The proof of the pudding: University responses to the European Research Council

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Abstract

Universities are structured and behave as organizations. This article analyses universities’ responses to the changes in the institutional environment of research funding that the European Research Council (ERC) represents. First, we develop a two-dimensional typology constructed upon universities’ commitment to ways of acting and the existence of organizational capabilities. We identify four ‘ideal types’: committed, hesitant, operational, and neglected. Secondly, we use a variety of indicators to position a representative sample of 18 Spanish universities in an empirical taxonomy constructed along the dimensions identified with the ideal types. Our findings confirm that university responses to the excellence programme of the ERC are not homogeneous. Among the attributes associated with committed responses we find: research orientation, links with international funding sources, and the existence of more open and flexible human resource policies. Conversely, low specialization, lack of critical mass by area, a strong teaching orientation, and high internal fragmentation are associated more with neglected responses.

Key words: research excellence; organizational responses; university; commitment; European Research Council (ERC); organizational practices.

1. Introduction

Different countries have diverse university systems (Clark 1983) characterized by different university governance models (Baldridge 1971); universities are professionally managed organizations (Scott 1995/2008) and are specific in their need of strong cooperation from the employees to advance their missions (Whitley 2011). Universities are complex organizations (Peterson 2007), and organizations need to adapt to the changing environments to survive (Aldrich and Pfeffer 1976).

Ten years ago, the European Research Council (ERC) was created. Some analysts suggest that the mere existence of the ERC, as a funding scheme, has already started to change the European research environment through the allocation of material resources, reputation, and new opportunities for the geographical and institutional mobility of researchers (Nedeva and Stempfer 2012).

In this context, the ERC research excellence model and its instruments provide a good case study of university responses to the changes in their environment. We think the issue is important to better understand the transformation of the institutional logic of European research organizations and the consolidation of a new logic of excellence, and it is also relevant for the debates on organizational diversity and adaptation of higher education institutions. Whether and how universities adapt to the changes in their environment is something that deserves empirical analysis (Fumasoli and Huisman 2013).

The principal objective of the current article is to assess and compare the responses of universities to the existence of the ERC. We first aim to classify university responses to the existence of the ERC according to the development of ideal types, based on a two-dimensional typology describing universities’ commitment to ways of acting and the strength of their organizational capabilities. Additionally, we construct a taxonomy based on indicators related to the relative participation of Spanish universities in the ERC calls, to grasp the idea of university commitment to research excellence, and whether universities have promoted organizational practices or have designed new mechanisms, instruments, and incentives to foster the participation of their academics in the ERC or the attraction of ERC grantees from other institutions. We also try to identify the factors or preconditions that could help to account for the differences across organizations in their responses to changes in the institutional environment of research funding.

The article is organized as follows. In the next two sections we present the analytical background regarding universities as organizations and some previous analyses on the ERC. Section 4 describes the
construction of the ideal types. In Section 5 we explain the criteria for case selection and data and information gathering for the empirical analysis. Section 6, dedicated to the testing of indicators, advances a taxonomy and locates our cases accordingly. We also illustrate the different types of university responses with arguments proceeding from managerial discourses. We end by offering our conclusions.

2. Universities as organizational actors

Despite higher education and research policy studies usually overlooking the organizational facets of universities, it is important to recognize that they are complex organizations (Peterson 2007). Although some scholars have described them as ‘atypical’ (Cohen and March 1974; Weick 1976), ‘specific’ (Musselin 2006), or having limited ‘actorhood’ (Krücken and Meier 2006, Whitley 2012), nevertheless, like all organizations, they need to adapt to their environments (Reale and Seeb 2011; Seeb et al. 2014), from which they receive resources and pressures for change and adaptation.

Universities, especially public ones, live in highly regulated environments (Bleiklie et al. 2015) and, despite formally enjoying autonomy, they are dependent on government policies and public funding. Additionally, they also face increasing pressures from competitive markets.

At least one of the core activities of universities, research, is a global enterprise, but the organizational context of research and higher education institutions continues to be largely determined by national and local conditions (regulations and funding). However, in recent years, the process of Europeanization has increasingly shaped research in different national settings (Cruz-Castro, Jonkers and Sanz-Menéndez 2015). The Bologna Process and the European Research Area (Chou and Gornitzka 2014) or other initiatives contribute to differentiating European universities, promoting competition and making positions in rankings visible. Additionally, some countries have also started to introduce changes in their university funding models, increasing the importance of competitive project funding (Tisdell 1997) and of ‘performance based funding’ (Hicks 2012) in steering and shaping universities’ behaviour. In this context, either explicitly or implicitly, competition among universities for funding (de Boer et al. 2015; Jongbloed and Lepori 2015), talent (OECD 2008), students (Laredo 2007), and reputation (Sauer and Espeland 2009) have become important factors in the understanding of the general dynamics in the sector.

Higher education literature has acknowledged that universities do not fit into the classical models of public bureaucracies or private firms (Frolich et al. 2013), as they operate in environments strongly influenced by regulations and subjected to the influence of politics (Bleiklie et al. 2015); additionally, some scholars have argued that universities have structural limitations to developing managerial strategies (Krücken and Meier 2006) or developing a strong ‘actorhood’ (Whitley 2012). If the organizational actorness of universities means unified central authority over the design of the work process, the coordination of their outputs and the development of collective capabilities for dealing with problems, adapting to change, and seizing entrepreneurial opportunities through mobilizing the commitment of skilled staff (Whitley 2012), universities have serious limitations, the more so the lower is the university’s resource endowment and the degree of autonomy from management of the academic community.

A strategy has been defined as ‘a coherent set of analysis, concepts, policies, and actions that respond to high-stakes challenges’ (Rumelt 2011: 6); having good strategies requires diagnosis, guiding policies and coherent action. We are aware of the links between strategies, idiosyncratic resources, and dynamic capabilities and the potential interaction effect regarding strong performance. However, due to limitations on university actorness, we will not address the issue of ‘strategy’, but just the ‘organizational responses’ that refer to the possibility of developing, in view of their institutional conditions, the best possible ways to adjust to the emerging incentive structure.

