A critical approach to the evaluation of the quality of accounting research in the Spanish university system and its implications (Una aproximación crítica a la evaluación de la calidad de la investigación en contabilidad en el sistema universitario español y a sus implicaciones)

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1. Introduction

The 2001 Spanish Universities Law 6/2001 established a new regulatory framework for the professional career of the academic members of Spanish universities. The Law develops a new pattern for tenure and promotion via a permanent contract and also maintains the traditional civil servant track. In the first case, after the tenure track (under the temporary figure of *profesor ayudante doctor*), the successful candidate gets a permanent position as *profesor contratado doctor*. Regarding the civil servant track, candidates may get a permanent position under the figures of *profesor titular de universidad* (TU) or *profesor catedrático de universidad* (CU), the latter being the top academic position in the Spanish university system.

For each position, it is a necessary (yet not sufficient) condition that the candidate holds the corresponding accreditation. The agency in charge of the accreditation is ANECA (*Agencia Nacional de Evaluación de la Calidad y Acreditación*: National Agency for the Assessment of Quality and Accreditation). It is an autonomous organization, within the Ministry of Science, Innovation and Universities, created by the Spanish Council of Ministers (*Consejo de Ministros*) on July 19th 2002, on the rationalization of the Public Sector and other administrative reform measures. ANECA's declared main objective is to contribute to the improvement of the quality of the higher education system through the evaluation, certification and accreditation of teaching, faculty members and institutions. Therefore, ANECA assesses the curriculum of those many applying for one of the accreditation issues by the agency. Whereas the possession of an accreditation does not grant a permanent position in a Spanish university, the failure to obtain it guarantees a precarious (in the best of cases) professional life within the university system.

ANECA discloses the set of criteria for each accreditation. In this study, we focus on the accreditations of Full Professor (*catedrático de universidad*, or abbreviated with CU). For the Economics and Business field of knowledge (there are not specific criteria for the accounting discipline), the current criteria released in December, 2019 (Agencia Nacional de Evaluación de la Calidad y Acreditación, 2019b), to be applied since January 15th 2020, establish that to get a positive assessment (Level A) of the research, the applicant must provide a minimum of 16 articles in the Journal Citation Reports (JCR) journals in the first quartile (Q1) by impact factor. Even though, the candidate may also obtain a positive assessment of his/her research with a B grade,[1] we focus the attention on the requirements for obtaining the A grade, which constitute ANECA's requirements to be considered a successful researcher.

The overall objective of this study is to bring to light the extraordinary difficulties for publication in the accounting field in Spain, which have consequences for the development of an academic career and for the generation of a research meeting the Spanish context and necessities. To achieve this main objective we

[1] For a B grade, there are two possibilities: 1) A minimum of 12 articles in journals classified as level 1 (Q1 and Q2 JCR) or level 2 (Q3 and Q4 JCR and Q1 SJR-Scopus), with no least than 8 of level 1; and 2) At least 6 articles in the first decile of the JCR or SJR-Scopus category by index of impact. However, in any of these cases, the candidate must also present a variety of other merits, among them: Chair of the scientific committee of a relevant international congress; Supervisor of doctoral dissertations which have resulted in national awards or recognized internationally; or being the editor of a JCR-indexed journal for at least two years; etc. The positive assessment for TU with level A needs the same requirements as for level B of CU, and the level B of TU requires 6 articles in levels 1 and 2 (with 4 articles in level 1), or 3 articles in the first decile in the corresponding categories of JCR and SJR.

pursue four different steps or specific objectives. First, we update the evidence reported by previous studies (e.g., Fogarty & Markarian, 2007; Swanson et al., 2007; Argilés-Bosch & Garcia-Blandon, 2010) regarding the worldwide situation of the accounting discipline in relation to other adjacent fields of knowledge, with respect to the availability of space, in terms of number of outlets and articles, for publishing research. The second specific objective is to refer more specifically to the publication opportunities of scholars affiliated to Spanish institutions and to provide a dynamic representation of the publication pattern in the top accounting journals by scholars affiliated to Spanish institutions. Specifically, we examine who are the most productive accounting scholars, in which journals they concentrate their publications, which methodologies they apply as well as the co-authorship pattern. Third, we aim at analysing whether or not the criteria currently established by ANECA for a positive evaluation of the research may be considered or not realistic in the accounting discipline, contextualized at the beginning of this section. This is not a minor issue, as the answer to this question will likely have important implications. The elaboration on the likely implications of ANECA's new standards for the evaluation of the academic research is the fourth specific objective of this paper.

The main results of the study indicate that: 1) the accounting field is underrepresented in JCR; 2) publishing in the top accounting journals becomes comparably more difficult than in other management disciplines, as not only the number of accounting journals is lower but also they publish a significantly lower number of articles per volume; 3) the importance of a journal and an academic discipline, in terms of impact factor, are associated with the number of published articles, as the publication of a low number of articles is associated with a low impact factor; 4) the publications of Spanish accounting scholars in the top accounting journals are scarce; 5) most of the few publications by Spanish affiliated accounting authors in top accounting journals are co-authored with non-Spanish affiliated authors (usually with USA and UK affiliated co-authors), and dealing with non-Spanish geographical focuses 6) the top accounting scholars have published less than their counterparts finance, business and management scholars; 7) therefore, according to these figures, ANECA's requirements of a minimum of 16 articles in Q1 JCR journals to be a successful researcher seem impracticable in the accounting field, even for the top European authors, and will likely have serious implications at various levels. In our view, the requirements of ANECA may undermine the research motivation of faculty members, who can view the research requirements to be promoted as impossible to attain. It may also have serious implications for the organizational structure of the accounting departments in the Spanish universities. The current unrealistic requirements may jeopardize the substitution of retired professors (most of them not subject to the system of accreditations) by lack of accredited faculty members. Moreover, this context makes it difficult the emergence of innovative ideas, critical perspectives and non-mainstream methodologies, therefore, compromising the advancement of the accounting discipline. On the other hand, it promotes the emergence of research topics aligned with the elite of the dominant worldwide economy, neglecting specific Spanish problems and context, and losing a concern for specific Spanish issues and problems.

The paper continues as follows: the next section reviews previous literature; we follow with the design of the study; we then explain results on the outlets of the academic accounting research, on the authors' affiliations of articles published in top accounting journals, as well as on the publishing patterns of authors with Spanish affiliations, and on the comparative performance of top accounting and BFBM (the abbreviation of the sum of "Business-Finance", "Business" and "Management" JCR categories, accounting included). We follow with a discussion and concluding remarks.

2. State of the art

Several authors have stressed the difficulties in achieving a successful academic career in the accounting field. As an example, Argilés-Bosch & Garcia-Blandon (2010) elaborate on the relatively inefficient procedures of the accounting community to produce and disseminate knowledge. Fogarty & Markarian (2007) document

the weakening of the accounting discipline caused by the difficulties in publishing in the top accounting journals, and the subsequent decline in the number of tenured faculty members. Buchheit, Collins, & Reitenga (2002) also evidence higher difficulties in getting published in the top accounting journals compared to other business fields such as finance, management or marketing. They argue that the comparison with these related fields reveals that, whereas the number of faculty members is relatively similar (or even larger in the accounting field), accounting journals are characterized by: 1) publishing fewer articles; 2) a larger share of authors are affiliated at the top US ranked institutions; and 3) a lower share of authors are affiliated to non-US institutions. Similarly, Swanson, Wolfe, & Zardkoohi (2007) evidence an unusual larger authorship and affiliation concentration in the articles published in the top accounting journals with respect to top finance, management and marketing journals, and recommend increasing the number of articles published by the accounting journals. In the same vein, Moizer (2009) recognizes the low acceptance rates and lengthy review procedures of accounting journals, and Swanson (2004) provides evidence that publishing in accounting journals is more demanding and difficult than publishing in finance, marketing and management. Hence, the proportion of doctoral faculty members in those three disciplines publishing in their top journals is 1.6 times larger than in accounting. He argues that these greater difficulties result in lower promotion and tenure in accounting academics than in other disciplines and calls for further research on this issue. Parker, Guthrie, & Gray (1998) find a perception by the new entrants into the accounting discipline of overwhelming publication demands, which deters them from following the academic profession. In this vein, Humphrey & Gendron (2015) warn that the restrictive publication procedures of the accounting journals jeopardize the continuity of accounting as an academic research discipline. Oler et al. (2016) compare data on accounting with finance, management and marketing, finding that ratios of publication per faculty member are lower, there are fewer slots available for publication, and publication in top journals is more difficult to attain relative to these business disciplines. Escobar Pérez et al. (2014) find that high rejection rates in accounting discourages Spanish accounting academics from doing research.

Ballas & Theoharakis (2003) point out that there is no global academic accounting community, but a heterogeneous discipline with geographical and theme segmentations, often isolated and ignorant of each other. Kasanen & Lukka (1996) argue that there are two predominant research elites (USA and Europe based) both being the peaks of stratified research community hierarchies. Some authors (Jones & Roberts, 2005; Raffournier & Schatt, 2010) evidence that researchers outside the Anglo-Saxon context or affiliations, or without strong relationships with this context, find comparatively more difficulties for publishing, despite the emergence of contributions from Chinese affiliations in the last years.

Hussain et al. (2020) identify a dichotomised academic accounting discipline between positive and critical approaches, being the former the canonical approach of the elite in the discipline, and the later more interdisciplinary and innovative, and drawing from wider reference sources (Gendron & Rodrigue, 2019). According to Fogarty & Zimmerman (2019) the accounting elite dominates the discipline, reproduces and privileges their associated institutions, the mainstream outlets for dissemination, topics and methodologies, and does not pursue the truth of the common good. Arnold (2009) and Bengtsson (2011) argue that the accounting elite is implicated with predominant economic interests.

Some authors (Tomkins & Groves, 1983; Baker & Bettner, 1997; Gray, 2010; Merchant et al., 2003) criticize that the scientific methodology used by mainstream journals is generally unsuitable to capture the complexity of the natural setting in which the accounting information is produced and used, and hence to allow critical contributions able to produce truly valuable knowledge advancement, social well-being and sustainable economic practices. Some critical authors (Lee & Williams, 1999; Parker et al., 1998; Humphrey & Gendron, 2015) criticize the presence of an elite group deciding and legitimating what are the appropriate research topics and methodologies and which types of research should be published and funded. As a result,

the accounting discipline presents an un-parallel concentration of authorships and affiliations in the mainstream journals.

