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**ASSESSING THE IMPACT OF ENVIRONMENTAL ACCOUNTING RESEARCH:
AN EMPIRICAL ANALYSIS**

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ABSTRACT

Purpose: We conduct an analysis of management research based on impact measures, with a focus on the accounting discipline and the environment theme. Using author and journal data as units of analysis, we seek to determine (1) the representation of environmental accounting researchers among the most cited accounting authors; and (2) the consideration given to environmental issues in the impact assessment of management journals.

Design/methodology/approach: We collect and quantitatively analyze the publications and citations of the 50 most cited accounting authors and run a principal component analysis on a collection of journal-centered indicators and rankings.

Findings: We find that—among the most cited accounting authors—environmental accounting researchers hold a relatively influential position although their research is mainly published in non-top-tier accounting journals. We also document that some environment-themed journals suffer from significant disadvantages in peer-reviewed journal rankings.

Practical implications: Environmental accounting researchers are likely to disseminate their research in other media than top-tier journals. This may have an impact on the academic viability of this field.

Social implications: Despite their strong connection to societal issues, some research themes could become understudied if journal rankings are not able to consider publication outlets in a more comprehensive way. There is a strong need for a broader consideration of scientific production, particularly in relation to its overall societal impact.

Originality/value: To the best of our knowledge, this is the first time an empirical analysis combining author and journal data and documenting such findings has been presented for publication. It is meant to provide some descriptive insights into where environmental accounting researchers and environment-themed journals stand.

Keywords: impact factor; journal rankings; research assessment; research impact

Article classification: Research paper

ASSESSING THE IMPACT OF ENVIRONMENTAL ACCOUNTING RESEARCH: AN EMPIRICAL ANALYSIS

1. Introduction

At the beginning of 2021, the Times Higher Education hosted a webinar titled “restoring trust in research metrics to repair student and public confidence” based on the observation that universities currently over-rely on quantitative data and metrics (2021). The co-organizer of this roundtable was Clarivate Analytics,¹ one of the major players in the research evaluation ‘field’. This confirms that stakeholders in higher education and research are now aware of some of the issues academic research faces. A growing number of voices are indeed demanding a more holistic assessment of research. One example is the innovative ‘Research Quality Plus’ (RQ+ Assessment Framework) approach that Ofir *et al.* (2016) developed to guide the Canadian International Development Research Centre in its funding decisions (Lebel and McLean, 2018). However, the use of quantitative metrics (bibliometrics) for research quality assessment and decision-making remains predominant (Chapman *et al.*, 2019; Helmer *et al.*, 2020; Jaafar *et al.*, 2020; Tregoning, 2018; Triggie *et al.*, 2021). The evaluation of research outputs increasingly includes—and to a large extent—citation metrics and their related indices and rankings (Aistleitner *et al.*, 2018). In light of this, our study focuses on the quantitative indicators used to measure the impact of management research.

We seek to increase our understanding of management research impact by intersecting two scientific domains—accounting and the environment. In the case of the former, we justify our focus by, *inter alia*, uncovering more about the development of academic thoughts in this field. From a sociological perspective, Kahlifa and Quattrone argue that “one needs the ‘knowledge of accounting knowledge’ (see Quattrone, 2000), a recursive process of questioning

¹ Formerly known as The Institute for Scientific Information (ISI) and Thomson Reuters.

[...]” (2008, p. 79). In addition, the relevance and impact of accounting research is a growing question within accounting academia (Burton *et al.*, 2021a; Dechow *et al.*, 2020; Showalter and Wilks, 2021). Finally, we note that citation patterns differ substantially across disciplines (Burton *et al.*, 2021b; Leydesdorff and Shin, 2011), which calls for a more detailed analysis specifically focused on accounting. With respect to the environment, while it is obviously not a new field of study, research activity in this area has attracted substantially interest lately. For example, global research on climate change has witnessed an exponential increase in research output from 2003 onwards (Klingelhöfer *et al.*, 2020). In the context of calling to address grand challenges,² the environment now holds an important place in the production of academic research.

The cross-fertilization of these two fields has spawned a new transdisciplinary subfield of accounting, that is environmental accounting (Gray, 2010). Environmental accounting is an accounting specialty area that is not (yet) treated as such in the academic literature. Articles in the last two decades listing accounting specialized areas do not identify social and environmental accounting (SEA) as an accounting topical area (e.g., Burton *et al.*, 2021b; Chan *et al.*, 2009; Lowensohn and Samelson, 2006). This is part of the more general observation that there exists scant research on output quality examining specific areas of specialization within accounting (Bean and Bernardi, 2005; Lowensohn and Samelson, 2006).

In this context, we position this study in relation to the sociology of science³ whose one of the main objectives is to gain deep knowledge on “[...] that perennial phenomenon in science, the emergence and development of new scientific specialties” (Barber, 1990, p. 1). While not widely adopted in accounting research (Lukka and Granlund, 2002), the sociology of science

² These grand challenges are represented by the development of the United Nations’ 17 Sustainable Development Goals (SDGs): <https://sdgs.un.org/goals>.

³ We thank one of the reviewers for suggesting such positioning.

approach helps examine “[...] the structure and nature of accounting research society, particularly from the viewpoint of publication activity [...]” (Lukka and Granlund, 2002, p. 166). We adopt the publication activity viewpoint to explore the subfield of environmental accounting. In particular, we aim at analyzing the impact of environmental accounting knowledge construction through both researchers’ activities and the cognitive structures they develop—two dimensions of the sociologic analysis of knowledge production viewed as a cultural activity (Gumport, 2002).

