhelming, whether public (28; 75.7%) or private (9; 24.3%). If these results are compared with those

obtained by Ortega and Aguillo (2010) for the FP6 area of Health, we observe that business participation is lower in the Social Sciences and Humanities field, although these figures can be explained by the greater presence of the private sector and the public administration in the field of Health.

To understand this lack of involvement from private companies, it is only necessary to consider the most frequent topics of projects with Spanish participation (Governance; Migration; Tools for preparing socio-economic policies; Metrics and indicators; Rural development, etc.) and verify that in most of these topics there is little possibility of short-term economic benefit.

In the different Autonomous Communities in Spain (table IX), there is a clear predominance of the institutions from Catalonia (23.9%) and Madrid (19.4%). The percentage (20.9%) of participants whose activity affects the whole country is also remarkable; following Ortega and Aguillo (2010), we have categorized these institutions as nationwide.

Table IX. Spanish institutions by Autonomous Community

Autonomous community	N.º	%
Catalonia	16	23.9
Nationwide	14	20.9
Madrid	13	19.4
Valencia	7	10.4
Andalusia	4	6.0
Castilla y Leon	3	4.5
Basque Country	3	4.5
Asturias	2	3.0
Navarra	2	3.0
Aragon	1	1.5
Murcia	1	1.5
Rioja	1	1.5
TOTAL	67	100

The ranking of institutions with a minimum of five projects is led by the Universitat Autònoma de Barcelona (10), followed immediately by the Universitat Pompeu Fabra (9). However, the number of projects coordinated by the institutions in Table X is in fact very low, corresponding to 5.6% of the total shown in Table VI. Only the Consejo Superior de Investigaciones Científicas, the Politècnica de Valencia and the Universitat

Table X. Spanish institutions with participation equal to or greater than five projects ordered by the percentage of funding

Spanish institutions	Projects	Coord.	CCAA	Cost (euros)	% Total Cost	Media Proy Imp
Universitat Autònoma de Barcelona	10	0	Catalonia	41,732,348.00	16.28	4,173,234.80
Universidad Autónoma de Madrid	6	0	Madrid	32,119,572.00	12.53	5,353,262.00
Universitat Pompeu Fabra	9	0	Catalonia	28,215,978.00	11.00	3,135,108.67
Spanish National Research Council	6	1	Nationwide	17,467,758.00	6.81	2,911,293.00
Universidad del País Vasco	7	0	Basque Country	14,891,137.00	5.81	2,127,305.29
Universitat de Barcelona	5	0	Catalonia	11,438,533.00	4.46	2,287,706.60
Universitat de València	6	1	Valencia	10,334,467.00	4.03	1,722,411.17
Universidad Politécnica de Valencia	6	1	Valencia	8,081,668.00	3.15	1,346,944.67

de València actually coordinate a project, while the rest do not lead a project under any circumstances.

If we take into account the amount of funding received per project, we see that the Universitat Autònoma de Barcelona ranks first in both absolute and relative numbers in relation to the total funding of FP6 Social Science and Humanities projects with Spanish participation (16.28%). However, if the absolute amount is divided by the number of projects, we see that the projects of the Universidad Autónoma de Madrid are the best funded, with an average of 5,353,262 euros.

Finally, with regard to collaboration with other institutions (Spanish or not), Table XI shows that the average number of participants per project is headed by the Universidad Autónoma de Madrid, with almost 30 participants.

3.2. Relationship between FP6 projects and publications in Scopus

The second part of the analysis of the Social Sciences and Humanities projects with Spanish participation under the 6th EU Framework Programme (2002-2006) consists in describing the Spanish scientific production derived from the projects found in the Scopus database. As discussed in section 2.2, we used 306 records corresponding to 49 projects for this analysis.

In 45 of these 306 records, at least one researcher is Spanish (taking as a reference the affiliation "Spain"), which represents 14.7% of the total. That is, in the remaining 85.3% (261 records) none of the authors belong to a Spanish institution. All publications are written in English.