According to Gendron & Rodrigue (2019), as innovative ideas are more likely to take place at the periphery of the field, such context of elite dominance, and the restrictive procedures in knowledge dissemination and publication, make even more difficult the emergence of innovative ideas and more flexible approaches and methodologies, needed not only for the advancement of knowledge, but also for social justice and environmental sustainability. It is unlikely that researchers would move away of traditional ways of thinking, issues, constituencies and ideological perspectives into an accounting research focused on what matters for human well-being, justice, long term sustainability and alternative rationalities, if there is no ground for plausible and diversified developments of the researchers that find their way through the discipline (Dillard & Vinnari, 2017).

Some authors bring to light the dissatisfaction of accounting academics with the Spanish academic performance assessment system. Arquero et al. (2016) find that the Spanish assessment system discourages accounting academics to pursue research goals, given the difficulties for publishing in accounting journals. They also find that a group of them adapts to the requirements of the mainstream, performing research in the accepted topics and methodologies, but leaving topics connected with the Spanish and practitioner context. Arquero et al. (2017) analyse the research features and characteristics of the Spanish Accounting academics and find some spurious behaviour driven by the Spanish accreditation system. Larrán-Jorge et al. (2013) also find similar dissatisfaction with the accreditation system in Spanish accounting scholars. Victor-Ponce & Muñoz Colomina (2016) find that the Spanish academic performance assessment system is an important factor divorcing the accounting academic community from practitioners and from the Spanish context.

3. Design of the study

As mentioned, our main objective is carried out through four specific objectives. We tackle the first specific objective by comparing the number of JCR journals and published articles in accounting and the "Business-Finance" (BF) category and BFBM adjacent fields of knowledge. Due to the special consideration by ANECA of JCR, we restrict the analysis to the journals included in this list. Because JCR does not consider accounting as a specific field of knowledge, our definition of a journal as an accounting journal is based on the title of the journal and on our knowledge of the discipline. Table 1 lists the JCR journals in the last available year when we prepare the last version of this article (2019), that we label as accounting journals, all of them including the words "accounting", "auditing" or "audit" in their title.[2] All the journals listed in Table 1 belong to the BF category of JCR, and the JAE is also included into the "Economics" category. For each journal, the table displays its name, acronym, impact factor, ranking position and some other characteristics, based on the 2019 edition. As can be seen, 31 journals have been finally labelled as accounting journals.

(insert Table 1 approximately here)

As mentioned before, the JCR includes the accounting journals into the BF category. This category also comprises journals in finance, which is considered the most adjacent field of knowledge to accounting. The other fields of knowledge related to accounting are the JCR "Business" and "Management" categories. The three categories incorporate the set of the considered business disciplines (which we label BFBM, as mentioned) and their corresponding outlets, which disseminate the core (and most) of the research dealing with this comprehensive field of knowledge. We aim at considering a minimum of ten years. It avoids random data of a single or few years, and it is a conventional period of time that we consider reliable for the comparison of the characteristics analysed in the study. When we started the study the period 2008-2017

[2] Whereas other journals, not in the list, may also publish articles dealing with accounting topics, they are not focused on accounting.

was the last ten years period with available data in JCR, but we enlarge the period to twelve available years when we prepare the last version of this article: 2008-2019. We start comparing and collecting data on the total number of journals and articles in JCR for this period, as well as for those included in Q1. We separate the corresponding data for the accounting journals and compare them, first with the BF category and then with the sum of the BFBM. To have a reliable point of reference with respect to the publication opportunities of accounting scholars we also hand collect data on the number of scholars from different fields teaching at several universities, and on the number of papers presented in important comparable events in different business fields. We select a limited number of universities with available detailed information on accounting and BFBM scholars in their webpages. We find data for the European most productive accounting department (the London School of Economics, according to Chan et al. (2006)), for two important USA universities (the McCombs School of Business, University of Texas at Austin, and the Chicago Boot School, University of Chicago), and for two accounting departments of Spanish universities (University of Barcelona and University of Valencia). We also collect illustrative data on the Spanish scholars in the BFBM, despite they do not detail the number of accounting academics in the BF field.

Continuing with the first objective, and to make evident the handicap that the low number of journals and articles imposes on the accounting scholars to develop a successful academic career, we explore the relationship between the number of articles published by a journal and its impact factor. We download JCR data on number of journals, number of citable items and different measures of impact factor, at category and journal level, by total sciences, total social sciences, and with specific information for the BFBM fields. We conduct an analysis of correlations between the number of citable items and several indicators of impact factor. We correlate the impact factors and the number of citable items published in the current year, but we also consider the number of articles published in the last two and five years. We build samples with JCR journal and category data.

With respect to our second specific objective, we hand collect data on the articles published by authors affiliated to Spanish institutions in Q1 JCR accounting journals during the ten available years under study when we started the analysis (2008 to 2017), and proceed with an in-deep analysis. We search in Web of Science (WoS) by the name of the journals in any of the ten years under study in which the journals were ranked in the Q1 category and refining with “article” as type of document and “Spain” as country. We download all these articles and collect data on the co-authors, methodology, and the geographical focus of the empirical articles. In order to have an overall outlook on the contribution by Spanish affiliations, we also download data on the number of contributions by country to the accounting journals that have remained in the Q1 category of the JCR since 2008 (AOS, JAE, JAR and TAR), and we download the corresponding data since 2008 to the last available data when we prepare the last version of the paper, year 2019.

For the third specific objective we look for the top five accounting authors, by number of publications, and the corresponding top five finance, business and management authors. To contextualize our results, we select the top five accounting authors at European and Worldwide levels, while the finance, business and management top authors are selected at worldwide level. The aim of this analysis is to compare the productivity, in particular in Q1 journals, of the top authors in each field. Because neither WoS nor the “Essential science indicators” provide rankings at the author level, we first select the accounting journals that remained in the Q1 during all ten years from 2008 to 2017 (AOS, JAE; JAR and TAR) then search in WoS by the journal name, and then refine by “article”, years and by all European countries for the top European accounting authors, whereas for the top world authors we remove the country filter. We then combine data on all journals and rank the authors by the number of published articles in these top journals. Finally, we select the top five European and world authors, which we label as top accounting authors, perform additional searches in WoS with the names of these authors, and record their articles during their whole academic careers (in all years in WoS until June 2019, when we finished collecting data on these individual authors),

with indication of the journal quartile. We repeat the procedure for the top five world authors in finance, business and management fields.[3] Similarly, In order to rank the top five authors in any of these BFBM disciplines we use the publications in the corresponding journals in the last ten available years when we started the study: 2008-2017. We label these authors as the top in these disciplines. However, for all these top authors we search their publication records of their whole academic career in WoS until June 2019.

Finally, with respect to the fourth specific objective, we discuss on the implications that our findings would entail for the accounting discipline in Spain.

4. Outlets for dissemination of the academic accounting research and number of published articles

This section aims to provide evidence on the first specific objective of this paper, namely comparing the worldwide situation of the accounting discipline in relation to the BFBM fields of knowledge.

Table 2 provides information for JCR journals included in the accounting, BF and the overall BFBM categories, for the period 2008-2019. The BF and BFBM categories include also accounting journals. Panel A displays that, as it has occurred in other disciplines, the number of accounting journals has steadily increased over the period analysed (from 10 to 31 journals). However, it should be noted that in the BF category of the 2019 JCR edition, which basically includes accounting and finance journals, accounting journals represent a mere 28.4% (20.8% in 2008) of the total journals. This percentage drops to 7.6% (5.3% in 2008) in the wider BFBM category. If we focus on Q1 JCR journals, the accounting field appears much better represented, as 37% of BF and 9.9% of BFBM journals are accounting journals in 2019 (41.7%, and 10.9% respectively in 2008), with considerable volatility of these percentages over time. As a result, unlike the situation in other related academic fields, almost a third of the JCR accounting journals (32.3%) belong to the Q1 category in 2019, again with considerable volatility of this percentage over the years. Therefore, publishing in JCR indexed accounting journals is more difficult than in other related areas of knowledge, not only because the lower number of journals, but also because these journals are globally more demanding.

(insert Table 2 approximately here)

Panel B provides further insights on the difficulties in publishing in JCR accounting journals. In 2019, accounting journals published, on average, 37.1 articles, substantially less than BF (48.5 articles) and BFBM (53.8 articles). The situation is similar for the whole research period. When we consider the number of articles in JCR journals, the relative difficulties in publishing in accounting compared to these related disciplines, even increase when only the number of journals is considered. Specifically, in 2019 the final number of articles published in JCR accounting journals is 1149, a mere 5.3% and 21.7% of the total articles published in the BFBM and BF categories of JCR, respectively, this same year, substantially lower than the corresponding percentages of journals (7.6 and 28.4 as can be seen in Panel A). Since accounting scholars clearly represent more than either 21.7% of the BF scholars or 5.3% of the BFBM scholars,[4] the figures in Panel B in Table 2

[3] However, in these cases using only the top two journals in any of these three fields: the "Journal of Finance" and the "Journal of Financial Economics" in finance, the "Academy of Management Annals" and the "Academy of Management Review" in management, and the "Journal of the Academy of Marketing Science" and the "Journal of Marketing" in business. We do not use all Q1 journals in these three fields during the last ten years, because of the large number of journals in these categories in this top quartile. We consider that with this procedure we obtain a reliable rank with a representative profile of the top authors in the accounting and adjacent fields of knowledge.

[4] To our knowledge, there is no available data on the number of scholars in the different business fields at the international or country level. By way of guidance, we have collected data about some universities with specific accounting departments and available data on their faculties in their websites. In this vein, the accounting faculty members are the 18.9% of the overall faculty of accounting (30), finance (33) and management (96) at the London School of Economics and Political Science, considering that the management department at this university also includes the fields of human relations, information systems and operations management, which are out of the scope of the BFBM

indicate that accounting scholars face stronger difficulties in getting published in JCR-indexed accounting journals.