Regarding the activities of researchers, we use author citations—the ‘traditional’ measure of impact (Burton *et al.*, 2021a). While citations generated by scholars are not necessarily a measure of quality, they are widely accepted by the academic community as a measure for impact (Leydesdorff and Shin, 2011; Meyer *et al.*, 2018). For the cognitive structures developed by scientists, we base our analysis on academic journal rankings. Accounting research findings are predominantly disseminated via scientific journals (Ballas and Theoharakis, 2003) and their inherent rankings are viewed as critical elements in the social structure of the academic discipline (Lowensohn and Samelson, 2006; Schwartz *et al.*, 2005). These two axes of analysis enable the current overwhelming tendency to use various forms of academic rankings (Khalifa and Quattrone, 2008, p. 66): “[...] the analysis has significantly shifted towards citation analyses in order to grasp the role of academic journals in defining the contours of accounting knowledge (e.g. Milne, 2001; Bonner *et al.*, 2006) and towards the factors which define the perceived quality of these outlets (e.g. Lowe and Locke, 2005)”. In this respect, our two analyses based on citations and journal rankings are complementary (Meyer *et al.*, 2018).

Our first analysis begins with the 50 most cited authors in accounting (Ioannidis *et al.*, 2020). We determine the extent to which scholars conducting research in SEA are represented among them and find that they represent a substantial part of that sample: 16% of the 50 most

cited authors in accounting are SEA researchers although most of their research is not published in top-tier journals. Compared to the other most cited accounting researchers, while SEA scholars are overall less cited, their publication rate is significantly higher.

Our second analysis focuses on quantitative metrics related to scientific academic journals which are more and more ‘metricized’ and have been used for nearly a century to, among other purposes, assess the changes in impact over time (Mingers and Yang, 2017; Walters, 2017a). However, there is still scarce and limited information about the correlations among all these indicators and rankings, especially in the field of business and management science (Villaseñor-Almaraz *et al.*, 2019). As such, we investigate to what extent citation metrics and rankings are (cor)related and document how they help position management science journals compared to one another. We adopt a ‘multi-dimensional’ perspective by applying principal component analysis (PCA) to generate two dimensions using various indicators—one dimension using objective metrics (citations and impact factors) and the other one integrating more sophisticated indicators based on reputation and subjective rankings. These two dimensions allow our results to highlight two groups of journals: (1) journals highly rated by reputational measures (including rankings) but with low visibility in terms of impact; and (2) journals highly visible in terms of impact but relatively less well rated in terms of reputation. We find that all top-tier accounting journals are in the first group while the second group includes many thematic and multidisciplinary journals, including some devoted to the environment.

2. Environmental accounting as an (accounting) subfield – A citation analysis

In this section on the impact of researchers’ activities in the subfield of environmental accounting, we use citation totals as a metric to rank scholars following an approach which has previously been implemented in the accounting field (Metcalf *et al.*, 2015; Myers *et al.*, 2016; Nuttall *et al.*, 2018). More specifically, we analyze the publication outlets and citations of the 50

most cited accounting researchers career wise according to Ioannidis *et al.* (2020). We use the Scopus database to collect the associated data by excluding self-citations of all authors. As of March 2021, these 50 researchers cumulate 305,000 citations for 2,919 articles referenced in the database. The information collected for each researcher includes: total number of citations (*TOTAL_CITES*); number of articles (*NB_ARTICLES*); h index (*H_INDEX*); number of years between first and las

t publication (*TIME_SPAN*); number of citations by year of publication (*CITES_YEAR*); number of citations per published article (*CITES_PAPER*); number of citations from articles published in the ‘top 5’ accounting journals⁴ (*TOTAL_CITES_TOP5*) and the percentage of citations from articles published in these ‘top 5’ journals (*PERCENT_TOP5*). Table I provides descriptive statistics for the variables collected. Career wise, the 50 most cited accounting authors received an average of 6,100 cites for 58 published articles and an h index of 27.5 for almost 35 career years. Their articles are cited 128 times on average, every year in career represents an additional 185 cites and 56% of their citations come from top-tier accounting journals.

[Insert Table I about here]

2.1. Journal analysis of the 50 most cited accounting researchers

As a percentage of total citations for these 50 researchers, seven journals each account for more than 5% of total citations (in this order: *Journal of Accounting and Economics*; *Journal of Accounting Research*; *The Accounting Review*, *Accounting, Organizations and Society*; *Journal of Financial Economics*; *Contemporary Accounting Research*; and *Accounting, Auditing and Accountability Journal*). Approximately 58% of the citations of the 50 most cited accounting

⁴ The ‘top 5’ accounting journals are: *Accounting, Organizations and Society*, *Contemporary Accounting Research*, *Journal of Accounting and Economics*, *Journal of Accounting Research*, and *The Accounting Review* (Beets *et al.*, 2015; Bonner *et al.*, 2006; Burton *et al.*, 2021a; Chan and Liano, 2009; Templeton and Lewis, 2015).

researchers come from articles included in the ‘top 5’ accounting journal list. Table II shows the most citing journals for these 50 researchers (only journals that account for at least 1% of total citations are included). As Nuttall *et al.* (2018) argue, rankings using citations and counts are both relevant. Table II thus also shows that four journals each account for more than 5% of the total number of articles published by these 50 researchers (in this order: *Journal of Accounting and Economics*; *Accounting, Auditing and Accountability Journal*; *The Accounting Review*; and *Accounting, Organizations and Society*), while the other two top-tier journals account for 4.97% (*Journal of Accounting Research*) and 4.42% (*Contemporary Accounting Research*) of the published articles, respectively.