Early institutionalists (e.g. Meyer and Rowan 1977, DiMaggio and Powell 1983) focused their attention on the most likely organizational response: to try to adapt to and benefit from those changes by developing similar strategies and structures to those of the early innovators and successful organizations in the field. However, more recently others show that organizations follow very different strategies and develop diverse organizational responses when coping with institutional innovations (e.g. the ERC and its funding instruments). Considering the diverse degree of resource dependence among organizations, Oliver (1991) has argued that even those in the same field may develop a diversity of responses, ranging from acquiescence to defiance, and different degrees of compromise in between.

Others (Thornton and Ocasio, 1999) have highlighted that organizations face competing institutional logics: the formal and informal rules of action, interaction, and interpretation that guide and constrain decision makers and actors; logics underpin the appropriateness of organizational practices in given settings and particular moments. At the organizational level, logics can help to focus the attention on a limited set of issues and solutions (Ocasio 1997), leading to decisions consistent with the logic that reinforces existing organizational identities and strategies (Thornton 2002). Institutionalists have demonstrated that regulative, normative, and cognitive forces shape how new organizational practice models emerge and diffuse throughout organizations (Scott 1995/2008). The application of this analytical framework to the university changes suggests that we are witnessing a process of homogenization and differentiation of universities within individual countries and cross-nationally (Hüther and Krücken 2016). However we still have a limited understanding of why organizational responses to institutional pressures differ and what factors could contribute to explaining the heterogeneity in responses.

3. ERC as an institutional environmental change

One of the principal recent institutional innovations in the European research scenario has been the creation, in 2007, of the ERC. Its creation has attracted much attention among researchers and academic journals such as Nature and Science, because it offers new and generous excellence-based funding opportunities and the renewal of the European Union (EU) model in the support and promotion of fundamental research.

The ERC budget for 2014 was 1,700 million euros; this amount might not appear very significant in comparison with other funding bodies (like the National Science Foundation in the USA) or the overall European R&D expenditure of academic institutions. However, the ERC does not only mean a considerable amount of funding for individual projects (between 1.5 and 3.5 million euros each at the time of research), but also reputational gains for the host institution.

The ERC funding instruments aim to promote research in Europe with ‘excellence’ as the sole criterion for selection. The
principle of allocating R&D funds based on the concept of ‘research excellence’ has been integrated in the general framework of the EU (Sørensen et al. 2015) and other national research policies in Europe, but some countries already had specific instruments related to the promotion of excellence since the early 1990s (OECD 2014).

Previous studies of the ERC have focused on general descriptions about the change it has meant in the landscape of European science and its funding (Nedeva 2013, Luukkonen 2014), on the functioning of novel peer-review mechanisms and their effects on frontier research (Scherngell et al. 2013, Luukkonen 2012), on the interactions between funding instruments and the epistemic properties of knowledge (Laudel and Gläser 2014), on the effects of researchers’ geographical mobility (Mugabushaka et al. 2013), on the country/institutional distribution of grantees (Zecchina and Anfossi 2015), or on the process of organizational consolidation (König 2015).

In general, less attention has been paid to the study of the effects or impacts of the ERC on organizational actors and their reactions, even though one of the explicit ERC policy objectives is ‘to help universities and other research institutions to gauge their performance and to develop better strategies to establish themselves as more effective global players.’ The ERC is thereby intended to support frontier and risky research carried out by individuals but also to transform the way in which universities and research organizations perceive excellence.

Some interesting exceptions can be found in the EURECIA project (EC 2012), or more precisely in the contribution of Edler et al. (2014) analysing the impact of the existence of the ERC on research organizations in general. This empirical analysis aims to estimate the potential and effective impacts of the ERC on certain European research organizations, classified according to their relative position in the scientific stratification system. The impacts of the ERC are very diverse on universities, depending on whether they are ‘powerful’, ‘in between’, or ‘powerless’ according to various general organizational attributes related to endowment or resources, autonomy, and governance. If we simply consider the common legal and institutional framework, all Spanish universities would probably fall under the group of ‘powerless’ (without significant own funding resources, with limited autonomy over employment policies, etc.); however, we could expect variation among the responses to institutional changes, even among universities in the same category.

The ERC affects organizations by providing three types of potential values: material, symbolic, and normative (Edler et al. 2014). First, ERC grants constitute an important input of financial resources for research, at least at the project level, although probably less so at the university budget level (the bulk of which is generally secured from other sources); secondly, individual grantees and host institutions obtain reputational and prestige gains due to the strong association that epistemic communities make between ERC research funding and excellence. Lastly, as a powerful external evaluation mechanism, the ERC has the potential to offer organization managers a device to differentiate among researchers, and in this way contribute to align university strategy with that of the ERC.

Funding excellence in research is a basic principle of the ERC, but how universities, their academic units or management, define quality or excellence is in fact an empirical question. Merton (1960) highlighted the ambiguities between excellence and recognition, but established two relevant dimensions for the difference: quality and performance. More recently Paradise and Thoenig (2013) have discussed two competing mechanisms based on ‘organizational measures’ and ‘social judgement’ that could help to understand different ways of addressing the assessment of quality and their role in the research excellence model. They classify universities according to their positions and attitudes with respect to academic quality, based on perceived reputation and measured excellence (academic output in research) and they question the effect of the so-called ‘iron cage’ of a single model of excellence standards and make clear that universities differentiate themselves regarding the assessment of quality (Paradise and Thoenig 2015).

However, we believe that ERC grants have the combined effect of recognition and excellence as ways of assessing quality. The allocation of grants is made by specific social judgments, mainly based on both the substantive quality of the proposal (ground-breaking nature, ambition, feasibility) and the quality of the principal investigator (intellectual capacity, ambition, feasibility), but the limited numbers of grants and the strong competition transform the mechanism into a performance measure. Therefore, the ERC allocation of rewards is increasingly an organizational measure of excellence, in the same way that university rankings help to assess quality. Our argument appears to be supported by the links between excellence and ERC and positive feedback in the process of the construction of reputation already detected in previous studies: ‘ERC grants assign prestige and symbolise excellence of individuals and of host organisations’ (Edler et al. 2014:101).

In this context our idea is that it is possible to elaborate a typology of organizational responses to the ERC institutional innovation; this would vary according to the extent to which there is action or indifference from the organization and its members.