To contextualize these figures, we offer some comparative data between the accounting and similar disciplines in Table 3. Panels A and B present the percentage of accounting scholars, as mentioned in footnote number 4, and Panel C offers data of papers presented at relevant congresses. As the submission of papers to a congress and attendance depends largely on the hosting city, we chose congresses held in the same city in similar dates. The European Accounting Association Congress held in Valencia in 2017 received 1,269 submissions, 1,071 were accepted for presentation and 947 were finally registered for presentation by their authors (European Accounting Association, 2017, p. 34). Even though in the unrealistic situation that the remaining European accounting research (the research that was not presented at the congress), as well as that performed in the rest of world, did not compete among them to get published in JCR accounting journals, all papers presented to the EAA annual Congress in 2017 would barely have the opportunity to be accepted for publication in JCR accounting journals (only 921 articles published in accounting journals in 2017, and 1,149 in 2019). Obviously, the opportunities become extremely scarcer if we consider the huge number of accounting congresses and meetings all over the world, as well as all the accounting research not presented in these congresses and meetings. For the purpose of comparison see Panels C and D of Table 3. The 676 papers, including posters, presented at the European Market Academy Annual Conference, held also in Valencia in 2014[5], is a substantially lower number than the above mentioned 947 papers presented at the European Accounting Association Annual Congress. These figures should be contextualized comparing the 27 accounting journals and 921 citable items in JCR in 2017 (31 and 1,149 respectively in 2019), the year of the congress, with the 140 journals and 7,269 articles included in the Business category in JCR the same year (152 and 8,718 respectively in 2019)[6]. Removing all journals not clearly related to marketing or commercial issues in the Business category, there are 51 journals dealing with marketing topics, publishing 2,561 citable items, in JCR on 2017 (54 and 2,881 respectively in 2019), which are still considerably higher figures than those in the accounting journals, as well as than the number of papers presented at the European Market Academy Annual conference (see panels C and D in Table 3). Valencia also hosted the 14th Congress of the European Academy of Management in 2014. From the 1,361 submitted papers (European Academy of Management, 2014, p. 10) 817 were presented in parallel sessions, which have a much greater opportunity of publication than the papers presented at the mentioned congress of the European Accounting Association, as the 9,459 articles published in the 210 journals in the Management category in the JCR in 2017 (11,668 and 226

journals in our study. Similarly, the corresponding percentages are 18.3% at the McCombs School of Business of the University of Texas at Austin, 15.4% at the Chicago Boot School of the University of Chicago, 16.2% at the Faculty of Economics and Business of the *Universitat de Barcelona* and 26.5% at the *Universidad de Valencia*. In all these universities the number of accounting faculty members is about the same number of finance faculty: 50% of the total number of BF (accounting plus finance) faculty. Panel A in Table 3 displays these data. On the other side, the Spanish statistics do not offer detailed information on the accounting academics. The last available data (the academic course 2018-19) for the BFBM disciplines for all Spanish universities are displayed in panel B of Table 3. Assuming that 50% of the faculty members in *Economia Financiera y Contabilidad* (the BF field) are accounting academics, their share in the whole BFBM fields is around 20%, a similar figure to those of Panel A in Table 3, and much higher than the tiny 5.3% published articles in the BFBM fields.

[5] In this case the organization does not provide overall data. We have calculated them summing up the number of presentations in the different sessions, as they are collected in the proceedings of the congress. See http://emac2014.uv.es/emac/index.php?r=acceptedpapers/admin (consulted on October 2019)

[6] In 2014 (the year of this congress) the 115 journals in this category (Business) in the JCR published 5,466 articles (data not displayed in Table 3), which is substantially higher than the number of presented papers.

respectively in 2019) is a substantial higher number than the corresponding for the accounting discipline (see Panels C and D in Table 3)[7].

(insert Table 3 approximately here)

Publications in Q1 journals provide prestige, academic credit and opportunities to develop a successful academic career. Panel C in Table 2 provides specific information for the number of articles published in this top quartile of accounting journals. The average number of articles per journal in Q1 JCR accounting journals is larger than the average in all accounting journals, but it is still lower than the average in the BF and BFBM categories. It should be noted that only four journals (AOS, JAE, JAR and TAR), publishing 196 articles in 2019 (see Panel E in Table 3), out of 16 journals appearing at least once in the Q1 JCR, were ranked in the top quartile in all twelve years. Three additional journals (CAR, MAR and RAS) were ranked during six or more years (but less than 12 years), while the remaining nine journals appeared occasionally in the quartile, and therefore, are not consolidated in the Q1 category. For the purpose of comparison, as can also be seen in Panel E in Table 3, ten journals in the JCR business category, publishing 614 articles in 2019, were ranked in the top quartile in all twelve years, while two and four additional journals appeared 11 and 10 years respectively in the top quartile. Moreover, 17 journals ranked in Q1 during 6 or more years (but less than 12 years), publishing 774 articles in 2019. Finance journals, only four of them ranked in the first quartile in all ten years, but six additional journals ranked during five or more years, are similarly affected by a small number of journals permanently ranked in the Q1. However, these four top finance journals published 387 articles in 2019, almost twice the number of articles published in the same year by the four accounting journals ranked in Q1 during the last twelve years.

These data provide two important insights. First, the opportunities for publishing articles in the top quartile, when measured through the number of articles, is much lower than those suggested by the larger share of Q1 accounting journals. The 10.9% and 9.9% share of Q1 JCR accounting journals with respect to the Q1 JCR BFBM journals in 2008 and 2019 respectively (see panel A in Table 2) decreases to 8.4% and 5.7% respectively when they are measured in articles (see panel C in Table 2). Second, publication in top accounting journals becomes a risky and random endeavour considering, on the one hand, the demanding and lengthy review procedures in these top accounting journals,[8] the small number of accounting journals indexed in JCR, and on the other hand, the above-mentioned volatility of their rankings in the first quartile. In this vein, the author has a considerable risk of wasting time and resources if the targeted journal falls down to a lower quartile at the end of the publication process.

As can be seen in Panel C in Table 2, the number of critical accounting journals ranked Q1 in JCR, and the corresponding number of articles, have increased over the period studied, from 43 citable items in critical journals versus 150 in the remaining journals in 2008 to 177 versus 272 respectively in 2019, with its percentage increasing from 22.3% to 39.4% over this period. However, the ranking volatility is high, affects both, critical and conventional or mainstream journals, and the percentage of articles published in critical journals is also highly volatile over the period studied, with a minimum 10.4% relative to total accounting articles in 2012.

[7] The number of journals and published articles in the Management category in the JCR are 185 and 7,886 respectively in 2014. Again, in this case, the organization does not provide overall data on participants and papers presented at the conference in Valencia. Similarly, we have calculated the data summing up the number of presentations in all sessions of the detailed program in the proceedings of the congress (European Academy of Management, 2014). There is only information about parallel sessions in these proceedings. Therefore, we assume that all papers were presented in the sessions listed in these proceedings.

[8] Between 22 to 34 months since submission to publication in the top accounting journals analysed by Argilés-Bosch & Garcia-Blandon (2010).

There is no general agreement on the relationship between journal rejection rates and impact factor in previous research. Sugimoto et al. (2013) find a positive relationship in some disciplines, including business, but they do not analyse the number of published articles. Aarssen et al. (2008) find a complex relationship between rejection rates, number of published articles and impact factor, and report a significant positive correlation between the number of published articles and impact factors over time. Shijaku & Ceron Hurtado (2019) find that the relationship between impact factor and rejection rates depends on whether its performance is below or above social and historical aspirations. However, there is a significant positive correlation between the number of citable items and impact factors in the whole set of sciences and social sciences journals, as well as in most BFBM categories, as can be seen in Table 4. We perform this analysis with journal data for the whole period 2008 to 2019, and for single years. The correlations between the number of published citable items and impact factors for the whole period are positive and significant (at $p<0.01$) in all disciplines analysed: total sciences, total social sciences, economics, business (at $p<0.05$ for the five years impact factor), management, finance, accounting and overall BF (see Panels A and B in Table 4). Results are consistent for all measures of citable items: in the current year, and the last two and five years. The correlations with impact factors are positive and significant for total sciences and social sciences in all years, and in most years for all disciplines, with the exception of business (and accounting in correlations with the five years impact factor: see Panel B in Table 4). As mentioned, the yearly coefficients are significant in most years for the accounting discipline and the traditional two years impact factor, but in few years for this discipline and the five years impact factor. Despite short-term analyses may cast no significant relationships between the number of published articles and impact factors, especially with the five years impact factor, long-term analyses provide persistent positive and significant relationships across disciplines.

(insert Table 4 approximately here)

These results suggest that the number of published articles seems to be a driver of impact. On the one hand, the authors are more prone to cite articles published in the same journal, because they usually focus on a set of adjacent journals to review literature, apply methods, analyse topics, and publish their outputs. Moreover, they usually consider that editors are more receptive to papers citing papers previously published in the same journal. On the other hand, the belief that the impact factor of a journal would increase by being very restrictive in the acceptance rates, and hence in the number of published articles (the denominator of the impact factor ratio) is based on the implausible assumption that the rejected articles would be the uncited ones. On the contrary, a demanding article acceptance policy may imply the risk of withdrawing potentially valuable contributions, unnoticed by a pair of reviewers and one editor, that could draw the interest of the academic community and eventually provide many future citations. This explanation is in accordance with Gans & Shepherd's (1994) evidence of the publishing difficulties and continuous rejections experienced by leading economists with their seminal works that further credited them to win the Nobel Prize or the John Bates Clarke Medal. The journals that rejected those many important works lost the chance to publish paramount research and receive huge numbers of citations. More importantly, the persistence of these leading economists in getting publication benefited economics and future research with their crucial findings. Much important research has presumably never reached the academic community in social sciences, and particularly in the BFBM and accounting fields, because of their demanding publication patterns. Our results suggest that publishing higher number of articles is associated with higher impact factors.

Results displayed in Panel C in Table 4 evidence that the number of published citable items is also positively associated with cites in more prestigious journals. We find significant positive correlations between the number of citable items (in the current or the last two years) and article influence score in all JCR categories with pool data of all years (2008 to 2019). The only exception is the business category. We have no plausible explanation for the specific result of this category. This topic deserves future in-deep and multivariate analyses. According to this univariate analysis, as the number of articles published in a journal

increases, its articles are more cited in high ranked journals, not only in absolute terms, but also relative to the number of published articles. The plausible explanation for this behaviour is that, as Aarssen et al. (2008) suggest, journals that publish more articles may have a higher statistical probability of publishing the best contributions, which may go unnoticed to reviewers during the review procedure. Journals and disciplines with rejection rates risk to reject valuable contributions that otherwise could stimulate future research, benefit researchers with interesting findings and get larger numbers of citations. According to these authors, a more flexible acceptation policy increases the probability of dissemination of these interesting contributions, despite they may be unnoticed to a pair of reviewers, and it produces a high impact in the academic community. This evidence, result and explanation are also in accordance with our results displayed in Panels A and B of Table 4, and the corresponding explanations provided in the previous paragraph.