[Insert Table II about here]

Of the 50 most cited accounting authors, eight are identified as SEA researchers: Carol A. Adams; Jan Bebbington; Craig M. Deegan; Rob H. Gray; James Guthrie; Markus J. Milne; Lee D. Parker; and Dennis M. Patten. They represent 16% of the top accounting scholars and their total citations account for 14% of the total citations of the 50 researchers. These citations are mainly distributed in the journals⁵ presented in Table III. Five journals each account for more than 5% of the citations of these researchers (*Accounting, Auditing and Accountability Journal*; *Accounting, Organizations and Society*; *Accounting and Business Research*; *Journal of Intellectual Capital*; and *Critical Perspectives on Accounting*). In terms of articles published by these eight SEA researchers, three journals stand out and each represent more than 5% of their published articles (*Accounting, Auditing and Accountability Journal*; *Social and Environmental Accountability Journal*; and *Critical Perspectives on Accounting*) as Table III also shows. It is worth noting that in terms of citations or number of articles published, *Accounting, Auditing and*

⁵ Journals do vary in ‘age’ – in particular, *Sustainability Accounting, Management and Policy Journal* was created in 2010 and started publishing then with only two issues per year.

Accountability Journal and *Critical Perspectives on Accounting* account for more than 5% of the total produced by these eight researchers, therefore showcasing themselves as reference outlets for environmental accounting. Furthermore, except for *Accounting, Organizations and Society*, none of the five top-tier accounting journals are included in the lists presented in Table III.

[Insert Table III about here]

2.2. Citation analysis of the 50 most cited accounting researchers

In this section, we analyze the citations of the 50 most cited accounting researchers identified by Ioannidis *et al.* (2020) based on all articles published during their career up to March 2021. While Table I presents aggregated data, Table IV presents the same variables but now at the researcher level.

[Insert Table IV about here]

When comparing specifically the citations of SEA researchers to those of other researchers in the sample, we observe notable differences. Table V presents the results of comparisons based on non-parametric (Mann-Whitney) tests. First, researchers in SEA have a slightly lower average total number of citations than other researchers among the most cited authors in accounting, but the difference is not statistically significant (5,261 citations for researchers in SEA vs. 6,260 citations for other researchers, $p\text{-value} = 0.328$). On the other hand, they publish more articles per year than the average of the other researchers (2.6 vs. 1.5, $p\text{-value} = 0.002$) and have a higher h index on average, but the difference is not significant (30.75 vs. 26.88, $p\text{-value} = 0.121$). However, their articles are cited half as much as the average of the other researchers (each article is cited on average 70 times against 140 times for the other researchers, $p\text{-value} = 0.005$). We observe the same trend for the number of citations per year, which is lower for researchers in SEA than for the other 42 researchers in the sample, but the difference is not significant (164 citations per year versus 189 citations per year, $p\text{-value} = 0.653$). Finally,

researchers in SEA have a lower percentage of citations from an article published in a ‘top 5’ accounting journal (12% vs. 64% of their total citations, p -value = 0.000). This observation is consistent with our previous finding that none of the ‘top 5’ accounting journals (except *Accounting, Organizations and Society*) is included in the list of journals publishing the most research by SEA researchers.

[Insert Table V about here]

2.3. Interpretation of results

We find that scholars conducting research in SEA represent 16% of the 50 most cited authors in accounting, but most of their research is not published in top-tier journals. Even if their articles are individually less cited, SEA researchers published more and in a larger variety of outlets in comparison to the other most cited accounting researchers. These results support the findings of Lowensohn and Samuelson (2006) according to whom “[...] there is evidence that specialized areas are under-represented in the academic accounting journals typically regarded as top-tier [...]” (2006, p. 219). Among the specialized areas considered, the SEA field was not as present at that time, probably due to its relatively recent appearance (Mathews, 1997). We therefore confirm their findings for another subfield not yet investigated. Our results also echo Bonner *et al.* (2006) who noted then that most of the articles published in the top-tier accounting journals deal with auditing and financial accounting issues. We contend that the observation of Schwartz *et al.* (2005) that, while the diversity of the accounting literature is increasing, the system has paradoxically grown increasingly closed, remains valid. This situation generates concerns about paradigmatic inertia risks (Svensson, 2005).

Our results also highlight the peculiar positioning that *Accounting, Organizations and Society* seems to hold, compared to the other four outlets ranked in the ‘top 5’ journals. This divide is not new. Lukka and Kasanen (1996) indeed distinguish between two competing

research elites. On the one hand, they identify a powerful and dominant American elite standing on three of the four top-tier journals (*Journal of Accounting and Economics*, *Journal of Accounting Research* and *The Accounting Review*). On the other hand, they identify an emerging mostly European elite with *Accounting, Organizations and Society*. Ballas and Theoharakis (2003) also document this view of two alternative research orientations. Overall, our findings suggest that this ‘polycentric oligarchy’ persists. Whether it provides a wider range of legitimate journals for the dissemination of a broad range of accounting research subfields and approaches (Lukka and Kasanen, 1996) or drives a relative paucity of certain subfields remains an open question (Hesford *et al.*, 2006).

4. Accounting and the environment – An analysis of management science journal metrics

In this second analysis of the cognitive structures of management science research, we examine the consistency (or lack thereof) between the numerous metrics commonly used to evaluate the quality of academic journals in the field. As such, we analyze both the quantitative impact and the reputation of environmental research in the management field by conducting a PCA on a number of these metrics for management science journals, which enables us to summarize them to two dimensions/components. The first dimension is composed of metrics that are not weighted by the reputation of the journals, whereas the second dimension is mainly composed of metrics that integrate or reflect this reputation (whether they are purely quantitative or emanate from expert opinions such as journal rankings). From these two components/axes, we highlight that some journals are significantly overrated in one dimension and underrated in the other, hence underlining discrepancies between reputational and non-reputational impact factors.