4. Constructing ideal types of responses

As is well known, ‘ideal types’ are heuristic tools that serve the purpose of understanding reality and are especially useful in comparative analysis. For the conceptualization of the ideal types we borrow from organization theory two concepts related to the idea of organizations’ ability to adapt to changes and to transform their environments. The first is inspired by the concept developed by Selznick of ‘organizational character’, where the emphasis is on the ‘embodiment of values in an organisational structure through the elaboration of commitments—ways of acting and responding’ (Selznick 1957:40). The formation of an institution, the character of the organization, is marked by the making of value commitments, that is, choices which establish the assumptions of policymakers as to the nature of the enterprise—its distinctive aims, method, and role in the community (Selznick 1957:55). This dimension focuses on the actions and their associated attitudes which help to shape key values in the organization, and especially the distribution of value in the organization. These values, in a given organization, are taken as an end in themselves and incorporated into the mission statements and become part of the dominant institutional logic.

The second dimension is addressed in connection with the concept of ‘organizational capabilities’ (e.g. Helfat and Winter 2011). To be capable of something is to have a generally reliable capacity to bring that thing to fruition as a result of intended action. Capabilities fill the gap between intention and outcome, and they fill it in such a way that the outcome closely resembles the intention. Its feasibility depends upon the accumulation of resources, equipment, individual skills, instruments, or organizational arrangements to make good the intentions. Furthermore, our interest relies more on the concept of ‘dynamic capabilities’ (e.g. Teece 2014) as the...
organizational ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments; in this sense, ‘a dynamic capability is the capacity of an organization to purposely create, extend or modify its resource base’ (Helfat et al. 2007). Dynamic capabilities within organizations come in many forms; they aim, in principle, to address and solve problems in the broadest sense and they are intentionally developed by practices, instruments, and tools. However, it must be said that weak organizational capabilities or the lack of dynamic capabilities do not imply that organizations or universities are unable to perform high-quality research.

Based on these two concepts, and with the purpose of characterizing the different university responses, we select two dimensions: (1) the commitment (of the university and the community of scholars) to ways of acting and responding (oriented to research excellence) that resemble the dominant values in the organization and the way in which actors embedded them in their behaviour; and (2) the existence and strength of specific organizational capabilities associated with the steering and promotion of research excellence in the organization. The combination of the two dimensions, which empirically do not need to be independent, creates four potential ideal types of university responses regarding the institutional logic of the ERC.

The commitment to ways of acting and responding is related to the values of universities and the way in which they collectively represent their mission, or manage their multiple mission statements. Universities may have highly diverse commitments with regard to research in general and research excellence in particular. The distinction between research and teaching universities is commonly used here. However, this dimension is complex because the degree of consistency between managerial approaches and the aggregate behaviour of the university may vary. University managers might be strongly committed to research, with their academics behaving accordingly, or they could have a limited commitment to ‘excellence’ but not to other missions associated to research, such as technology transfer. At the opposite extreme, leadership in universities oriented to teaching may have weak and limited commitment to research excellence even if some research groups demonstrate some such commitment.

The strength of organizational capabilities is related to the general regulatory environment, usually common to all universities in a given country. However, internal self-organization capabilities provide university management with the possibility of defining specific tools to promote or encourage research in general or research excellence in particular. In principle we could expect variety in the availability and use of these instruments to differentiate and reward the performance of academics or research units. Some universities could simply adhere to rhetorical discourses without implementing anything; by contrast, in other universities there may be a broad consensus to recognize and reward the best researchers with the instruments available or by defining specific ones.

Within the limitations of university resource endowment and the degree of independence of management from the academic community, several instruments may be available to university managers or academic authorities. Managers can simply disseminate information, create organizational structures to support applications, or identify internal or external potential applicants. Norms and regulations may be defined to create incentives to the community that could also be part of a differentiation strategy, but specific rewards may also be provided to those receiving a grant. Universities could have various types of incentives and rewards: salary improvements, additional resources provided by the university, promotions, or advancements on the academic ladder, giving priority to new facilities and laboratories and space in general, reduction of workloads, lowering or returning some of the overheads, providing additional positions for the project of the principal investigator are examples of possible instruments.

As has been said, weak organizational capabilities do not automatically mean a lack of ability to perform excellent research; however, they could undermine the ability of the organization to adapt to the changing environment and improve its global competitiveness. In Figure 1 we present the four ideal types of university responses constructed along the two axes identified.

I. Committed. The values of the organization and the ways their researchers act are aligned with the emergent systems of reputation assessment that ERC research excellence represents; such universities have developed organizational capabilities and instruments that create the appropriate incentives and rewards that are coherent with the organizational values. These responses are more likely in universities in which the management has at its disposal significant resources that could be allocated internally and discretionally. Probably they correspond to the ‘employer’ type of universities (Whitley 2012).

II. Operational. The values of the organization (and their employees) are not aligned with the emergent system of reputation that excellence represent, but the university management has started to promote organizational capabilities to adapt to institutional changes. This type of response is likely to be more common in younger and growing universities, in which management takes the ERC as an opportunity to improve the reputational standing of the university. Even if internally there may be some decoupling from the new values, the leadership could play a transforming role.

III. Hesitant. The values of the organization (and its employees) are aligned with the system of reputation assessment that the ERC represents and committed to paths of action leading to participation; however, these universities have not developed organizational capabilities and instruments to stimulate such participation. Principally, they solve the problems of managing grantees ad hoc. This type of response is more likely to be associated to universities with a limited quantity of resources available to management, and their governance system is structured around collegial models. In these universities the usual approach is to ‘muddling through’ and avoiding firm positioning regarding initiatives which potentially cause internal differentiation.

IV. Neglected. The commitment of the organization (and its employees) to ways of acting aligned with values that research

Figure 1. Ideal types of university responses to the institutional logic of excellence and the ERC.
excellence represents is very low, and the university management has neither promoted nor developed organizational capabilities to adapt to institutional changes. This type of response may be more common in universities specialized in university missions other than research, such as teaching or services to society. They would probably be embedded locally and their resource base associated to direct government transfers. Management will usually adopt the dominant values in the organization.