We also find significant positive correlations with yearly subsamples in all single years in total sciences and total social sciences journals. These results are confirmed for few single year analyses in the BFM and economics disciplines. However, despite results with temporary data in the economics and BFBM fields, long term analyses evidence a significant positive relationship between number of published articles and impact quality. According to these results, the comparative restrictive acceptation rates of the BFBM disciplines (Tsang & Frey, 2007) are counter-productive for the academic importance of the journals in these disciplines. In this respect, a major concern for the accounting discipline is the small number of articles published, which may damage the impact of its journals, and the merit of the citations that they receive. As the relationship is not always evident in analyses of a single year, the journal editors may be misleading if they observe mere short-term data and do not analyse long-term data.

It is worthy to point out that Table 4 presents higher coefficients in the accounting discipline than in other disciplines, thus suggesting a stronger, and perhaps unnoticed, influence of the number of journals and articles on the importance of journals than in other BFM disciplines and Economics, as well as than in the overall sciences and social sciences.

The results are very similar when we consider the median and aggregate impact factors of the categories included in sciences and social sciences. Table 5 shows that the number of journals and articles published are positively and significantly correlated with both impact factor indicators in both, sciences and social sciences categories, both with long-term analyses (a sample considering the pool of all years under study) and short-term analyses (with subsamples of single years). The exceptions are the correlations between the number of journals and the median impact factor in social sciences, which are not significant at $p<0.1$. The yearly correlations with aggregate impact factors are also non-significant. Overall, the data evidence a positive relationship between the number of published articles, as well as the number of journals, and the importance of a discipline.

(insert Table 5 approximately here)

Summing up, these results suggest that the restrictive and demanding publication policy of most accounting journals becomes a handicap for the whole importance of the accounting discipline as measured by impact factors. Furthermore, it may also explain the relatively scarce influence of the accounting journals and the limited opportunities for accountants to develop a successful academic career. As an example, in 2019 the average impact factor of the five leading journals in the overall JCR BFBM categories was 10.26. For this same year, the average impact factor of the five leading accounting journals was only 3.79. While the average impact factor of the accounting journals was 2.143 in this year, it was 2.672 for the journals included in the overall BFBM category, and 2.9597, 3.1581 and 1.752 for those included in management, business and finance (excluding accounting from de BF category) respectively in the same year. An obvious implication of these figures is that articles published in the top accounting journals will have a rather lower impact factor than those from other related fields, being finance an exception to this rule. Despite this unique advantage

with respect to finance, the fact that journals in this discipline publish more articles than accounting journals allows more publication opportunities to finance scholars than those of the scholars in the accounting discipline. It is worthy to point out that the lengthy review procedures in the accounting discipline (see footnote 8) may also influence the low impact factor of the accounting journals. As can be seen in Table 1, the five years impact factor is considerably higher than the mere impact factor (based on two years citations) in most accounting journals. However, the positive relationship between number of articles and journal impact is robust to both measures of impact factor.

5. Articles published in top accounting journals: authors' affiliations and publishing patterns of authors with Spanish affiliations

This section aims to provide evidence on the second specific objective of this paper, which as mentioned, consists of providing evidence on the opportunities to publish in top accounting journals by authors affiliated to Spanish institutions, and describing some of their publication patterns.

The number of articles published in the top accounting journals from 2008 to 2019 (shown in Table 6) shows strong concentration in authors with USA affiliations. Hence, 58.1% of all contributions to the top 4 journals have US affiliations, while 20.3% correspond to European institutions. In addition, 40% of the contributions from Europe have UK affiliations (8.1% of total world contributions), followed far below by the Netherlands and Germany, (with 3.2% and 1.9% of total world contributions respectively). The AOS provides more ground for European authorship than the remaining top 3 journals. Thus, when AOS is removed and we consider only the top 3 accounting journals, the predominance of contributions from the USA becomes much larger (66.1% of all contributions in top 3 journals), and the European share much lower (12.5%).

(Insert Table 6 approximately here)

According to the figures in Table 6, the chances of authors with Spanish affiliations to publish in these top journals seem very small. They represent 3.6% of the European contributions to the top 4 accounting journals and 2.6% to the top 3. Moreover, the contributions from Spanish institutions are strongly concentrated in AOS, with 15 out of 23 contributions over the period considered. In this vein, the figures reveal that contributions from Spanish institutions to the top 4 journals are very scarce, and even more in the top 3, with only eight contributions, three of them in the TAR and five in the JAE in the period studied.

Table 7 provides detailed information on the authorship pattern of the contributions with Spanish affiliations to Q1 accounting journals from 2008 to 2017, the years with available information in WoS when we started hand collecting this information.[9] Whereas in the two articles published in TAR all authors have Spanish affiliations, in JAE only two out five publications meet this criterion. All the remaining three articles are co-authored with US affiliated authors. A total of 13 (nine in the JAE and four in the TAR: see column G in Table 6) different Spanish affiliated authors (one of them publishing two different articles) authored the seven articles published in the top 3 journals (see column A in Table 7). AOS offers more opportunities for European and (also) Spanish authorship as the 13 articles with Spanish affiliation involve 17 different authors, two of them co-authoring more than one article. It should be pointed out that four of these contributions in AOS (see column H) are co-authored by an author with dual (Spanish and British) affiliation, and that only four articles are signed by authors with only Spanish affiliations (see column B), whereas nine of them are co-authored with authors with other affiliations, mainly Britain (eight), but also US (two), Canadian (one) and Arab Emirates (one). Therefore, while the Spanish contributions to the top 4 journals are scarce, the chances to publish in these journals become even smaller without US or British co-authorship. Only eight out of 20

[9] Only contributions in the years when the journals were ranked in Q1 are considered.

articles in these top 4 journals were published with co-authors affiliated exclusively to Spanish institutions, and 12 were published with non-Spanish affiliated co-authors: five and eight articles with US and UK co-authors respectively, as can be seen in columns D and E. The 33 Spanish contributions to the top 4 journals (see column F) are authored by 25 different authors affiliated to Spanish institutions (see column G), some of them contributing with more than one article.

(insert Table 7 approximately here)

Considering all Q1 JCR accounting journals, there are 43 articles with Spanish affiliations over the period 2008-2017, but in only 19 of them (44%) all the authors have Spanish affiliations, whereas, as in the top 4 journals, most of the remaining 24 have USA or UK co-authorship (7 and 13 respectively, as can be seen in columns D and E). Overall, these 43 articles were contributed by 51 different Spanish-affiliated authors (see column G), a very tiny share of the whole Spanish academic accounting community. Six out of these 51 authors authored various of these articles, and in six articles the Spanish contributions were due to two authors which share their affiliation with British or USA institutions. As some Spanish-affiliated authors contributed to more than one article, the final number of Spanish contributions is 68 (see column F).

Table 8 offers additional details on the articles published by Spanish authors in Q1 accounting journals from 2008 to 2017. As is common in the accounting research published in JCR journals, most articles adopt an empirical methodology, 33 out of 43, with only 10 using a non-empirical methodology (see panel A). Not all the empirical studies are archival or involve statistical methodologies. We include within the group of empirical, one article with a historical perspective, but using historical data, and one which examines a research case study. One third of the empirical articles (11) focuses on the USA setting (see panel B in Table 8), which are mostly published in the JAE (four articles) and the RAS (two articles). The ten articles included in the group labelled as "other" are country specific: Argentina (two articles), China, the Netherlands and Italy (one article each), the UK and China (two articles), or with a European (one article) or a global focus (two articles). Only eight articles (out of the 33 empirical articles) focus on Spain (see panel A), whereas four articles examine the Spanish context in conjunction with the UK (two articles), Finland (one article) and both Greece and Ireland (one article). If we concentrate on those articles totally or partially focused on Spain, they are mainly published in critical, or open to a critical perspective, journals: five in the AOS, three in both AAAJ and EAR and one in MAR (see panel B). It is interesting to stress that a considerable number of the Q1 accounting articles contributed exclusively by Spanish authors uses USA specific data (six out of 15), and that the five articles co-authored by Spanish and non-Spanish authors (see panel A in Table 8) also use USA data. Accordingly, it seems extremely difficult to publish empirical research in top accounting journals with exclusively Spanish authors and data (five out of 33 empirical articles). These data stir up doubts on the convenience, from and economic and social point of view, that the best Spanish accounting researchers devote their efforts to issues and contexts that have nothing to do with, or are not fully related to, or even avoid dealing with, Spain. Besides, the 10 non-empirical articles are mostly published in MAR, AOS and AAAJ, critical or management journals, whereas the two non-empirical articles published in TAR and JAE follow analytical methodology.

(insert Table 8 approximately here)

The joint examination of Tables 6, 7 and 8 allows to draw some conclusions. First, it becomes very difficult for authors with Spanish affiliations to get published in Q1 accounting journals, and even more without USA or UK co-authorship. Second, a considerable number of the empirical studies published by Spanish affiliated authors focus on the USA, the UK or the international context, which include any one of these countries. Third, it is very unusual to find articles published by authors with a Spanish affiliation meeting both characteristics: unique Spanish affiliations and focus. Four, top accounting journals with a more critical or social approach (AOS and AAAJ), or European focus (EAR) are more open to publish studies based on the

Spanish setting or with exclusively Spanish affiliated authors. Finally, if the total publications in Q1 JCR accounting journals from authors affiliated to Spanish institutions during the 10 years under study amounts to 43 articles, ANECA's requirement of a minimum of 16 Q1 JCR articles to achieve a positive research evaluation for the position of CU seems completely unfeasible. Furthermore, this conclusion is also supported by the results of Arquero et al. (2017), who report that their universe of 47 successful accounting academics in Spain that got the accreditation of CU or TU between 2008 and 2013, published a total number of 57 articles altogether in Q1 JCR journals before their accreditation. When we also consider the articles published by these academics after their accreditation (and considering that the study was published in 2017), they have published a total of 80 contributions in Q1 JCR journals, during their whole academic career. These authors published 72 articles (90% of their contributions) in non-accounting journals [10]. Therefore, the Spanish "successful accounting academics" have published an average of 1.2 articles in Q1 JCR journals before their accreditation, and 1.5 if we add those published after their accreditation.

6. Comparative performance of top accounting and BFBM authors and confrontation with ANECA's accreditation requirements

This section aims to provide information for the assessment of the ANECA requirements for the evaluation of the accounting research, the third specific objective of this research. We compare the publications of the top accounting and BFBM researchers with the highest requirements for accreditation issued by ANECA: the A accreditation for CU.