The 45 records are derived from 16 projects, that's an average of 2.8 records per project (far

Table XI. Spanish institutions with participation equal to or greater than five projects ordered by the average number of participants

Spanish institutions	Projects	Participants	Media Proy Part
Universidad Autónoma de Madrid	6	176	29.33
Universitat Autònoma de Barcelona	10	216	21.60
Universitat de València	6	111	18.50
Universitat Pompeu Fabra	9	164	18.22
Spanish National Research Council	6	109	18.17
Universidad del País Vasco	7	115	16.43
Universitat de Barcelona	5	78	15.60
Universidad Politécnica de Valencia	6	62	10.33
TOTAL	55	1031	18.74

from the 6.2 documents per project of the total analysed). The two projects with the most higher production have 9 records, followed by one with 7. In 6 projects there is only one record.

The Spanish author with more the most publications, signed in seven articles. Four authors were found to sign in four publications. In articles with some Spanish affiliation, the highest proportion of collaboration is found in articles signed by two authors (21 articles, 46.7%). Five articles had three authors (11.1%), five publications had four authors, and four articles had five or more authors (8.95%). On the other hand, there are ten articles with a single Spanish author, representing 22.2%.

Thus, the sample of publications shows that the behaviour of Spanish authors continues to fit into a traditional scheme of relatively low collaboration, despite the general context of an increase in research in Social Sciences disciplines (Ossenblok, Verleysen, Engels 2014; Henriksen 2016; 2018; Robinson-Garcia, Amat 2018).

It is worth noting that the publications cover a variety and diversity of topics (table XII). Without absolutely predominating, the ranking is headed

Table XII. Topics of publications with Spanish authorship arising from projects

Subject/Topic	No. of publications	%
Labour market	7	14.9
Economics	6	12.8
Fuels	5	10.6
Inequality	4	8.5
Gender Studies	4	8.5
Environment and natural resources	4	8.5
Renewable energy	3	6.4
Agriculture and rural development	2	4.3
Social Integration	2	4.3
Education	2	4.3
Governance	1	2.1
Research Policy	1	2.1
Democracy	1	2.1
Change in Culture	1	2.1
Life conditions	1	2.1
Knowledge-based economy	1	2.1
Physics	1	2.1
Mechanical Engineering	1	2.1
TOTAL	47	100

by publications on labour market (14.9%), followed by those on economics (12.8%) and fuels (10.6%). The general topics were extracted from the titles of the publications in the list published by Scopus in September 2021 (*Titles on Scopus* <https://www.elsevier.com/solutions/scopus/how-scopus-works/content>) and correspond to the ones that predominate in the projects (one publication can belong to more than one topic).

There is no clear correlation between the funding received by the project and its scientific production (figure 5) or between the duration of the project and the volume of publications (figure 6).

All the Spanish publications are articles and have been published in a total of 34 journals. Table XIII shows the thematic categorization of these 34 journals in Scopus (one journal can belong to more than one category):

Table XIII. Scopus thematic categories of journals where articles with Spanish authorship have been published

Scopus Subjects	Nº Journals	%
Social Sciences	27	36.0
Physical Sciences	17	22.7
Arts and Humanities	8	10.7
Business, Management and Accounting	8	10.7
Environmental Science	4	5.3
Energy	3	4.0
Chemistry	2	2.7
Mathematics	2	2.7
Health Sciences	1	1.3
Computer Science	1	1.3
Physics and Astronomy	1	1.3
Computer Science	1	1.3
TOTAL	75	100

The predominance of Social Sciences journals stands out, as would be expected considering the main themes of the publications presented above.

4. DISCUSSION AND CONCLUSION

The results obtained in this study are of great importance to fill the current gap that exists in relation to research and analysis of the presence and impact of projects with Spanish participation in the framework of the European Research Area (ERA). Our objective is to offer figures that corroborate or

Figure 5. Relationship between number of Spanish publications and duration in months of the project