4.1. Variable description

In order to conduct this analysis of the relations maintained by the various management journal metrics, we select six widely used variables from the Journal Citation Reports (JCR)

provided by Clarivate Analytics. The JCR Impact Factor (*JCR_IF*) is by far the most commonly used measure to rank and evaluate scientific journals (Mingers and Yang, 2017; Yang and Zhang, 2013) although it has long been the subject of high criticism (Hecht *et al.*, 1998). The *JCR_IF* variable is calculated by dividing the number of citations in a given year by the total number of articles published in the two previous years. In addition to being computed over a two-year period, the IF can also be calculated over five years. The *JCR_IF5* variable is thus the average number of times articles from a journal published in the past five years have been cited in the chosen year. The IF measure can be refined by excluding self-citations, which we define as the *JCR_IFNoCite* variable. Three other JCR-based measures are then added to this initial pool and consider the Eigenfactor, which is a metric that relies on journal rankings based on their importance within a network of academic citations to weigh them (Bergstrom *et al.*, 2008; Franceschet, 2010). Some authors consider that this more sophisticated measure, which takes into account where citations come from, provides significant different information from that provided by the IF (West *et al.*, 2010) while some others show the opposite (Davis, 2008). The normalized Eigenfactor (*JCR_NEF*) is equal to the Eigenfactor multiplied by 0.01 and then by the total number of journals in the JCR in the year in question. The *JCR_NEF* variable is thus a multiplicative rescaling of the Eigenfactor score so that the average journal receives a score of 1, with the ultimate goal to provide greater clarity among metrics (Yu *et al.*, 2017). The article influence score (*JCR_IS*) measures the average influence, per article, of the articles published in a journal. It is calculated by multiplying the Eigenfactor score by 0.01 and dividing by the number of articles in the journal, normalized as a fraction of all articles in all publications. Finally, the immediacy index (*JCR_Immediacy*) is the average number of times an article is cited in the year it is published (Clarivate, 2021). It is a way to determine the ‘hot topics’ in a discipline and give an insight into the speed of new content citation (Clarivate, 2021).

We then complete the suite of JCR metrics with the two main and most recent journal ranking lists derived from expert panels (Hall and Page, 2015). Based on a peer review approach, these rankings are considered a more subjective process compared to the citation indicators mentioned above (Hudson, 2013; Jaafar *et al.*, 2020). Black *et al.* (2017, p. 3) suggest that these two rankings “[...] potentially dominate the scholarly domain of accounting academic research”. This type of ranking is now used by a wide range of stakeholders – universities and schools but also governments and professional accounting bodies – to assess the quality and the quantity of faculty research productivity (Black *et al.*, 2017). First, we use the 2018 UK Journal Quality Guide established by the Association of Business Schools (ABS) to form the *ABS* variable. Although this hybrid⁶ approach is considered consensual, reliable, and of value to a wide range of stakeholders (Morris *et al.*, 2009), some studies show an explicit bias of this ranking towards certain fields such as accounting (Hoepner and Unerman, 2012). Second, we use the Australian Business Deans Council (ABDC) journal quality which was created in 2007. Although accused of promoting rent-seeking (Moosa, 2016), it is now widely used (Grossmann *et al.*, 2019; Hair *et al.*, 2019; Jaafar *et al.*, 2020; Moosa, 2016).

Finally, we include bibliometric indices produced by a Spanish research group (SCImago) regrouping several universities (SCImago, n.d.). The SCImago journal ranking (*SJR*) is based on the notoriety of the journals contained in the Scopus⁷ database from 1996. It provides the average number of citations received in the selected year by the publications in the selected journal in the previous three years, each citation being weighted by the reputation of the citing journal. Among the list of bibliometric indicators produced and available, this is the most sophisticated one (Mingers and Yang, 2017). SCImago also produces an ancillary measure to the

⁶ The ABS ranking is based upon the combination of statistical information relating to citations, peer review, and editorial judgements (Hudson, 2013; Mingers and Yang, 2017).

⁷ The Scopus database is operated by Elsevier B.V. and includes 34,100 titles from more than 5,000 publishers (SCImago, n.d.). See <https://www.scopus.com/home.uri>.

SJR—the SJR h index (*SJR_Hindex*)—which is the journal’s number of articles that have received at least h citations over the period. Braun *et al.* (2006) suggested that the h-type index may be a useful complement to journal IF. We also include in our analysis the SJR cite score (*SJR_Cites*): the number of citations received by a journal in one year to articles published in the two previous years, divided by the number of documents indexed in Scopus published in those same two years (SCImago, n.d.). All 11 variables,⁸ their definition, their reference to a reputational component and their source are presented in Table VI.

[Include Table VI about here]

4.2. Sample and descriptive statistics

For the pool of JCR variables, we obtain the lowest number of observations (1,364) for the *JCF_IF5* variable. For the rankings, the lowest number of observations is obtained for the ABS ranking (1,549). Finally, for the SJR variables, the number of available observations is 2,310. The intersection of all 11 measures provides a total of 774 journals in the field of management sciences on which the analyses in this section are performed.⁹

Table VI also provides remarkable values for the 11 selected variables. All variables are included as is, except for two: *ABS* and *ABDC*. The ABS ranking uses scores from 1 to 4* (the latter being the highest score). We transform these scores into numerical values ranging from 1 to 5. The ABDC rating works with a scale to establish a hierarchy and groups of academic journals without providing directly usable numerical values since it uses letters and goes from C to A*. We recode these values by going from 2 to 5. The highest average value is obtained for the *SJR_Hindex* variable (73.06) while the lowest (0.62) is obtained for the *JCR_NEF* variable. These values seem to be in agreement with previous literature (Jaafar *et al.*, 2020; Mingers and

⁸ We note here that the source from which it is acquired determines the identity of an index, i.e., the same index may be considered different when derived from distinct data sources (Ferrara and Salini, 2012).

⁹ We concede here a limitation of our methodological approach: the journals that are included in the sample are those that are the most visible because they simultaneously have a value for all 11 variables.

Yang, 2017). In this sample of 774 journals, all measures are all highly and positively statistically correlated (at a 1% level) (not reported). The lowest correlation (0.2444) is obtained between the *ABDC* and the *JCR_Immediacy* variables and the highest (0.9905) is obtained between the *JCR_IF* and *JCR_IFNoCite* variables.