5. Data and empirical approach

To empirically test our approach we use qualitative and quantitative data; we have carried out document analysis and in-depth interviews with university managers that provide us with the opportunity to illustrate the attributes characterizing the different ideal types constructed. We have elaborated various quantitative indicators related to the degree of participation of the universities in the ERC calls, and we have also transformed the qualitative information into indicators to complement this data with information regarding the management instruments, incentives, and rewards available in universities.

5.1. Sampling

For the purpose of the empirical analysis we selected 18 public universities (out of a total of 47 classroom public universities) in 6 Spanish regions (out of 17 regions); the Spanish university system is completely regionalized and regional governments have budgetary and regulatory competences over universities. The criteria for our case selection were the following:

- To include universities from different regions with diversity in the ruling political party and type of government, to have variation in the potential influence of regional higher education policies which oversee and fund public universities in their territory. We have included some regions governed by conservative, nationalist, or social democratic governments, both stable and changing over time.
- The selection of cases also included different levels of local or regional competition. We selected universities in three regions with multiple public universities (from among the 10 with more than one public university), and three universities in regions in which there is a single university in the territory (from among the seven regions in this situation).
- To guarantee that in the final selection we had sufficient variation in terms of the disciplines and fields of science represented in the universities, we included cases of the three types of existing universities: generalist (usually large), engineering universities, and more specialized institutions (usually new and smaller).
- Additionally, bearing in mind that there is a strong potential explanation of organizational behaviour related to the quality of academics, we included universities with different levels of research performance.

Applying these criteria, we constructed a representative sample of the universe of Spanish public universities. We selected five universities with diverse performance in terms of research impact (2009–13) in each of the three regions (Andalusia, Catalonia, and Madrid) with multiple universities and three universities from regions with a single public university, which also have varied aggregated research performance (Asturias, Cantabria, and Extremadura). For the sake of simplification we identified merely three levels of research performance: high, medium, and low research impact (measured by the Normalized Impact Factor for the whole university, according to the data generated by the Scimago-Consell Superior de Investigaciones Científicas (CSIC), Institute of Public Goods and Policies (IPP) research group). As agreed with universities involved in the case studies, we maintained a degree of confidentiality, and this is why we do not identify the universities by their names, but instead by a code.

To provide the reader with information regarding the degree of representativeness of the 18 universities selected, Table 1 presents descriptive data for certain indicators in comparison with the values of the total 47 public classroom universities.

5.2. Information and data gathering

The period of reference for the analysis extends from 2007 to the end of 2013 and three sources of information were used for data elaboration.

First, we analysed the participation of universities in the ERC calls. We obtained the data about the participation, evaluation, and success of university academics from the ERC web page and national managers; the information aggregates the applications to calls between 2008 and 2013 for some ERC instruments [Starting Grants (StG) and Advanced Grants (AdG)]. Using the data on individual applications and participation aggregated at university level we attempted to obtain an objective indicator of the relative efforts made by university staff to obtain the potential resources and reputation associated with these ERC grants. This information source is mainly to be used in the construction of an indicator associated to the first dimension defined in the ideal types.

Our second source of information comes from the documentary analysis of universities’ reports, internal regulations, plans, etc. Spanish universities have usually developed strategic plans that make sense of their collective behaviour as organizations. From such documents it is possible to identify the relevance of research as a mission, the extent to which universities reward the most productive researchers, or the degree to which they actively promote applications to ERC projects as a source of funding and reputation.

Finally, in the 18 universities selected, we performed 42 semi-structured interviews, lasting between 45 and 75 minutes, with top managers (e.g. Vice-president of Research or Vice-president of...
Human Resources and Academic Staff), current or recent. The main objective of the interviews was to obtain direct information about the existence of instruments, tools, and incentives for promoting their researchers’ interest in applications for ERC grants. Additionally, the interviews gathered information about the way in which universities deal with grantees. In the interviews we were interested in the description of whether and how universities had responded to the ERC and tried to cover retrospectively not only the present but also recent years.

6. Spanish university responses to the ERC

6.1. Indicators for a taxonomy of university responses

As is well known, in reality universities do not fit perfectly within the different ideal types advanced in section four, yet the ideal types help us to structure our analysis, especially for the purposes of comparing organizational responses. The dimensions used contribute to identifying certain indicators that could provide proxy measures to represent what universities are really doing.

a) Indicators for positioning universities in dimension 1: ‘Commitment to ways of action’

With the aim of locating universities along this dimension we constructed a straightforward indicator: the total number of applications/proposals presented to the ERC, with the university as the host entity, in the period 2008–13 for the AdG and 2009–13 for the StG (six and five calls, respectively) and normalized by per thousand academic staff. The values of the indicator are (for our 18 cases) between 2 and 190. Across universities, this indicator displays a remarkable amount of variation, representing the aggregate effort of institutions and academics. Due to the skewness of the distribution we represent the indicator in a natural logarithm; we believe this indicator is suitable and fairly synthetic to measure adherence to the values of the model of research excellence embedded in the ERC calls.

The basic idea behind the indicator is to reach beyond the sometimes rhetorical discourses and capture the real effort of the community of academics to comply with normative expectations. Trying to succeed in the ECR allocation process is costly, as researchers need to make efforts and investments; they need to be informed and to be self-confident of their capabilities and at the same time to have some expectations of gaining rewards and recognition from their institution and their colleagues.

b) Indicators for positioning universities in dimension 2: organizational capabilities

The second dimension has been operationalized by measuring the extent to which universities have a portfolio of organizational practices, instruments, and tools that can be and are used for the promotion of research (specifically research excellence), embedded in the incentive structure faced by academics in the organization, as a mechanism of obtaining funding and a strong reputation for the university. We refer to practices that provide academics with incentives to apply to the ERC and to make efforts to succeed and, if successful, to be rewarded and recognized. The measuring of organizational practices, like those related to employment models, has already demonstrated its potential as a tool to monitor differences and changes (Cruz-Castro and Sanz-Menéndez 2015).