Table 9 displays data on the publication record of the top 5 accounting authors in Europe (panel A) and the world (panel B). In the latter case, for comparability reasons it also shows the publication record of the top 5 world authors in management (panel C), finance (panel D) and business (panel E). The publication records of these authors include all articles published during their whole academic career. The accounting authors' rank is based on the top four accounting journals (AOS, JAE, JAR and TAR) in the years 2008-2017. In the other fields, as mentioned in the methodology section, for simplicity (and given the higher number of journals that remained in the Q1 in the JCR during this period), we build the ranking with the articles published in the two highest impact journals in the different disciplines during these 10 years. As can be seen, the performance of the top 5 world management, finance and business authors is much higher than the performance of the corresponding top 5 world accounting authors. The average number of articles published by the former in JCR, over their whole academic career, is considerably higher than the number of published articles by the latter: 37.2, 34.2 and 46.4 in management, finance and business respectively (see mean data for column "Total JCR" in Panels C, D and E) against 26.6 in accounting (see the corresponding mean in Panel B). Only two world accounting authors meet the averages of the other disciplines in the number of published articles in JCR and Q1 journals, as well as in total WoS. Focusing on Q1 journals, the mean number of articles published by management, finance and business authors in these journals are 29.6, 30.8 and 35.8 respectively, against 22 articles published by top accounting authors. Three out of the five world accounting authors published a substantial smaller number of articles in Q1 journals than any of top 15 authors in the three BFBM disciplines analysed. It should be pointed out that four of the top 5 world accounting authors published a substantial number of Q1 articles in non-accounting journals (an average 4.2 for these top 5 authors), suggesting that the relatively lengthy and demanding publishing procedures of accounting journals, as well as the relatively few journals, and articles published by these journals, influence the search of outlets in alternative categories (preferably BFBM), likely giving up the focus on Accounting topics in a greater or lower extent. Conversely, the top management, finance and business authors published almost no articles in the top accounting journals.

[10] Arquero et al. (2017)do not provide detailed data by CU and TU

(insert Table 9 approximately here)

The performance of the top 5 European accounting authors (see Panel A in Table 9) is clearly below the performance of the top world accounting authors, reflecting the stronger difficulties in publishing in the top accounting journals for authors affiliated to non-USA institutions. Interestingly, only two of the top 5 European accounting authors might get positive evaluation of their research by ANECA, as they just meet the minimum of 16 publications in Q1 JCR Journals for an A grade. Therefore, most of the top 5 European accounting researchers would be unable to obtain the A accreditation of CU, but they would obtain the B accreditation of CU and the A accreditation of TU. More surprisingly, one top world accounting author does not meet the minimum 16 Q1 JCR articles to obtain the Spanish A accreditation, two of them are just above this threshold, and only the remaining two authors clearly exceed the requirement. Conversely, all top world authors in finance, business and management in Table 8 meet and exceed the Spanish requirement, a fact that supports the need to adapt the academic requirements to specific characteristics of the accounting discipline. These figures openly show that ANECA's criteria to evaluate the applications of Spanish accounting scholars to the category of CU are out of proportion, and accordingly and presumably also to the category of TU and to other categories, when examined in relation to either the European or the worldwide context of the accounting discipline. On the other side, and independently of the Spanish accreditation rules, there is an urgent need to adapt the publication procedures of the accounting discipline to those of the other academic disciplines, more particularly to the adjacent BFBM disciplines.

An additional analysis reinforces previous data on the low productivity of accounting academics and their difficulties in publishing academic articles. We record the articles published in JCR journals, from 2010 to 2014, by the members of the accounting department at the London School of Economics, the European accounting department with the highest number of publications in a set of 19 accounting journals selected in Chan et al.'s (2006) study. We select the publications from 2010 to 2014 because these years are in the middle of the period included in Table 8. We downloaded data on the members of the accounting department of the London School of Economics, from its website page on January 2015, and checked them with WoS. According to these data, 12 out of 28 faculties in this department (43%) published no article in JCR journals during this period. The remaining 16 authors published 60 different articles (considering that three articles co-authored by different scholars affiliated to the London School of Economics are counted as only three articles), including two short articles (one review and one guest editorial contributions), 47 of them in journals considered as accounting journals. While the whole department got an average of 0.45 articles per year in JCR journals, meaning 2.22 years per author to get publication in JCR, the 16 authors publishing at least one article averaged 0.79 articles per year (i.e.: an average 1.27 years per author to publish one article). Only five authors published five or more articles over the five-years period (a rate of one article or more per year), and the top author reached nine articles (less than two articles per year). The conclusion is obvious, almost no academic of the top accounting department in Europe meets the ANECA's requirement for a positive evaluation of his research with assessment A.

7. Discussion and implications

This section aims to discuss on the implications of our findings, and thus to deal with our fourth specific objective.

This study confirms the conclusions of previous research on the extraordinary difficulties and deficient procedures of the accounting discipline with respect to other BFBM academic fields for research generation and publication. The difficulties are even greater for authors affiliated to non-English speaking countries, mainly with respect to the USA, UK and Canada, and specifically for Spanish affiliated authors. The results recall academic attention on the need to improve and acquire more flexible procedures to stimulate knowledge generation and dissemination in the academic accounting field. Within this context, our results clearly indicate that the current Spanish regulation for the promotion and tenure of accounting scholars in the university system is not realistic, as it does not take into account the actual performance possibilities in

the accounting field. It is not only unfair but also impractical, to maintain a publication requirement that is implausibly attainable even by top world and European accounting academics. Furthermore, when the characteristics of a discipline are so specific and depart so much from other (even adjacent) fields, the requirements necessarily should be specific as well. A common set of standards for the whole heterogeneous economics and business disciplines seems unrealistic and unreasonable, and it may be an additional factor contributing to the stagnation and unviability of the accounting discipline in Spain. However, a major concern is to change the review and publication procedures of the accounting journals into a similar pattern to the adjacent academic disciplines.

The current situation may have serious implications at various levels. First, it may limit the possibilities of promotion of scholars in the accounting academic field in a greater extent than in other BFBM fields. This would result in less motivated research faculty members. Moreover, in the report released by ANECA on 2017, in the overall field of social science and law (there are no disaggregated data for BFBM or accounting), the average age of Spanish scholars when they apply for the accreditation of CU was 52 years, and 45 for TU (Agencia Nacional de Evaluación de la Calidad y Acreditación, 2017). The 2019 report provided information for the field of *Ciencias Económicas y Empresariales* (economics and BFBM), but not for accounting, with the corresponding average age of 46 years for CU and 42 for TU (Agencia Nacional de Evaluación de la Calidad y Acreditación, 2019a). Considering that the procedure to get the result of ANECA's evaluation takes around six months, and the University administrative procedures to promote an accredited scholar might likely involve additional years, the average age of the new appointed full professors might be some additional years above these figures. Given the relatively stronger difficulties in getting the accreditation in the accounting field, we expect the average age of the new appointed accounting professors to be considerably higher. Since the data provided by ANECA refer to the period until 2016, once the current (harder) standards have been enacted, this average age might increase in the nearby future. We consider that it does not seem logical enough a discipline in which academics achieve the top rank of the profession when they are close to the age of retirement. Secondly, it may also affect the practical functioning of the accounting departments in the Spanish university system, making difficult the succession of the head of the department that is usually a full professor, and limit the influence of accounting faculties (with less presence of full professors compared to other related disciplines) in business or management schools. Finally, it may also undermine the accounting research conducted from Spanish universities. This would occur because, as a result of the enormous difficulties in getting promotion, valuable professionals would leave the university or more likely change their lines of research. In this regard, our results and those of Arquero et al. (2017) show that, unlike the situation in other adjacent fields, Spanish accounting scholars already publish most of their articles in non-accounting journals. Furthermore, it may also undermine the Spanish accounting research because the search for foreign, mainly USA and UK, collaborations and focus, with the aim of increasing the publication success in top ranked journals, may give up the topics and issues of research that are interesting for the specific Spanish context.

It should be noted that most accounting journals joined the JCR considerably late, 25 (out of the 31 journals in 2019) from 2005 on and 20 from 2010 on, as can be seen in Table 1. Some of these journals are and were, even before their indexation in the JCR, highly important and recognised among accounting academics. As an evidence of this importance, some of these new indexed journals reached the Q1 rank in the same year of their inclusion in the JCR, or one, two and three years after (SAMPJ, BAR, CPA and AAAJ respectively, as can be seen in Table 1). However, the authors that published in these important and demanding journals before their indexation in the JCR cannot get the corresponding recognition for accreditation in Spain.

The persistence of these extraordinary requirements may entail serious practical difficulties for the accounting field of knowledge in the Spanish universities. The failure to renew accounting teaching positions, the lack of accounting academics in the high-ranking posts in the universities, and a very limited influence of the discipline in the Spanish university system are important consequences.

This strategy may become an important handicap for the survival of the discipline in Spain, given that the development of the discipline requires academic and practitioner implications, with fluent and frequent interactions between them. Accounting is a very contextual and country specific discipline. Financial statements are prepared and used by agents and stakeholders involved in specific interests, values and settings. Their interactions and contextual positions are of crucial importance for the development, both academic and practitioner, of the accounting discipline (Tomkins & Groves, 1983). To give up the specific country context may also entail giving up the research that would solve its unique and particular problems, and it may divert research to the interests of the core dominant global accounting elite, not probably fitted to the Spanish concerns. The relationships between accounting regulators, professionals and users, and the significance, problems and solutions that these interactions generate are particular to the local context (Albu et al., 2014). The globalization of the academic community lead to homogenizing knowledge worldwide, decreasing diversity of topics and methodologies, and loosing concern for actual local issues (Altbach, 2015). Spanish accounting academics, like other worldwide academics, need to "play the game" to get publications in prestigious journals, and adhere to the epistemological and methodological similarity with the extant predominant research, dominated mainly by USA and UK-based scholars (Kamla & Komori, 2018). Therefore, Spanish accounting research is increasingly shaped by researchers' internalising mainstream accounting academia practices and thought, while neglecting local problems, needs and cultural approaches. Accounting knowledge is behavioural in nature, socially constructed and not universally comparable across different settings (Evans, 2018). The problems generated in any setting are also specific, and thus, deserve specific responses and analyses, which are largely neglected in the current pressure for publication. In this regard, the new standards for the evaluation of research in the Spanish university system will likely deepen this trend.

An additional concern regarding the accounting discipline and the new Spanish regulatory framework context is to question about the true effects of this combination. Is such stressing focus on publication targets and adhering to mainstream dynamics, enhancing the prevailing social economic structures or favouring creative, critical and socially responsible academics (Dillard & Tinker, 1996)? In our opinion, the demanding and restrictive procedures of the accounting discipline are not only harmful for the whole discipline, but make more difficult the emergence of innovative ideas, critical perspectives and non-mainstream methodologies.