4.3. PCA analysis

As we have measurements on many variables, we considerably reduce their number while still retaining much of the information in the original data set using the PCA multivariate statistics technique—“probably the best known and most widely used dimension-reducing technique for doing this” (Jolliffe, 2011). For representing bibliographic data, it is one of the main classifying methodologies employed (Leydesdorff, 2009; Torres-Salinas *et al.*, 2013; Yan *et al.*, 2011). Applying the Kaiser rule¹⁰ (i.e., eigenvalues greater than 1), we retain the first two principal components. They account for 75.63% of the total variance. The test statistics of the Kaiser-Meyer-Olkin (KMO) test for sampling adequacy is equal to 0.8559, which is meritorious according to Kaiser’s seminal paper (1974). To facilitate the interpretation and representation of the data, we then apply the varimax¹¹ variance maximizing method. Table VII reports the (above 0.30¹²) component loadings for the two components retained.

[Insert Table VII about here]

It is quite clear that, using an above 0.30 rule, all variables load to only one of the two components, which makes it possible to distinguish two axes of analysis. On the first component, five variables (*JCR_IF*, *JCR_IF5*, *JCR_IFNoCite*, *JCR_Immediacy* and *SJR_Cites*) have loadings above 0.30. These are metrics that rely upon only on citation analysis and are unweighted, i.e., that give the same weigh to each citation regardless of the prestige of the citing

¹⁰ The screen plot criteria (not reported) leads to keep exactly the same number of principal components, that is two.

¹¹ Applying either the oblimin or the promax rotation does not significantly affect our results.

¹² For the sake of clarity, we do not report coefficients below 0.30: they range between -0.1067 and 0.1089.

journal (see Walters, 2017b for a discussion on weighted/unweighted metrics). On the second component, we find the six other variables (*JCR_NEF*, *JCR_IS*, *ABS*, *ABDC*, *SJR* and *SJR_Hindex*). Except for the *SJR_Hindex*, these variables all include a reputational component (see Table VI), since they are either weighted (*JCR_NEF*, *JCR_IS* and *SJR*) or stated preference (*ABS*, *ABDC*) metrics.¹³ Our results thus echo the conclusions of Walters (2017a) who highlights a difference between unweighted citation metrics and weighted/stated preference metrics when assessing research impact. Our results also echo Ballas and Theoharakis (2003) who contend that two types of studies are carried out to evaluate journal standing—citation analyses and perceptual ranking/rating studies. We confirm it is consistent to distinguish between raw citation metrics and metrics that include a reputational weigh. By comparing journals on the basis of these two types of metrics, we are thus able to highlight discrepancies between the two. We refine our analysis of the position of academic management journals in relation to one or the other category of metrics (i.e., those that perform in one but not in the other).

4.4. Discrepancy analysis

According to Hall (2011, p. 21), “there is ample evidence suggesting that different approaches to assessing the quality of research outputs will have different results [...]”, we therefore explore further how the definition of the two components makes it possible to identify environmental and accounting journals whose positioning may reveal discrepancies with respect to the 11 selected variables. Indeed, top economics journals are, for example, consistently given greater subjective ratings than their IF would suggest (Walters, 2017b). To do so, we compute the difference between the predicted values obtained on each of the two components for the 774 journals. The *DIFFERENCE* variable is thus equal to the score obtained on the first component

¹³ According to Tahai and Meyer (1999), journals can be evaluated by two types of studies: stated preference studies and revealed preference ones. Stated preference studies take the form of surveying members of an academic field while revealed preference studies rely upon citation analysis.

minus the score obtained on the second component. The mean value of the *DIFFERENCE* variable is equal to 0. The standard deviation is equal to 1.65. The minimum value is -7.59 while the maximum is 11.93. The Shapiro-Wilk test statistics (0.93) rejects the hypothesis that *DIFFERENCE* is normally distributed.

We then establish the criterion defining the management journals that have a positioning considered discrepant along the two components. We retain in our analysis all the journals whose absolute value of the *DIFFERENCE* variable is higher than one standard deviation. We define the *DISCREPANCY* variable as follows:

$$DISCREPANCY = \begin{cases} DIFFERENCE & \text{if } |DIFFERENCE| > 1.65 \\ 0 & \text{otherwise} \end{cases}$$

There are 94 journals for which the *DISCREPANCY* variable takes positive values. This group of journals is characterized by a much higher value on component 1 (related to citations) compared to component 2 (related to reputation). There are 90 journals associated with negative values of the *DISCREPANCY* variable. This leads to a total of 184 journals where we detect a discrepancy in terms of positioning, out of a total of 774 journals analyzed (24%). Appendix 1 lists all 184 journals.

In each of these two groups, we identify accounting journals, i.e., whose title includes ‘accounting’, ‘accountability’ or ‘auditing’, as well as journals dealing with the environment by applying the procedure followed by Hudson (2013): all journals whose title includes ‘environment’/’environmental’, ‘ecology’, ‘energy’ or ‘resources’ are selected. Among the first group of journals (defined by positive values of the *DISCREPANCY* variable), six journals are identified and they all belong to the environmental journals category: *Business Strategy and the Environment*; *Corporate Social Responsibility and Environmental Management*; *Global Environmental Change*; *Organization & Environment*; *Resources Policy*; and *Review of Environmental Economics & Policy*. We consider *Corporate Social Responsibility and*

Environmental Management as an example. While this journal has an IF of 4.542, it is, for example, only ranked C and 1 in the ABDC and ABS rankings, respectively. Notably, no accounting journal appears in this first group which rather includes general, thematic and interdisciplinary journals focusing on specific domains such as tourism, supply chain, or ethics. In the second group of journals (those exhibiting negative values on the *DISCREPANCY* variable), there are also six journals, but they are all considered top accounting journals: *Contemporary Accounting Research*; *Journal of Accounting and Economics*; *Journal of Accounting Research*; *Journal of Business Finance & Accounting*; *Review of Accounting Studies*; and *The Accounting Review*. Figure I provides a visualization of component 1 for the 12 journals identified according to the values taken by the *DIFFERENCE* variable.