For the second dimension, instead of a single indicator, and considering the complexities involved in the idea of organizational capabilities, we elaborated a composite indicator. We selected seven organizational practices, broadly understood as the execution or implementation of an idea or a plan in the organization, which could provide us with a measurement of the strength of organizational capabilities (including the dynamic capabilities component): (1) ‘ERC awareness of and ERC relevance to the university agenda’, (2) ‘ERC applicants’ identification practices’, (3) ‘effective instruments to incentivise ERC application’, (4) ‘relevance of approved regulations as incentives for research orientation’; (5) ‘relevance of approved regulations as incentives for ERC academic involvement’; (6) ‘specific rewards and differentiation of ERC grantees’; and (7) ‘existence of a plan or coherent strategy regarding the ERC research excellence model’. We allocated each of the categories of organizational practices values representing strong, medium, or weak/non-existing (2, 1, and 0), based on the document analysis and especially the interviews’ transcription by three independent coders.7

Figure 2 positions the 18 universities in the empirical taxonomy. Each university has a value in each of the two indicators. The empirical results do not show a ‘perfect’ matching with the ideal types but the exercise suggests some relevant insights. For the group of selected Spanish universities, there is a limited presence of committed responses; there are clear cases of neglected ones, while most cases are located in the middle zone, where the boundaries between hesitant, operational, and even neglected responses are less clear.

It is worth noting that the two indicators might be interrelated but also that they refer to the various levels of universities (central management, sub-units, etc.); consequently, we should not expect full or even high empirical consistency in university responses in either the dimensions or the indicators. Additionally, there is no reason to empirically expect that Spanish university responses would be found in all the four types with the same probability of distribution, but instead quite the opposite.

The grouping is complicated and the boundaries are rather blurred, especially in the non-extreme cases. It appears that there is a clear outlier in the participation indicator; however, it does not have the highest value of organizational practices. It could be the case that there is not a linear relationship between organizational values and the strength of organizational capabilities, but a curvilinear one; once the organizational values adopt the excellence research as dominant logic, the need of strengthening the organizational capabilities decreases.

We present in Figure 2 the same positioning of cases in the taxonomy, comparing two potentially alternative groupings. In the first (Figure 2A), all the cases are clearly included in one of the suggested types (rectangles). In the second (Figure 2B), our preferred one, we identify a group of ‘in between’ cases (and group them with a discontinuous line in an elliptical form). Universities without ERC grantees are represented with square shapes, while universities with ERC grantees with diamond shapes.

We can draw certain lessons from the exercise of the construction of indicators: the first is that it is extremely interesting to see how universities are located in the taxonomy. The second relates to the difficulties of constructing consistent indicators, especially if these are composite indicators which relate to complex issues, such as organizational practices. We should make advances in the domain of defining indicators for measuring organizational capabilities (especially dynamic capabilities), establishing more synthetic approaches.
It is important to identify the organizational level at which strategic actions and/or promotion activities are developed. Here, the degree of agreement or conflict between the central university management and the subunits (institutes, schools, departments, etc.) regarding the approach to the ERC is quite relevant. In the absence of a coherent approach, decentralized promotion of ERC participation at the subunit level may clash with management priorities and be viewed as a problem. Conversely, top-down initiatives taken independently of the visions, preferences, or attitudes at the subunit level may lead to decoupling behaviour.

Finally, because establishing the boundaries is complex, especially when dealing with the values of the indicators defined, we...
6.2. Types of university responses in their own words

To complement our analysis in this section we provide some qualitative information about what university managers think and do. We present some evidence on how different universities perceive themselves and which attributes appear to be associated to differences in responses. We provide some extracts from the interviews to illustrate the comparative description of the different types of responses. Because the main objective of this section is to illustrate the type of responses and not to locate the cases in the typology, we have been somewhat flexible with the comments selected from universities within the boundaries of various types and we have included the quotes below where they appear most relevant to illustrate the response, especially the hesitant type. Additionally, there may be some ambivalence in the discourses.

One important caveat and contextualization of our analysis refers to the effects of the economic crisis (Cruz-Castro and Sanz-Menéndez, 2016) on university responses. Because organizational capabilities, resources, and strategy interact, the recent financial crisis has had a generally negative effect upon the entire university system and the availability of resources has not encompassed the potential existence of strategic intentions: ‘We want to do more, but we cannot offer them (the ERC grantees) laboratories, postdoctoral contracts, because we do not have the resources, the main goal of the university has been to not let people go, not to dismiss employees’ (R3-U1).

6.2.1 Committed responses

As already mentioned, in the Spanish context, general attributes of universities, such as the low level of funding available, a limited degree of autonomy, the collegial model of governance, and a restricted central ability to manage human resources, do not create favourable conditions for universities to have strong dynamic capabilities and strategic approaches to the research excellence model represented by ERC. This is probably why there are certain difficulties in clearly identifying a group of universities under this label, and at most we can identify in our sample just one case, which is in fact an outlier in the indicator representing the first dimension of the taxonomy.

The first group includes universities which show a clear commitment to research and values of excellence and which have also built up strong organizational capabilities to manage adaptation to changes. The research mission is fully integrated in the university’s organizational culture and commitment to research excellence is a value shared among the majority of the academic community. The university has also adopted and implemented a set of stable organizational practices and instruments to incentivize frontier research; the most important of these is a distinctive academic recruitment policy and efforts to differentiate, recognize, reward, or support academics aligned with the dominant institutional logic of excellent research are always present.

It is possible to identify clearly the salience of the research mission and the excellence values in the discourses of the management: ‘We give the ERC maximum importance, it is part of the political agenda of the university, we are constantly thinking about new actions to obtain more and more ERC grants’ (R3-U5) and also in the way they assess their researchers: ‘We have top people doing world class research and capable of writing excellent proposals’ (R3-U5).

This type of response is part of the organizational character, and the consolidated record of international competitive funding also appears to be relevant: ‘We are the Spanish university with the highest proportion of funding coming from European sources’ (R3-U5) as well as the previous research orientation of the university: ‘We were already an excellence-oriented university before the creation of the ERC’ (R3-U5).

Incentives such as the reduction of teaching loads for those funded through competitive grants or the allocation of research prizes are common practices. Without any doubt, as part of this type of university responses there are implicit commitments, between managers and academics, and among the latter, concerning positive career prospects and promotion for ERC grantees: ‘Having an ERC practically secures a tenured position or a promotion . . . it is not written anywhere but it is unthinkable we would not retain him/her’ (R3-U5). ERC grantees receive special treatment and recognition by the university and colleagues and this special treatment could also be quite symbolic: ‘we treat them very well, we anticipate their needs, and make them feel we want them to stay’ (R3-U5).