As mentioned before, we find substantial lower possibilities of publication for accounting academics with respect to academics from other BFBM fields. We also find a consistent significant positive correlation between both, the number of published articles and journals, and the importance of the journal. According to these findings, the accounting discipline should launch more journals, record them in the most prestigious scientific databases, such as JCR and SCOPUS (Elsevier's abstract and citation database), be less restrictive in their publication requirements, improve the review procedures, and adopt a more knowledge advancement orientation, instead of the current seemingly monitoring and control orientation. We share the Argilés-Bosch & Garcia-Blandon's (2010) opinion that the review process should evolve into an attitude of a filter for deficient research, rather than the seemingly current approach of perfect achievement and excess interference by reviewers. In our opinion, the current approach obstructs knowledge generation, slows down research dissemination, discourages research production and hinders that other researchers take benefit from the huge bulk of stuck research, which cannot be disseminated or reaches the academic community with considerable delay. The accounting journals should adopt a more flexible policy for article acceptation, speed the up the review procedures, thus increase the possibilities that the research performed by scholars reaches the accounting community. In our opinion the accounting journals should publish more articles, with less delays, and should be more open to the scrutiny of the whole accounting community rather than of few editors and reviewers.

An additional proposal is that, provisionally while the discipline does not evolve to a new framework, the Spanish academic performance assessment system should recognise the special difficulties of the accounting discipline applying more realistic criteria to this discipline. The recent regulation *Orden* UNI/1991/2020 (published in the *Boletín Oficial del Estado* number 326 on December 16th, 2020) creating separate

assessment committees for the economics and BFBM fields of knowledge is a step in the right direction, but as we have evidenced, the accounting discipline remains still behind the other BFBM fields. Notwithstanding, and as ANECA has not yet issued separate criteria for the economics and BFBM fields, specific criteria are urgently needed, at least for the BFBM fields.

Some empirical research evidence the existence of irrational behaviours and random outcomes in the review procedures. In this vein, Peters & Ceci (1982) conclude that randomness and the prestige of the submitting authors and institutions play a crucial role in the acceptance of articles for publication. Similar conclusions are drawn by Cole et al. (1981) for grant applications awards, and Inglis & Mejia-Ramos (2009) for the acceptance of mathematical theorems by academics. A bulk of research evidences the existence of bias or influences in peer review, driven by author rank or affiliation (Banal-Estañol et al., 2019), by personality or motivational factors (Street & Ward, 2019), or even by seasonality (Le Sueur et al., 2020). There is also evidence that peer review constraints the promotion of truly innovative research (Luukkonen, 2012). Sikdar et al. (2020) find that reviewers excessively rejecting most of the assigned papers often fail to correctly judge the quality of a paper. Some authors (Gillies, 2014; Gildenhuys, 2020; Roumbanis, 2019) associate so many pitfalls with review procedures that they defend a lottery mechanism, instead of peer review, to assign research funds. Gans & Shepherd's (1994) evidence on the most outstanding economists wining the Nobel Prize or the John Bates Clarke Medal points out at similar failures of the review procedure. Such evidence should make us aware of the risk that many important contributions (unnoticed by a pair of reviewers and an editor) may be lost by inappropriate rejection decision, and therefore the academic community and the whole society would not benefit from these subsequent contributions. According to Adair (1982), prestigious Physical journals such as the “Physical Review” and “Physical Review Letters”, aware of the random factors influencing publication acceptance, adopted a policy of high acceptance rates to prevent the academic community from losing valuable contributions. More flexibility and less demanding publication requirements in the accounting discipline, combined with improved procedures, and shorter review periods, would minimize the risk of losing potential important contributions, and hence would promote knowledge advancement in the discipline.

These concerns have also reached the BFBM fields (Bedeian, 2003; Tsang & Frey, 2007; Macdonald & Kam, 2007; Spiegel, 2012), but with limited impact and results, given that BFBM journals still have very low acceptance rates. In the accounting field, even though there are claims to improve the publication procedures (e.g. Argilés-Bosch & Garcia-Blandon, 2010; Moizer, 2009), it does not seem to exist a strong concern on the need for more flexible publication procedures. In our opinion, the current inertia of the accounting academic procedures is not only harmful for the advancement of knowledge in the discipline, but also for the fulfilment of a successful academic career. As accounting academics face substantially greater difficulties, compared with other scholars, and particularly with BFBM academics, in publishing and getting credit for their findings, the accounting academic community and, consequently, the accounting research erode and strive for surviving. As Humphrey & Gendron (2015) recognize, if accounting continues to be so restrictive in their availability of recognized and prioritized set of journals (we add also in their publications procedures), the accounting discipline in many institutions (and we may add in many countries) is ripe for being transformed into “teaching only” units. The problem becomes especially serious and urgent in Spain, given the stringent regulatory framework.

8. Conclusions

This study performs descriptive analyses on the difficulties of publication in the accounting journals with respect to journals of other BFBM disciplines. We also describe some publication patterns of articles published by authors affiliated to Spanish institutions in Q1 JCR journals, examine the presence of Spanish authors in articles published in Q1 JCR journals, assess the appropriateness of the accreditation requirements

of the Spanish agency ANECA for the evaluation of the academic research for the accounting discipline, and we finally outline some implications for the academic viability of the accounting discipline in Spain.

With respect to our first objective, we conclude that there are considerably lower possibilities of publishing in JCR accounting journals than in BFBM JCR journals, because the number of accounting journals and published articles are much scarcer. The number of articles published in the JCR accounting journals in 2019 is a mere 5.3% of total number of articles published in the BFBM disciplines, a percent considerably lower than the corresponding share of the accounting academics in various important universities analysed. We also conclude that the importance of the JCR journals and categories are significantly associated with the number of journals and articles published in these journals and categories. Hence, the low number of accounting journals and articles is a great handicap of the accounting discipline to reach importance and academic credit.

With respect to our second objective, we provide evidence that the contribution of Spanish accounting scholars to articles published in the top JCR journals is scarce, a tiny 3.6% and 0.3% of Europe and world publications respectively over a span of twelve years. We conclude that the opportunities of Spanish authors to publish in the top accounting journals are small, and that they increase their possibilities co-authoring with non-Spanish authors, mainly USA and UK affiliated co-authors, and focusing on non-Spanish contexts.

With respect to our third specific objective, we conclude that the current publication requirements to obtain the ANECA A accreditation in Spain, specifically for CU grade A are unrealistic, not only for Spanish accounting academics, but also for leading European and world authors. We provide evidence on the comparative performance of top Europe and world accounting authors with respect to top world BFBM authors. We rank the top 5 authors publishing in the most important journals in the accounting, finance, management and business categories over ten years. For these authors we collect all their publications filed in the WoS. According to these figures, while all these 15 top 5 world BFBM authors fulfil the current publication requirements to obtain the ANECA A accreditation for CU in Spain, 1 and 3 of the top 5 world and European accounting authors respectively do not meet these requirements. Therefore, these requirements, common to the economics and BFBM fields, seem impracticable in the accounting field for most authors, and more for Spanish affiliated authors, given the comparatively low publication records of the latter.

We additionally draw implications of this situation for the survival of the discipline, namely the scarce promotion possibilities of scholars in the academic field, the subsequent loss of the academic and organizational importance of the accounting discipline in the Spanish universities, the decline of the accounting research, and the loss of Spanish contextual issues and concerns in the accounting research.

Finally, we formulate some proposals to improve the discipline. We propose the indexation of more journals in the most prestigious scientific databases, namely JCR and SCOPUS, the improvement of their review procedures, being less demanding in their publication requirements, evolving into a filter for deficient research rather than the current perfect achievement approach, giving more opportunities for the assessment and discussion of the papers in the whole academic community rather than their interception by few reviewers. On other side, in the specific case of Spain we propose a temporary and realistic adaptation to the actual publication performance in the discipline, issuing specific ANECA's requirements for the accounting discipline, or at least for the BFBM fields of knowledge.

A main limitation of this research is the selection of the top authors in the different BFBM disciplines. As there are no records on top authors across BFBM disciplines in WoS and SCOPUS, we have implemented an approach that, despite we believe that it does not substantially bias our results, it may not fully reflect the true ranking of the most productive BFBM authors. Additional research is needed with more accurate rankings of top authors and specific data by BFBM disciplines to get a better assessment of the relative performance of accounting academics with respect to other BFBM fields. The impact of the number of

journals and published articles, as well as the review procedures, on the impact of journals and published articles should also be assessed with refined multivariate analyses.

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Table 1
List of accounting journals in the 2019 edition of JCR ranked by impact factor

Rank in BF category	Full Journal Title	Acronym	Journal impact factor	Five years impact factor	Quartile in BF	First year in JCR (records since 1997)	Last entrance in Q1 (last remaining year if not currently in Q1)
5	The Accounting Review	TAR	3.993	5.763	Q1	1997	2005
6	Accounting Organizations and Society	AOS	3.958	4.806	Q1	1997	2008
7	Journal of Accounting Research	JAR	3.773	6.472	Q1	1997	2000
8	Journal of Accounting & Economics	JAE	3.723	6.7	Q1	1997	2001
10	Accounting Auditing & Accountability Journal	AAAJ	3.497	4.68	Q1	2012	2015
11	British Accounting Review	BAR	3.333	4.513	Q1	2015	2016
13	Management Accounting Research	MAR	3.054	5.448	Q1	2010	2014
19	Critical Perspectives on Accounting	CPA	2.684	3.552	Q1	2015	2017
20	Review of Accounting Studies	RAS	2.600	3.667	Q1	2005	2019
26	Journal of Accounting and Public Policy	JAPP	2.351	3.56	Q1	2010	2018
29	Journal of International Financial Management & Accounting	JIFMA	2.280	2.5	Q2	2010	.
32	Accounting and Finance	AF	2.217	2.031	Q2	2009	.
34	Auditing-a Journal of Practice & Theory	AJPT	2.108	3.854	Q2	1997	2018
35	International Journal of Accounting Information Systems	IJAIS	2.088	2.209	Q2	2014	.
37	Sustainability Accounting Management and Policy Journal	SAMPJ	2.056	.	Q2	2017	2017
39	Contemporary Accounting Research	CAR	2.026	3.409	Q2	2004	2018
41	Abacus-A Journal of Accounting Finance and Business Studies	AAJAFBS	1.975	1.804	Q2	2007	.
43	Managerial Auditing Journal	MAJ	1.870	.	Q2	2017	.
44	European Accounting Review	EAR	1.855	2.735	Q2	2008	2018
46	Accounting and Business Research	ABR	1.833	2.46	Q2	2009	.
47	Accounting Forum	AFO	1.824	.	Q2	2018	2018
53	Journal of Contemporary Accounting & Economics	JCAE	1.690	.	Q2	2018	.
60	Accounting Horizons	AH	1.576	2.648	Q3	2010	2012
65	Journal of Business Finance & Accounting	JBFA	1.473	1.906	Q3	2007	.