[Insert Figure I about here]

4.5. Interpretation

This second analysis focuses on quantitative metrics related to scientific academic management journals and investigates to what extent citation metrics and rankings are consistent. Our PCA analysis generates two dimensions from various indicators. The first dimension groups the purely objective ones (citations and IF) while the second dimension integrates more sophisticated indicators based on reputation and subjective rankings. Referring to these dimensions, we are able to highlight two distinct groups of journals: (1) journals highly visible in terms of impact but relatively less well rated in terms of reputation and (2) journals highly rated by reputational measures (including rankings) but having a lower visibility in terms of impact.

Focusing on journals illustrates the important differences between quantitative impact indicators and rankings used to assess the quality and prestige of a journal (Mingers and Yang, 2017). This observation is reflected in the existence of a significant number of journals with high impact but receiving lower consideration by various recognized rankings. Among them, we

mainly find journals on a specific theme, which is naturally interdisciplinary, such as the environment. On the other hand, several long-established disciplinary journals benefit from a more generous ranking than their quantitative impact would suggest. This is notably the case for ‘reputable’ journals in accounting or economics. Thus, despite their very relevance regarding issues our societies are facing, some journals dealing with environmental issues seem to suffer, in terms of research assessment, from a deficit of recognition fairness—recognition fairness being defined as the alignment between actual institutional journal evaluations and market expectations¹⁴ (Templeton and Lewis, 2015). As in Mingers and Yang (2017), these results illustrate that highly correlated metrics do not ensure the convergence of journal rankings that appear, for several journals, disconnected from their quantitative impacts.

This may lead early career researchers *not* to undertake some research themes and areas as they are primarily evaluated based on the rankings of journals. As some SEA researchers already cautioned in 2008, “[...] there may be a danger that ambitious new researchers anxious to make a name for themselves may be discouraged from entering the field” (Owen, 2008, p. 251). Researchers, especially emerging scholars whose careers depend largely on journal rankings, may be ‘pushed’ (and incentivized) to stay within their disciplinary field despite the strong impact interdisciplinary research can have (O’Dwyer and Unerman, 2014). Despite being strongly connected to the current issues of our societies, some research themes risk being structurally understudied if journal rankings are not able to consider their publication outlets in a more objective way. This observation is in line with Harzing and Van der Wal’s (2009) call to produce rankings that are as comprehensive and objective as possible. While accounting research needs more than ever to open to other disciplines to remain relevant (O’Dwyer and Unerman,

¹⁴ To assess recognition fairness, Templeton and Lewis (2015) measure journal market-based expectations using citation metrics.

2014) given the current societal issues, journal rankings should better reflect the relevance of interdisciplinary research, as revealed by objective metrics. In this perspective, Leydersdoff *et al.* (2021, p. 69) contend that “the rankings no longer have to be arbitrary and subjective combinations of surveys and partial indicators.”

5. Conclusion

With the grand challenges facing our societies today, the issues of research impact, usefulness, and sustainability arise. Indeed, while research assessment is increasingly based on quantitative metrics of citations, IF and journal rankings (Aistleitner *et al.*, 2018), a growing number of voices are demanding a more holistic assessment of research (e.g., RQ+ Assessment Framework, the Declaration on Research Assessment (DORA), the Leiden Manifesto for research metrics, etc.). Accounting research is not exempt from these reflections (Burton *et al.*, 2021a; Dechow *et al.*, 2020), to the point where the question of its relevance is openly raised (Burton *et al.*, 2021a). To fuel this debate, our study focuses on the quantitative indicators used to measure the impact of accounting research and on one particularly prolific accounting specialized area—environmental accounting. We conduct two complementary empirical analyses to determine: (1) the representation of environmental accounting researchers among the most cited accounting authors and (2) the consideration given to environmental issues in the impact assessment of management journals.

From our results, it appears that the environmental theme in accounting has not experienced its strongest development in top-tier accounting journals. The findings of the most cited SEA researchers are found in a variety of publications beyond the major journals. This is aligned with Lowensohn and Samelson (2006) and Summers and Wood (2017) who show that specialized accounting areas are underrepresented in top-tier academic journals. This situation can be explained by two factors. First, environmental accounting research is based on a

methodological, theoretical and epistemological plurality (Chen and Roberts, 2010; Parker, 2014). This research may have therefore struggled to find its ‘place’ in top-tier journals that favor positivist or normative quantitative approaches (with the exception, however, of *Accounting, Organizations and Society*, which is particularly open in terms of approaches and methods). Secondly, although the environmental theme has emerged fairly recently in the top-tier journals, research on this topic primarily focuses on the consequences of environmental issues for financial markets, corporate governance and financial reporting based on archival research (Parker, 2014). These reasons may have led researchers who have been working on environmental issues in accounting for a long time to—either voluntarily (by a lack of submissions to these journals) (Kachelmeier, 2018) or involuntarily (by a lower receptivity of their articles using other empirical and epistemological approaches)—disseminate their research in other media and to continue to do so despite the recent opening of top-tier journals.

Further, the most cited researchers in environmental accounting are almost all European or Australian. They are attached to universities that give them greater academic freedom in their publication choices. They have thus been able to focus on themes and research with a high social impact, beyond academic prestige. Conversely, the pressure of American researchers to publish in top-tier journals may have dissuaded them from conducting research in this field. Indeed, as our second analysis illustrates, some journals focusing on environmental topics—which are interdisciplinary in nature—do not see their high academic impact (in terms of citations) reflected in rankings and reputation, thus underlining the publication dilemmas for environmental accounting researchers in the United States.