However, the commitment to paths of action and values may be so strong in this type of university that some of the managers present the instruments and explicit incentives rewarding ERC participation as superfluous: ‘There are no significant measures, our academics are active and do not need much incentive; they are highly motivated researchers with a strong will to get an ERC grant, they are socialised in the value of external fund raising’ (R3-U5).

In these universities, shared values and a lack of internal discrepancies or conflict regarding the definition of the mission contribute to the adoption of this approach: ‘I have never seen a debate or complaint about this’ (R3-U5).

This type of response is most likely in generally internationalized universities (in terms of collaborations, co-authorships, international students, and staff) with a consolidated record of participation in competitive international funding programmes. They are most probably relatively new, not very large by Spanish standards and specialized in research, they have expanded their academic staff in the last 20 years, they have striven to attract academics from abroad and regional policy supports this strategy (the Catalan government in the outlier case). The university management is highly representative of the strong research excellence values predominant in the organization.

Figure 3. Stylized representation of the university responses in the ideal types.
6.2.2 Operational responses

The second type of university responses includes cases that usually present a rather insignificant commitment to ERC values, reflected in medium or low participation, but levered with the use of some general promotion instruments. However, it appears that university managers either display a degree of transformative leadership or face strong pressures to adapt from their regional regulatory environments, and have started to construct a discourse of change in the organization in which research and the ERC could play a role. Probably, the current context of economic crisis has made the consolidation of transformative organizational capabilities more difficult in such cases.

We have identified some attempts at implementing general instruments to reduce the passivity of their academics and increase research and international activities: ‘We are now focused on increasing the number of publications, research projects and competitive funding….we aim to change the model and to that end we have established several incentives’ (R1-U5); ‘the biggest challenge for the university is to increase our participation in international projects and in particular those of H2020’ (R1-U5).

These universities tend to consider the ERC as just another European funding source; usually there is no differentiation in the discourse, but it could be simply because, even if they want to, they are aware of their limitations for competing in this ‘league’: ‘ERC grants are like the other European funds…this is why the incentives we apply are the same in general for all competitive calls (teaching load reductions, returns on overheads, etc), they are not specific’ (R3-U3).

Additionally, there exists path dependency derived from a lack of trajectory in international competitive project funding, which may underpin the current relative passivity of their academic staff: ‘It was never a strategic aim of the university, it was seen as something difficult’ (R1-U3), ‘we are too young and just beginning to join this type of projects’ (R1-U5).

Some of these universities, those with more managerial commitment, have been proactive in screening, identifying, and recruiting potential candidates to compete in the ERC and have implemented workload reductions among their researchers for the preparation of the proposals. They show a strategic interest in excellence and internationalization: ‘Our great interest is in Europe, it is almost an obsession, we have duplicated EU project funds’ (R4-U1); ‘last year we started a specific programme to attract ERC grantees and support them, some have reached the final phase, and those who have not will be encouraged and supported to try again’ (R4-U1). They have also started to allocate internal resources with those aligned with managerial demands: ‘We provide an incentive by including the international funding raising capacity of the researchers in the evaluation criteria used to grant intramural projects’ (R1-U1).

The universities with this type of response are usually not very old and are mostly provincial, located outside the large metropolitan areas or small metropolitan universities resulting from a process of ‘deconcentration’ some decades ago. Originally, they usually had an academic project with a limited effort to connect teaching with research or technology transfer. In these universities, research is not usually the dominant organizational logic and there is a stronger focus on teaching or transfer. This group may be heterogeneous; there are universities with a teaching orientation but which are experiencing a slow change to position themselves as universities more oriented to research. There are also cases of transfer oriented organizations, and universities that combine both missions but in which excellence oriented teachers are a minority. But what appears to be characteristic is the fact that university management has assumed a useful role to help in the changes and the adaptation to the research excellence logic the ERC represents.

6.2.3 Hesitant responses

This type of response presents a general commitment to research, although not explicitly linked to the idea of excellence or with the ERC. They do not generally adopt or implement incentive instruments (neither academic nor economic) to recognize, differentiate, reward, or support staff with better research performance according to excellence standards. This type of response does not define strong dynamic capabilities or incentives and universities have generally adopted an ad hoc reactive approach to the emerging institutional logic of excellence.

Managerial discourses are associated with the research mission and even technology transfer, but these are not or not yet accompanied by explicit actions. We use the term ‘ad hoc’ to depict an attitude based on a ‘case by case’ approach with respect to bottom up demands: ‘If a researcher comes to us and ask for some kind of help or support, in some cases we have responded positively; cases are dealt with when they appear… if they bring up a need or a problem we help all we can’ (R1-U2); ‘we generally respond to support requests’ (R3-U2); ‘if they have an important project, we are open to talk about it’ (R3-U2).

Likewise, responses to the ERC are similar: ‘What we do regarding European projects, including the ERC, is to negotiate case by case with the researchers depending on their needs’ (R1-U2). Despite the ad hoc nature of the responses, ERC grantees get differentiated recognition and exceptional support. In some cases, responses take place in the context of institutional competition: ‘one of our chemists got a ERC grant and an offer from a German institution, he might have doubted but once he realised he was going to be supported, he decided to stay’ (R3-U2).

It could even be the case that there is a more explicit trend of favouring ERC grantees in the internal distribution of resources: ‘They get priority and are much better treated than the rest of researchers’ (R3-U2).