68	Australian Accounting Review	AAR	1.371	1.45	Q3	2010	.
69	Revista de Contabilidad-Spanish Accounting Review	RCSAR	1.368	.	Q3	2017	.
73	Spanish Journal of Finance and Accounting-Revista Española de Financiacion y Contabilidad	SJFAREFC	1.275	1.222	Q3	2010	.
81	International Journal of Auditing	IJA	1.034	.	Q3	2019	.
96	Asia-Pacific Journal of Accounting & Economics	APJAE	0.705	0.906	Q4	2011	.
98	Qualitative Research in Accounting and Management	QRAM	0.690	.	Q4	2019	.
108	Comptabilite Controle Audit	CCA	0.167	0.25	Q4	2013	.

Table 2
Comparative data of accounting versus BFBM journals in JCR categories (2008-2019)

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Panel A: number of JCR journals												
BFBM	187	218	284	321	327	329	336	351	356	379	391	406
BF	48	53	76	86	89	89	88	94	96	98	103	109
Accounting	10	12	18	19	20	21	22	24	24	27	30	31
Q1 journals in BFBM categories	46	54	71	80	81	82	84	87	89	93	97	101
Q1 journals in BF	12	13	19	21	22	22	22	23	24	24	25	27
Q1 accounting journals	5	5	8	8	8	7	5	7	11	12	13	10
% of accounting journals in BFBM	5.3	5.5	6.3	5.9	6.1	6.4	6.5	6.8	6.7	7.1	7.7	7.6
% of accounting journals in BF	20.8	22.6	23.7	22.1	22.5	23.6	25.0	25.5	25.0	27.6	29.1	28.4
% of Q1 accounting journals in Q1 BFBM	10.9	9.3	11.3	10.0	9.9	8.5	6.0	8.0	12.4	12.9	13.4	9.9
% of Q1 accounting journals in Q1 BF	41.7	38.5	42.1	38.1	36.4	31.8	22.7	30.4	45.8	50.0	52.0	37.0
% of Q1 accounting journals to total accounting journals	50.0	41.7	44.4	42.1	40.0	33.3	22.7	29.2	45.8	44.4	43.3	32.3
Panel B: number of articles (citable items)												
In BFBM	9,152	10,266	11,941	13,515	14,181	14,584	15,270	16,378	16,980	18,225	20,149	21,848
In BF	2,525	2,584	3,122	3,458	3,579	4,136	4,067	4,298	4,208	4,496	4,980	5,286
In accounting	328	411	563	608	683	726	712	832	772	921	1,134	1,149
In Q1 journals in BFBM	2,303	2,973	3,612	4,324	4,251	4,201	4,478	4,770	5,757	5,952	7,039	7,866
% accounting with respect to BFBM	3.6	4.0	4.7	4.5	4.8	5.0	4.7	5.1	4.5	5.1	5.6	5.3
% accounting with respect to BF	13.0	15.9	18.0	17.6	19.1	17.6	17.5	19.4	18.3	20.5	22.8	21.7
Mean articles/journal in BFBM	48.9	47.1	42.0	42.1	43.4	44.3	45.4	46.7	47.7	48.1	51.5	53.8
Mean articles/journal in BF	52.6	48.8	41.1	40.2	40.2	46.5	46.2	45.7	43.8	45.9	48.3	48.5
Mean articles/journal in accounting	32.8	34.3	31.3	32.0	34.2	34.6	32.4	34.7	32.2	34.1	37.8	37.1
Panel C: number of articles published in Q1 accounting journals												
Accounting Auditing & Accountability Journal								49	52	71	86	106

Accounting Horizons			19	33	27							
Accounting Forum											24	
Accounting Organizations and Society	43	55	43	32	32	32	37	39	39	36	35	37
The Accounting Review	52	69	72	72	73	73	76	85	70	60	85	88
Auditing-a Journal of Practice & Theory						44			34	33	41	
British Accounting Review									28	36	36	35
Contemporary Accounting Research			31	47	43	56		63	60	74	78	
Critical Perspectives on Accounting										39	40	34
European Accounting Review			26						30	29	40	
Journal of Accounting & Economics	42	29	35	33	45	42	29	33	45	40	43	39
Journal of Accounting and Public Policy											32	22
Journal of Accounting Research	38	40	34	39	39	34	36	27	32	32	34	32
Management Accounting Research				21	17	23	19	16	24	21	16	16
Review of Accounting Studies	18	18	27	28	32				34			40
Sustainability Accounting Management and Pol J										24		
Total number of articles in Q1 Accounting journals	193	211	287	305	308	304	197	312	448	495	590	449
Mean articles/journal in Q1 Accounting journals	38.6	42.2	35.9	38.1	38.5	43.4	39.4	44.6	40.7	41.3	45.4	44.9
% with respect to articles in Q1 BFBM	8.4	7.1	7.9	7.1	7.2	7.2	4.4	6.5	7.8	8.3	8.4	5.7
% with respect to total articles in BF	7.6	8.2	9.2	8.8	8.6	7.4	4.8	7.3	10.6	11.0	11.8	8.5
% with respect to total accounting journals	58.8	51.3	51.0	50.2	45.1	41.9	27.7	37.5	58.0	53.7	52.0	39.1
Number of articles in Q1 critical accounting journals	43.0	55.0	43.0	32.0	32.0	32.0	37.0	88.0	91.0	170.0	161.0	177.0
Number of articles in Q1 non-critical accounting journals	150.0	156.0	244.0	273.0	276.0	272.0	160.0	224.0	357.0	325.0	429.0	272.0
% of critical versus total accounting articles in Q1 JCR	22.3	26.1	15.0	10.5	10.4	10.5	18.8	28.2	20.3	34.3	27.3	39.4

Source: self-preparation with data form WoS and JCR

Table 3
Summary of comparative data of BFBM departments, events and journals

Panel A: Percent of accounting faculty members at some universities (October 2019)		
	On total BFBM	On total BF
London School of Economics	18.9	49.3
McCombs School of Business (University of Texas at Austin)	18.3	46.8
Chicago Boot School (University of Chicago)	15.4	42.5
Facultat d'Economia i Empresa (*Universitat de Barcelona*)	16.2	40.4
Universidad de Valencia	26.5	51.0

Panel B: Number of academics in the BFBM fields in Spain	
	Academic course 2018-2019
Economía Financiera y Contabilidad (BF)	2,274
Organización de Mercados (similar to management)	2,477
Comercialización e Investigación de Mercados (similar to business)	909
Total BFBM	5,660
Percent of accounting in total BFBM (assuming 50% of accounting in BF)	20.1%

Panel C: Congresses and conferences	
	Papers presented
European Accounting Association Annual Congress (Valencia 2017)	947
European Market Academy Annual Conference (Valencia 2014)	676
European Academy of Management Conference (Valencia 2014)	817

Panel D: Journals and articles in JCR in 2017 and 2019				
	Journals		Articles	
	2017	2019	2017	2019
Accounting	27	31	921	1,149
Business	140	152	7,269	8,718
Marketing journals (within business)	51	54	2,561	2,881
Management	210	226	9,549	11,668

Panel E: Journals and articles in JCR in Q1		
	Journals from 2008 to 2019	Articles in 2019
Accounting all 12 years in Q1	4	196
Accounting 6 or more years (but less than 12) in Q1	3	142
of which 11 years in Q1	0	0
of which 10 years in Q1	0	0
Accounting 1 year or more in Q1	16	
Finance all 12 years in JCR	4	387
Finance 6 or more years (but less than 12) in JCR	6	310
of which 11 years in Q1	0	0
of which 10 years in Q1	1	81
Finance 1 year or more in JCR	36	
Business all 12 years in Q1	10	614
Business 6 or more years (but less than 12) in JCR	17	774
of which 11 years in Q1	2	80

of which 10 years in Q1	4	188
Business 1 year or more in JCR	63	

Source: self-preparation with data from WoS and JCR and web pages and proceedings from different universities and congresses (consulted on October 2019):
https://info.lse.ac.uk/Staff/Departments-and-Institutes
https://www.mccombs.utexas.edu/Directory
https://www.chicagobooth.edu/faculty/directory
https://www.ub.edu/portal/web/economia-empresa/departaments
https://www.uv.es/uvweb/universitat/ca/universitat/estructura-organitzativa/departaments-1285853459036.html
http://emac2014.uv.es/emac/index.php?r=acceptedpapers/admin
Estadística de personal de las universidades (consulted on January 2021):
http://estadisticas.mecd.gob.es/EducaJaxiPx/Datos.htm?path=/Universitaria/Personal/EPU_2018-2019/PDI//l0/&file=PDI0109.px&type=pcaxis
European Accounting Association (2017, p. 34)
European Academy of Management (2014)

Table 4

Pearson correlations between the number of citable items and several impact factor indicators in journals included in BFBM categories, social sciences and sciences (2008-2019). Observations al journal level.