Our study is not without limitations. First, we made several arbitrary choices in the construction of the sample (e.g., focusing only on the 50 most cited accounting scholars) and the selection of the data (e.g., variables included in the PCA). For example, the list of indicators used

in the second study is not exhaustive. Out of the numerous potential available measures, we selected those that seemed reproducible and easier to compute and access. Other choices might lead to slightly different results although the data used are from databases that are fairly conservative in terms of research evaluation indicators (Scopus, JCR, SCImago). Second, the intersections between the available rankings (ABDC, ABS) and the metrics used (JCR, SCImago) reduced the sample of journals studied by focusing on the most visible ones in economics and management. Some less visible but high-impact economics and management journals were thus ignored (e.g., scientific journals from disciplines other than management that sometimes host managerial contributions, such as *Nature* or *Science*). Third, we focused on the impact of scientific publications in the form of journal articles and did not consider other dissemination outlets that could also have a strong impact (e.g., conference proceedings, media, videos, ...). It might therefore be interesting to complete the present study with an analysis of other media used to disseminate the results of scientific accounting research. Fourth, even though the study focused on quantitative impact indicators, its results cannot argue for an evaluation of research based solely on bibliometric indicators. We agree with initiatives such as the DORA to assess the impact of scientific research in a more holistic and qualitative way than is currently done. Despite the quantitative approach, our results call for a broader consideration of scientific production,¹⁵ particularly in relation to its overall societal impact. Finally, our study remains essentially descriptive and would deserve to be followed up by a more detailed analysis of the forces at work within the accounting field. In this respect, three types of factors (internal social influences, internal cognitive influences and external influences) whose interplay affects the emergence of scientific developments and dynamics could be considered (Beattie, 2005).

¹⁵ Piwowar (2013) interestingly notes the recent semantic shift from ‘publications’ to ‘products’ in the grant applications filling forms issued by the US National Science Foundation.

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Table I. Descriptive statistics on the 50 most cited accounting researchers

Variable	Mean	Std. dev.	Min.	Max.
<i>TOTAL_CITES</i>	6,100	2,309.90	3,205	12,962
<i>NB_ARTICLES</i>	58.38	29.66	18	174
<i>H_INDEX</i>	27.5	6.8	16	43
<i>TIME_SPAN</i>	34.9	8.89	18	50
<i>CITES/YEAR</i>	185.1	79.7	81.98	433.74
<i>CITES/PAPER</i>	128.34	70.14	29	314
<i>TOTAL_CITES_TOP5</i>	3,528.46	2,327.29	0	9,597
<i>PERCENT_TOP5</i>	56%	0.27	0%	98%

Note: N=50. Data come from the Scopus database as of March 2021. Auto-citations from all authors of a publication are excluded. *TOTAL_CITES* represents the career total number of citations an author received until March 2021; *NB_ARTICLES* represents the total number of articles considered for an author; *H_INDEX* is the h index of the author; *TIME_SPAN* represents the number of years between the first and the last publication available; *CITES/YEAR* is the number of citations per year, i.e., $TOTAL_CITES/TIME_SPAN$; *CITES/PAPER* is the number of citations by article published by an author, i.e., $TOTAL_CITES/NB_ARTICLES$; *TOTAL_CITES_TOP5* represents the total number of citations of articles published in the 'top 5' accounting journals; and *PERCENT_TOP5* is the percentage of the total citations that comes from articles in the 'top 5' accounting journals for an author.

Table II. Citing and publishing journals for the 50 most cited accounting researchers

Journals	Citing %	Journals	Publishing %
<i>Journal of Accounting and Economics*</i>	23.73%	<i>Journal of Accounting and Economics*</i>	12.64%
<i>Journal of Accounting Research*</i>	10.36%	<i>Accounting, Auditing and Accountability Journal</i>	5.93%
<i>The Accounting Review*</i>	9.42%	<i>The Accounting Review*</i>	5.21%
<i>Accounting, Organizations and Society*</i>	8.34%	<i>Accounting, Organizations and Society*</i>	5.17%
<i>Journal of Financial Economics</i>	7.75%	<i>Journal of Accounting Research*</i>	4.97%
<i>Contemporary Accounting Research*</i>	5.99%	<i>Contemporary Accounting Research*</i>	4.42%
<i>Accounting, Auditing and Accountability Journal</i>	5.43%	<i>Review of Accounting Studies</i>	3.29%
<i>Review of Accounting Studies</i>	2.67%	<i>Accounting Horizons</i>	3.01%
<i>Journal of Finance</i>	2.34%	<i>Journal of Financial Economics</i>	2.77%
<i>Accounting Horizons</i>	2.15%	<i>Social and Environmental Accountability Journal</i>	2.40%
<i>Management Accounting Research</i>	1.65%	<i>Accounting and Business Research</i>	2.12%
<i>Accounting and Business Research</i>	1.57%	<i>Critical Perspectives on Accounting</i>	2.02%
<i>Auditing</i>	1.31%	<i>Management Accounting Research</i>	1.78%
<i>Journal of Accounting and Public Policy</i>	1.23%	<i>European Accounting Review</i>	1.71%
<i>British Accounting Review</i>	1.20%	<i>British Accounting Review</i>	1.64%
		<i>Accounting from the Outside (RLE Accounting)¹⁶</i>	1.44%
		<i>Journal of Business Finance & Accounting</i>	1.44%
		<i>Journal of Accounting, Auditing and Finance</i>	1.34%
		<i>Journal of Finance</i>	1.30%
		<i>Auditing</i>	1.27%
		<i>Journal of Accounting and Public Policy</i>	1.16%
		<i>Abacus</i>	1.03%
		<i>Australian Accounting Review</i>	1.03%
		<i>Accounting and Finance</i>	1.03%

* 'Top 5' accounting journals.