Despite the degree of internationalization and the commitment to research in some of these universities, their organizational characteristics and governance dynamics might have limited the adoption of clearly positive differentiation measures and the construction of dynamic capabilities. More explicitly: ‘part of the faculty regards the rewarding of good research as unequal treatment with respect to good teaching’ (R1-U2). Among those universities in which the excellence oriented academics are not the majority, management is often aligned with the majority sectors and orients its actions towards them, for example, applying very general research promotion instruments and showing rather passive attitudes towards programmes such as the ERC: ‘In a generalist university like this, where not all researchers or even the majority are excellent researchers, some measures may encounter problems’ (R1-U2); ‘to incentivise some professors or researchers economically when there is a majority of professors who are not project Principal Investigators and therefore are not eligible, can be very unpopular’ (R2-U1). In fact, in some cases managers have made clear that there is even a direct lack of recognition: ‘There is no awareness yet that having an ERC grantee is a sign of university excellence’ (R3-U2).
In some extreme cases, there are conflicts and even straight disdain of the ERC as a reputational mechanism, and examples of rejection at the level of the subunits (e.g. departments) to integrating ERC grantees in their structures: ‘We had a postdoc who got an ERC starting grant and left for another university because the department would not offer him promotion to tenure. He would have brought research equipment and a research team but his department did not feel up to it’ (R3-U2).

The lack of explicit instruments may contrast with the making of individual decisions, in areas in which there are no clear incentives established, such as promotion for ERC grantees: ‘Of the two researchers who got an ERC, we granted one of them an associate professor position and the other a similar one’ (R6-U1).

Despite having some general instruments to promote research, the lack of specific action in these universities with respect to the ERC may in some cases represent a sense of managerial indifference with respect to researchers granted with a project: ‘we do nothing special, it is good that he is with us but we do nothing in particular’ (R3-U4). However, others realize that this attitude does not pay and is even misguided: ‘maybe we should rethink it because we had a researcher who got an ERC grant, got an offer from another institution and she left’ (R3-U4).

Moreover, university managers perceive that in the face of strong policy pressures from regional governments, they should be more responsive: ‘We are aligned with the regional policies and the importance they give to the European projects because we know that our institutional financial transfers depend on it’ (R3-U4).

Sometimes the quality of the average academic and the scientific portfolio and orientation of the university are presented as limitations of the role of the ERC in shaping university dynamics: ‘precisely because of the selectivity of the ERC and the few chances of succeeding, it is not a central issue’ (R3-U4).

The hesitation in the response could also derive from an internal fragmentation and lack of consensus about the values of research and excellence: ‘there has always been some resistance to research performance recognition...unions, for instance, are strongly opposed to any kind of salary differentiation based on productivity’ (R1-U3). University managers in this group are clearly aware of their limitations linked to their local environments and regions, in which the policy pressures for adaptation are very weak. The university management assuming this type of response is usually quite representative of the average local academic and it may be that it has very limited knowledge of the ERC and its impact on the Spanish and European research system.

6.2.4 Neglected responses
This type of university response can easily be identified in a significant number of Spanish universities. In terms of the indicators defined they have low commitment and values regarding the ERC research excellence model and weak organizational capabilities.

In these universities the tensions between the research and teaching missions are more noticeable in their discourse: ‘Research cannot be imposed top-down, changing the inertia of academics is difficult, it is an important obstacle’ (R2-U2). University managers even make strong statements regarding the potential of colleagues to apply and compete in this ERC research excellence model: ‘it is difficult to identify researchers willing to participate in these excellence calls’ (R2-U5).

In some cases, the availability of adequate research funding at the local level for academic elites is mentioned as a factor discouraging efforts to compete internationally: ‘The regional government has provided a lot of resources and this may have led professors to be satisfied with those awarded and not apply elsewhere’ (R2-U5). Organizational capabilities and especially dynamic ones are very weak in this type of universities. There are no specific instruments for the promotion of ERC participation at these universities, in which the issue is not on the political agenda and they see the programme as not tailored for them: ‘We have the feeling we are not up to it, it is probably too much for us, and many times we have not been willing to size ourselves up with others...or maybe we are just aware that we do not reach those excellence levels’ (R5-U1). At best, it is possible to identify some isolated cases of very general soft instruments for general research promotion.

Here, the explicit rejection of differentiation and recognition through rewards to potential ERC grantees is clear: ‘Linking ERC grants to academic promotion would entail a lot of problems, it would be very complicated and would raise strong opposition from the unions and faculty, especially from those expecting promotion based on seniority and other merits...politically it would be very complex’ (R2-U2).

Most of the universities associated with a neglected response have elements in common. For instance, scientific research is clearly not the dominant institutional logic. Instead, most of them have a strong teaching orientation and low specialization profile. They are usually medium-sized universities, most of them new, but they also include some old generalist universities which may have small islands of competitive research in a complex governance environment. There is a pattern associating this response to universities, strongly linked to their local environments and regions, in which the policy pressures for adaptation are very weak. The university management assuming this type of response is usually quite representative of the average local academic and it may be that it has very limited knowledge of the ERC and its impact on the Spanish and European research system.

7. Conclusions
This article has explored the adaptive responses of Spanish universities to the existence of the ERC. It has assumed that the existence of the ERC, the allocation of billions of Euros for funding projects in frontier research, and the reputational effects of obtaining a grant (for both the researcher and hosting institution) are transforming the European academic environment with the consolidation of a new institutional logic based on the idea of research excellence.

The mapping of Spanish universities’ participation in the ERC calls shows a high regional concentration. Globally, when we compare the position of the universities in the different spaces of our taxonomy we also find some commonalities by region that could be
connected with the adoption by the regional university authorities of policies more associated to the institutional logic of excellence (reputational competition). For example, the Catalan universities appear to be clearly ahead of Andalusian universities in terms of their active response to the ERC, probably due to the lower pressure exerted by the Andalusian government in terms of university research funding and other incentives.

Whereas previous literature (Edler et al. 2014) has analysed the impact of the ERC on research organizations, we have addressed the issue from the point of view of the organizational responses to the new institution of the ERC. We have constructed ideal types identifying two critical dimensions in these responses: the degree of commitment to ways of acting aligned with the model of research guided by the idea of excellence that the ERC represents, and the existence and use of organizational capabilities to steer, promote, and reward research excellence. The resulting ideal types of university responses (committed, operational, hesitant, and neglected) help to understand reality. The construction of an empirical taxonomy to position Spanish universities shows that the indicators selected position the extreme cases (committed and neglected) quite adequately, whereas the boundaries of other types are more blurred.