Year	Business, finance	Accounting	Finance	Management	Business	Economics	Total social sciences	Total sciences
Panel A: Impact factor								
Correlation with lag2 + lag1 number of articles (sample all periods)	0.2619***	0.3689***	0.3066***	0.1976***	0.1064***	0.1911***	0.1971***	0.0826***
Correlation with current year number of articles (sample all periods)	0.2558***	0.4022***	0.2888***	0.2072***	0.1253***	0.2069***	0.1682***	0.0879***
Number of years (out of 10) with positive and significant correlations (p<0.1) for lag 2 + lag 1 number of articles (single year samples)	8	6	7	7	1	9	10	10
Number of years (out of 12) with positive and significant correlations (p<0.1) for current number of articles (single year samples)	10	8	9	9	2	12	12	12
Panel B: Five years impact factor								
Correlation with lag5 + lag4+…+ lag1 number of articles (sample all periods)	0.2204***	0.314***	0.2846***	0.1672***	0.0784**	0.1577***	0.1899***	0.0760***
Correlation with lag2 + lag1 number of articles (sample all periods)	0.207***	0.3559***	0.2573***	0.1615***	0.0704**	0.1713***	0.1789***	0.0795***
Correlation with current year number of articles (sample all periods)	0.1917***	0.3608***	0.2339***	0.1572***	0.0703**	0.1791***	0.1475***	0.0817***
Number of years (out of 7) with positive and significant correlations (p<0.1) for lag5 + lag4+…+ lag1 number of articles (single year samples)	4	1	4	4	0	5	7	7
Number of years (out of 10) with positive and significant correlations (p<0.1) for lag 2 + lag 1 number of articles (single year samples)	6	4	6	7	0	8	10	10

Number of years (out of 12) with positive and significant correlations (p<0.1) for current number of articles (single year samples)	7	3	6	7	0	9	12	12
Panel C: Article influence score								
Correlation with lag2 + lag1 number of articles (sample all periods)	0.1664***	0.3481***	0.1481***	0.1153***	-0.0013	0.0417**	0.0845***	0.0423***
Correlation with current year number of articles (sample all periods)	0.1426***	0.2862***	0.1267***	0.1019***	-0.0098	0.0316*	0.065***	0.0412***
Number of years (out of 10) with positive and significant correlations (p<0.1) for lag 2 + lag 1 number of articles (single year samples)	3	4	1	7	0	0	10	10
Number of years (out of 12) with positive and significant correlations (p<0.1) for current number of articles (single year samples)	3	2	1	3	0	1	12	12

*** p<0.01, ** p<0.05, * p<0.1

Source: self-preparation with data from JCR

Table 5

Pearson correlations between impact factors and number of citable items and journals by JCR categories (2008-2019). Observations at category level

	Social sciences				Sciences			
	Number of articles		Number of journals		Number of articles		Number of journals	
Period	Median impact factor	Aggregate impact factor	Median impact factor	Aggregate impact factor	Median impact factor	Aggregate impact factor	Median impact factor	Aggregate impact factor
Correlation with lag2 + lag1 number of articles and journals (sample all periods)	0.3026***	0.3772***	0.0332	0.0954**	0.2674***	0.469***	0.1612***	0.2102***
Correlation with current year number of articles and journals (sample all periods)	0.3195***	0.3927***	0.0307	0.0983**	0.2596***	0.4545***	0.1659***	0.2153***
Number of years (out of 10) with yearly Number of years (out of 10) with positive and significant correlations (p<0.1) for lag 2 + lag 1 number of articles and journals (single year samples)	10	10	0	0	10	10	10	10
Number of years (out of 12) with positive and significant correlations (p<0.1) for current number of articles and journals (single year samples)	12	12	0	0	12	12	12	12

*** p<0.01, ** p<0.05, * p<0.1

Source: self-preparation with data from JCR

Table 6
Contributions to top 4 and top 3 accounting journals by country (2008 to 2019)

					Top 4			Top 3		
	TAR	JAE	JAR	AOS	Total	% Europe	% World	Total	% Europe	% World
UK	50	30	32	145	257	40.0	8.1	112	36.0	4.5
Netherlands	43	8	15	36	102	15.9	3.2	66	21.2	2.7
Germany	26	5	10	18	59	9.2	1.9	41	13.2	1.6
France	11	6	3	26	46	7.2	1.4	20	6.4	0.8
Denmark	7	1	2	13	23	3.6	0.7	10	3.2	0.4
Spain	3	5		15	23	3.6	0.7	8	2.6	0.3
Belgium	11	2	2	7	22	3.4	0.7	15	4.8	0.6
Austria	2	3	4	9	18	2.8	0.6	9	2.9	0.4
Finland	2	1	2	11	16	2.5	0.5	5	1.6	0.2
Norway	4	1	2	9	16	2.5	0.5	7	2.3	0.3
Sweden	1	1		13	15	2.3	0.5	2	0.6	0.1
Ireland	1			11	12	1.9	0.4	1	0.3	0.0
Switzerland	6	1	1	4	12	1.9	0.4	8	2.6	0.3
Italy	1			8	9	1.4	0.3	1	0.3	0.0
Portugal	3		2	3	8	1.2	0.3	5	1.6	0.2
Slovenia				2	2	0.3	0.1	0	0.0	0.0
Croatia				1	1	0.2	0.0	0	0.0	0.0
Greece				1	1	0.2	0.0	0	0.0	0.0
Cyprus			1		1	0.2	0.0	1	0.3	0.0
Total Europe	171	64	76	332	643	100.0	20.3	311	100.0	12.5
USA	839	430	378	196	1,843		58.1	1,647		66.1
Canada	86	22	28	61	197		6.2	136		5.5
People's R China	85	48	28	10	171		5.4	161		6.5
Australia	43	14	10	58	125		3.9	67		2.7
Singapore	45	22	18	7	92		2.9	85		3.4
South Korea	19	7	4	2	32		1.0	30		1.2
Taiwan	13	1		3	17		0.5	14		0.6
Israel	7	4	5		16		0.5	16		0.6
New Zealand	7	1	1	6	15		0.5	9		0.4
U Arab Emirates	2		1	2	5		0.2	3		0.1
India	2	1	1		4		0.1	4		0.2
Japan	2			1	3		0.1	2		0.1
Malaysia		1		2	3		0.1	1		0.0
South Africa				2	2		0.1	0		0.0
Brazil	1	1			2		0.1	2		0.1
Thailand				1	1		0.0	0		0.0
Lebanon		1			1		0.0	1		0.0
Saudi Arabia			1		1		0.0	1		0.0
Total World	1,322	617	551	683	3,173		100.0	2,490		100.0

Source: self-preparation with data from WoS.

Table 7
Detail of the contributions to Q1 accounting journals by authors with Spanish affiliations (2008-2017)

	Number of articles					Number of contributions		
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
			Non-Spanish affiliations' co-authors					
Journals	Total	With uniquely Spanish affiliations	Total	With USA co-authors[1]	With UK co-authors[1]	Number of Spanish authors[2]	Number of different Spanish authors[2]	Contributions by authors with double (Spanish/non-Spanish) affiliations
JAE	5	2	3	3		10	9	0
JAR	0	0	0			0	0	0
TAR	2	2	0			4	4	0
AOS	13	4	9	2	8	19	17	4
Total top 4 journals	20	8	12	5	8	33	25[3]	4
AAAJ	4	2	2		2	5	5	0
AH	1	0	1		1	2	2	0
BAR	1	1	0			1	1	0
CAR	2	0	2	2	2	2	2	2
CPA	1	0	1			1	1	0
EAR	7	4	3			10	10	0
MAR	4	1	3		1	5	4	0
RAS	2	2	0			6	3	0
SAMPJ	1	1	0			3	3	0
Total Q1 journals	43	19	24	7	13	68	51[3]	6

Notes:

1. Six articles are co-authored by two authors with double affiliation: one author with Spanish and USA affiliations, and the other Spanish and UK.
2. Column F refers to number of contributions by Spanish authors, while column G to number of different Spanish authors with contributions. Some authors make more than one contribution and some articles are simultaneously co-authored by US and UK co-authors.

3. 25 and 51 are the total number of different Spanish authors involved in articles published in top 4 and all Q1 journals. The sum of this column offers a different number than the sum of the data above this sum, because some authors published more than one article.

Source: self-preparation with data from WoS.

Table 8
Contributions to Q1 accounting journals of authors with Spanish affiliations by methodological approach and geographical focus (2008-2017)

	Geographical focus					
	USA	Only Spain	Spain & another/s country/ies	Other	Total	Non-empirical
Panel A: Detail by methodology and co-authorship						
Non-empirical					10	10
Empirical	11	8	4	10	33	
Uniquely Spanish affiliation	6	5	0	4	15	
Co-authors with non-Spanish affiliations	5	3	4	6	18	
Panel B: detail by journals						
JAE	4		0	0	4	1
TAR	0		0	1	1	1
AOS	1		5	5	11	2
AAAJ	1		3	0	4	2
AH	0		0	1	1	0
BAR	1		0	0	1	0
CAR	1		0	0	1	0
EAR	1		3	2	6	1
MAR	0		1	0	1	3
RAS	2		0	0	2	0
SMAPJ	0		0	1	1	0
Total	11		12	10	33	10

Source: self-preparation with data from WoS.

Table 9
Number of published articles by top authors in BFBM JCR categories

		Whole academic career			
	2008-2017[1]	Q1	Accounting Q1	Total JCR	Total WoS
Panel A: Top European accounting authors					
Cardinaels, E	8	11	10	15	15
Odwye,r B	7	14	12	22	30
Hilary, G	6	17	11	18	18
Shivakumar, L	6	16	14	24	27
Walker, SP	6	9	9	11	16
mean	6.6	13.4	11.2	18.0	21.2
Panel B: Top world accounting authors					
Rajgopal, S	12	29	24	39	43
Larcker, DF	11	18	12	20	30
Lennox, CS	11	13	13	16	16
Shevlin, T	11	33	27	40	56
Armstrong, CS	9	17	13	18	22
mean	10.8	22	17.8	26.6	33.4
Panel C: Top world management authors					
Hambrich, D C	5	32	0	33	39
Tsang, EWK	5	27	0	38	48
Aguilera, Ruth	5	36	0	46	62
Vaara, E.	4	33	0	49	56
Pfarrer MD	4	20	0	20	21
mean	4.6	29.6	0	37.2	45.2
Panel D: Top world finance authors					
Stulz, RM	19	41	2	42	59
Harford, J	13	25	0	27	27
Acharya, VV	12	41	1	51	86
Hong, H	12	26	0	28	29
Weisbach, MS	11	21	0	23	25
mean	13.4	30.8	0.6	34.2	45.2
Panel E: Top world business authors					
Homburg, C	28	45	1	61	62
Palmatier, RW	21	39	0	48	54
Wieseke, J	16	32	0	40	59
Morgan, NA	13	30	0	37	55
Ahearne, M	11	33	1	46	49
mean	17.8	35.8	0.4	46.4	55.8

1. The ranking of top European and world accounting authors is built with articles published in the four accounting journals in the Q1 in all ten 2008-2017 years (JAE, JAR, TAR and AOS), while the ranking of top world management and finance authors is built with the top 2 journals in each JCR category: the "Journal of Finance" and the "Journal of Financial Economics" in finance, the "Academy of Management Annals" and the "Academy of Management Review" in management,

and the “Journal of the Academy of Marketing Science” and the “Journal of Marketing” in business.
Source: self-preparation with data from WoS