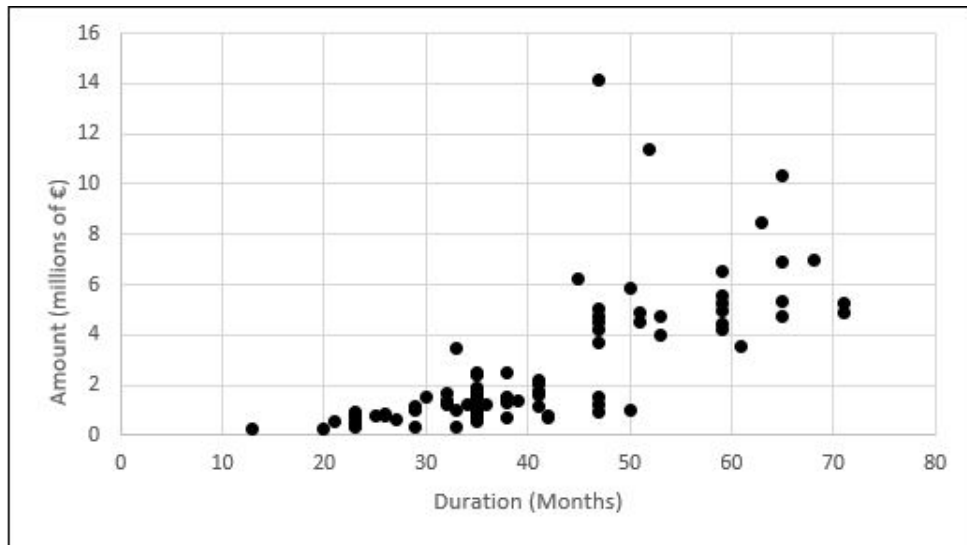
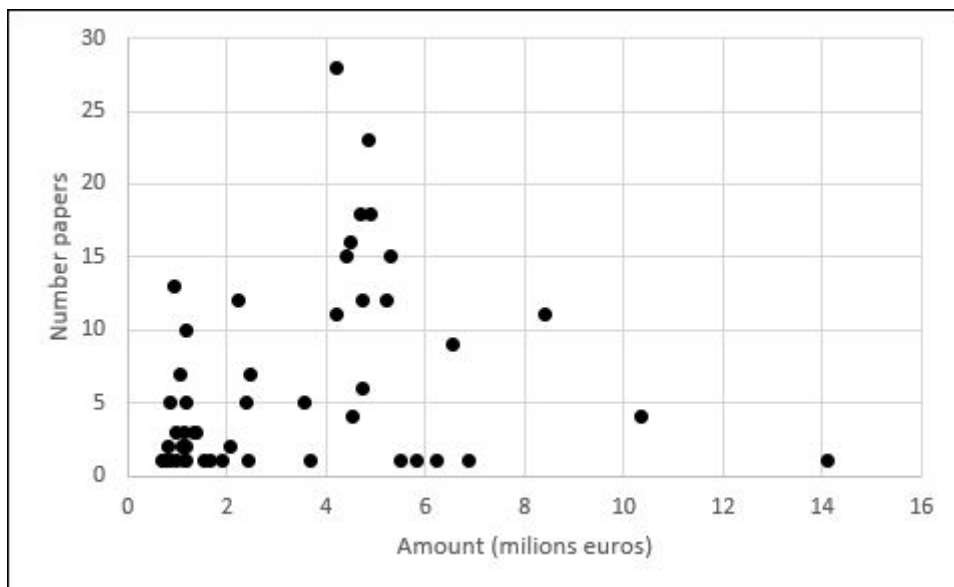


Figure 6. Relationship between number of Spanish publications and the cost of the project



refute, in the Spanish case, the assessment of Kropp (2021) regarding the “marginal” place that the Social Sciences occupy within the research policy of the European Union. For now, the figures of the whole FP6 program (10,098 projects) corroborate this “marginal” place as they show the projects related to the Social Sciences and Humanities only account for 2.7% of the total (275).

On the other hand, within the framework of the Framework Program of the European Union, our study is pioneering since, as Rietsche and others (2009) indicate, there is no systematic evidence on the global impact of the projects. The only detailed

study on Spanish participation in the European funding framework program has been developed by Ortega and Aguillo (2010) in Health Sciences.

Thus, it will be necessary, and this is our objective, to complement this work with other similar ones on the different framework programs of the European Union. Only in this way will it be possible to know the evolution and understand the current situation of the projects with Spanish participation in research in Social Sciences and Humanities.

While we do not have these complementary works with which to compare our results, the data

of the analysis of Spanish participation in the Social Sciences and Humanities research projects within the 6th European Union Framework Programme (2002-2006) demonstrate that Spanish researchers collaborate in 107 of a total of 275 Social Science and Humanities projects, which represents 38.9%. Although this figure may seem high, it is below other countries with a smaller demographic volume (Netherlands, 49.4 %; Belgium 39.2%). Despite this, it should be noted that Spanish participation in Social Sciences and Humanities projects is higher than 22.9% (2,309) of its participation in the total number of FP6 projects.