Nevertheless, the dual approach, based on the ideal types and the construction of an empirical taxonomy for positioning the cases of universities, confirms that responses to the excellence programmes are not homogeneous; our findings are therefore in line with analytical frameworks that expect organizational variance rather than homogeneity (Fumagali and Huismann 2013; Paradise and Thoenig 2013). We have also gained some insights regarding the potential factors that favour the position of universities in one type of response or another. Acknowledging that we do not try to explain success in applications for ERC projects, we have tried to better identify the features associated to the responses of universities to deal with the implications of the ERC.

Among the factors or attributes it is possible to associate with the committed responses we have found a previous trajectory as research universities, a previous orientation to international research and funding sources, and the existence of more open and flexible human resources policies (in terms of recruitment) than the average. These universities display coherence among the different subunits and between the units and management in terms of their approach to the university mission and the new ways of positioning regarding research excellence itself. Additionally, these organizations have more blurred organizational boundaries with other research institutions with which they are heavily involved. The regional environment also appears to play a role, in the sense that regional policies allowing for a more flexible institutional approach regarding human resources recruitment and retention facilitates the adoption and implementation of many of the instruments identified.

Even if Spanish universities do not demonstrate strong organizational capabilities (mainly due to the governance model, the limitations on resources, and a restricted ability to define strategies), they use tools for promoting, incentivizing, and rewarding research and excellence; the consequence is that in universities with ERC grantees there exists an internal differentiation based on performance. Universities which already have a commitment to research and excellence appear to use the existing instruments and grantees as a way of internally differentiating among researchers. However, it is exceptional for management to develop public and open differentiation discourses or policies, in line with the need to maintain a balance among the different interest communities. Thus, most universities, including those with hesitant and operational responses, are not capable of developing incentive systems, probably to avoid internal conflicts. At the other extreme, among the factors linked to neglecting responses we find low specialization, lack of critical mass, strong teaching orientation, and high internal fragmentation which sometimes lead to tensions or conflicts between management and departments. Links between the types and the ‘quality’ of universities do not show a clear pattern.

We believe some policy conclusions can be drawn from our analysis. First, if universities do not confront pressures from their regulatory regional environments to comply with the new European logic we would expect to find more decoupling responses; the predominant governance model and the preference for avoiding internal conflicts favour that approach. Secondly, universities with a highly heterogeneous composition in terms of fields of science will probably encounter more difficulties in developing coherent and consistent actions in favour of the emerging model of excellence based on the assessment of the quality of frontier research; but managers with research orientation or research background will try to solve the problems on a case-by-case logic. Thirdly, when a university becomes active in the search for potential candidates, it focuses on identifying young researchers willing to apply to the StG, with the expectation of consolidation in case of success; the lower effort of university managers regarding AdG is probably more related with the limited incentives at their disposal, than to the quality of the top researchers in Spanish universities.

Despite the difficulties for universities to strategically change, we have clearly identified some critical factors that promote and facilitate the adaptation and compliance to emerging institutional logic: the first relates to the pressures from the regional environment from where the universities get most of the resources; secondly, despite the limitations of the governance model to promote strategic changes, the emergence in the universities of a core and coherent coalition of academics committed with compliance also plays a role; finally, some strong leadership of singular university managers who are able to overcome difficulties and promote changes in practices and routines in the universities actions is a another relevant triggering factor. While competition is a positive element in dynamizing the academia, we should also be aware that sometimes an excess of competition and strong instability might damage the academic enterprise. Due to their different nature and attributes universities should find their own way to adapt, although the first step is the awareness and recognition of the need to change and improve.

Our analysis is not without caveats. The current situation and the recent financial crisis is a very influential contextual element: first and most importantly, it has limited the discretionary resources available for university management to develop strategic actions (Cruz-Castro and Sanz-Menedez 2016); secondly, it must be acknowledged that the stagnation of public openings for tenured positions affects the possibility of linking ERC success at the level of researchers with some kind of automatic promotion.

As regards our methodology, in this article we have chosen to gather information mainly from the university management level. Although this choice was suitable for our questions, in further research it could be complemented with information from other levels, especially the ERC grantees themselves and also departmental directors. Another line for further analysis is the regional dimension, especially the regional political and policy environment. Some of our findings point in that direction. It appears that the influence of universities’ regional policies goes beyond regulatory aspects and...
increasingly affects elements related to organizational performance, such as the changes in the dominant employment practices in some universities (Cruz-Castro and Sanz-Menéndez 2015).

As regards the ideal types defined for describing university responses to the emergence of the research excellence logic, we believe that—with improvements and more elaboration—they could be of more general value and applicable to the study of policy-induced changes in other policy domains.

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Notes
1. The ERC has allocated, under the 7th RTD Framework Programme (2007–13), more than 7,500 million euros in project research funding. Under the Horizon 2020 (H2020), there is the expectation of an additional allocation of 13,100 million euros for the years 2014–20. According to EUROSTAT the overall Europe-28 R&D expenditure of government and higher education sectors, in 2013, was 96,803 million Euros.


3. We should underline that the ideal types we have constructed are not related to success in applications to the ERC but rather to the attitudes, values, and behaviours towards it. Success could be more closely associated to the quality of staff than to the commitment to the emerging norm (especially if it is mainly rhetorical and has no practical consequences) but in the long term the degree of commitment is expected to be related to success due to potential feedback effects, despite we could also hypothesize a non-linear relationship with an inverted U shape.

4. The list of 18 universities could be provided by the authors upon request.

5. The analysis of strategic plans has previously been used as a tool for analysing the heterogeneity of the ways in which the missions of universities are represented (see for example: Garcia-Aracil 2013).

6. When making the instruments and incentive dimension operational, we must stress that, at the time of the fieldwork, among the 18 cases used as a representative sample, none of them had a specific plan or proposal approved by the university management to promote or encourage specifically or exclusively participation in the ERC calls.

7. The final value of the indicator for each university is calculated as a simple addition of the average values assigned by the independent coders for each of the seven categories.

8. Interestingly enough, a simple measure of aggregate quality in publications such as the normalized impact factor does not seem to explain per se the position of a university within a specific type of response; some universities are quite rhetorical in their approaches to supporting research and excellence, that is to say that such support is not put into practice. However there is a clearer correlation between the indicator of commitment to ways of action (effort in applying) and the normalized impact factor (correlation 0.7), probably meaning that universities with academics more oriented towards research are more committed to different forms of competition for resources and reputation.

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