Another interesting fact is that of the total number of FP6 projects with Spanish participation (2,309), 4.6% (107) deal with Social Sciences and Humanities. This is still a very small percentage with respect to the total, but it represents a substantial relative difference. For this reason, and because of European Union policies that require projects to be transnational, it seems that a significant proportion of Spanish researchers were invited to participate in this type of project. It should be remembered that the percentage of projects led by Spain in the Social Sciences and Humanities is more than three times lower than the total.

The projects on Social Sciences and Humanities with Spanish participation are characterized by a larger number of institutions per project than the FP6 average, but a very poor number of leaderships: only six (5.6%) of the 107 projects analysed were coordinated by a Spanish institution (2.1% of a total of 275 Social Science and Humanities projects). One possible hypothesis of these characteristics, that we will confirm (or not) with the analysis of the subsequent FP, is that the lack of experience of Spanish institutions impelled them to participate in projects with many other institutions, but without leading them. In this sense, our results are in line with the low average of national partners, as opposed to the number of international partners, obtained by Ortega and Aguillo (2010) in the health area of the FP6. It is expected that with the experience accumulated by the Spanish institutions over the years, their relative percentage of participation and coordination will increase in the following Framework Programmes.

Analysis of the countries involved in projects with Spanish participation showed a high level of collaboration. This fact is the result of a European Union policy that forces projects to be transnational, including partners from different member and associated countries in consortia. However, this policy inflates the size of consortia (Breschi and Malerba, 2011). Furthermore, it can be pointed that in many

cases the object of study requires the collection of data at the regional level from several countries, which may not be as necessary in experimental sciences.

The mentioned high level of collaboration at the project level does not necessarily extend into the scholarly outputs resulting from these projects, which show lower levels of coauthorship. In our case, the volume of scientific production with Spanish collaboration drops to 15%, compared to 40% of collaboration in projects, especially with those European institutions that have larger collaboration networks: London School of Economics and Political Science, Centre National de la Recherche Scientifique and Universiteit van Amsterdam.

But the low rate of co-authorship is also possibly influenced by the nature of collaboration in the Social Sciences and Humanities which frequently has a poor reflex in co-authored publications. Thus, it is usual to tackle a research question by independent researchers and even the results may be published in an edited volume with chapters written by single authors. Frequently, research collaboration in the Social Sciences and Humanities does not happen in a research team, but across the research field with independent researchers collaborating in dealing with a single research problem (Pruschak, 2021). However, these results refer to projects funded between 2002 and 2006. In future research it will be necessary to analyse whether this pattern has changed over the following FPs.

Additionally, we have found that the projects with Spanish participation make a large contribution to the total in topics such as social cohesion (11; 78%), inequality and social exclusion (9; 56.2%), and governance (10; 50%). These results seem to be lined up to the focus on Socio-economic Sciences on FP4 and FP5 to enhance economic development and the integration process in Europe (Schögler and König, 2017). Moreover, the projects that have a longer duration receive more funding. However, this trend did not occur in the analysis of scientific production, because longer or better-funded projects do not clearly produce a greater volume of scientific documentation. What may be pointing to the fact that in some projects the intended impact is not strictly academic but rather professional or social.

On the other hand, if we refer to the total of Social Sciences and Humanities projects of the FP6 and we do not limit ourselves only to those with Spanish participation, there are articles published more than a decade after the project finished that still acknowledge funding from the FP6 programme. These results suggest that, sometimes, research in the Social Sciences and Humanities takes a long

time to finish. In addition, publication in the Social Sciences and Humanities entails much longer delays than in experimental science or technology (Björk and Solomon, 2013). This seems to be an aspect to consider at a time when research evaluation systems at the individual level are being questioned and reviewed.

5. ACKNOWLEDGEMENTS

This work has been supported by grant PGC2018-096586-B-I00 (MCIU/AEI/FEDER, UE).

We would like to thank Francesc García Grimau (Universitat de Barcelona. Departament de Biblioteconomia, Documentació i Comunicació Audiovisual) for reviewing the final text and Àngel Borrego (Universitat de Barcelona. Departament de Biblioteconomia, Documentació i Comunicació Audiovisual) and Llorenç Arguimbau (ContextI+D) for discussing the project and developing ideas.

We would also like to thank Serveis Lingüístics of the Universitat de Barcelona for translating the text to English.

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