Note: N=50. Data come from the Scopus database as of March 2021. Only journals that account for at least 1% of total citations or at least 1% of the articles published are included.

¹⁶ While this is not an academic journal, it was listed in Scopus.

Table III. Citing and publishing journals for the eight most cited accounting researchers in SEA

Journals	Citing %	Journals	Publishing %
<i>Accounting, Auditing and Accountability Journal</i>	34.57%	<i>Accounting, Auditing and Accountability Journal</i>	19.52%
<i>Accounting, Organizations and Society*</i>	12.69%	<i>Social and Environmental Accountability Journal</i>	9.90%
<i>Accounting and Business Research</i>	7.77%	<i>Critical Perspectives on Accounting</i>	6.65%
<i>Journal of Intellectual Capital</i>	5.72%	<i>British Accounting Review</i>	4.10%
<i>Critical Perspectives on Accounting</i>	5.53%	<i>Accounting and Business Research</i>	4.10%
<i>British Accounting Review</i>	4.16%	<i>Accounting Forum</i>	3.54%
<i>Accounting Forum</i>	3.50%	<i>Australian Accounting Review</i>	3.25%
<i>Journal of Business Ethics</i>	3.50%	<i>Sustainability Accounting, Management and Policy Journal[†]</i>	3.25%
<i>Journal of Accounting and Public Policy</i>	1.69%	<i>Accounting, Organizations and Society*</i>	2.69%
<i>Sustainability Accounting, Management and Policy Journal</i>	1.32%	<i>Accounting Education</i>	2.26%
<i>Journal of Business Finance & Accounting</i>	1.31%	<i>Journal of Intellectual Capital</i>	2.26%
<i>European Accounting Review</i>	1.27%	<i>Journal of Business Ethics</i>	1.98%
<i>Australian Accounting Review</i>	1.26%	<i>European Accounting Review</i>	1.70%
<i>Business Strategy and the Environment</i>	1.10%	<i>Financial Accountability & Management</i>	1.41%
<i>Public Management Review</i>	1.00%	<i>Qualitative Research in Accounting & Management</i>	1.41%
		<i>Abacus</i>	1.41%
		<i>Meditari Accountancy Research</i>	1.27%
		<i>Public Management Review</i>	1.27%
		<i>Sustainability Accounting and Accountability¹⁷</i>	1.13%
		<i>Accounting and Finance</i>	1.13%
		<i>Business Strategy and the Environment</i>	1.13%

* 'Top 5' accounting journals

[†] As indicated in footnote 5, *Sustainability Accounting, Management and Policy Journal* was created in 2010 and started publishing then with only two issues per year, which makes it difficult to make direct comparisons with older journals.

Note: N=8. Data come from the Scopus database as of March 2021. Only journals that account for at least 1% of total citations or at least 1% of the articles published are included.

¹⁷ While this is not an academic journal, it was listed in Scopus.

Table IV. Citation analysis of the 50 most cited accounting researchers

<i>Author</i>	<i>TOTAL_CITES</i>	<i>NB_ARTICLES</i>	<i>H_INDEX</i>	<i>TIME_SPAN</i>	<i>CITES/YEAR</i>	<i>CITES/PAPER</i>	<i>TOTAL_CITES_TOP5</i>	<i>PERCENT_TOP5</i>
Kothari, S. P.	12,962	56	39	33	393	231	9,597	74%
Larcker, David F.	12,028	70	43	43	280	172	7,534	63%
Dechow, Patricia M.	10,369	33	23	31	334	314	8,670	84%
Sloan, Richard G.	10,143	53	30	35	290	191	8,247	81%
Leuz, Christian	9,976	41	26	23	434	243	5,991	60%
Verrecchia, Robert E.	9,856	59	29	42	235	167	7,021	71%
Healy, Paul M.	9,111	37	20	36	253	246	5,895	65%
Lev, Baruch	8,476	76	36	48	177	112	3,675	43%
Francis, Jere R.	8,458	61	40	46	184	139	5,377	64%
DeFond, Mark L.	8,200	45	28	28	293	182	7,499	91%
Watts, Ross L.	7,712	80	21	45	171	96	2,723	35%
Barth, Mary E.	7,422	66	38	29	256	112	5,718	77%
Gray, Rob H.*	7,336	116	32	32	229	63	1,322	18%
Guthrie, James*	6,926	128	39	33	210	54	0	0%
Skinner, Douglas J.	6,715	64	34	29	232	105	3,413	51%
Ball, Ray	6,627	78	27	49	135	85	4,441	67%
Rajgopal, Shivaram	6,336	57	33	23	275	111	5,634	89%
Miller, Peter	6,293	49	28	34	185	128	2,881	46%
Gul, Ferdinand A.	5,955	99	37	38	157	60	2,887	48%
Core, John E.	5,945	38	24	24	248	156	2,443	41%
Patten, Dennis M.*	5,808	65	32	30	194	89	3,010	52%
Guay, Wayne R.	5,737	40	26	25	229	143	3,312	58%
Schipper, Katherine A.	5,728	47	27	40	143	122	3,658	64%
Deegan, Craig Michael*	5,653	44	24	32	177	128	221	4%
Holthausen, Robert W.	5,501	18	17	29	190	306	2,455	45%
Dichev, Ilia D.	5,475	22	16	24	228	249	4,573	84%
Ittner, Christopher D.	5,431	40	26	27	201	136	3,704	68%

(continued on next page)

Table IV. Continued

<i>Author</i>	<i>TOTAL_CITES</i>	<i>NB_ARTICLES</i>	<i>H_INDEX</i>	<i>TIME_SPAN</i>	<i>CITES/YEAR</i>	<i>CITES/PAPER</i>	<i>TOTAL_CITES_TOP5</i>	<i>PERCENT_TOP5</i>
Francis, Jennifer	5,253	28	22	32	164	188	5,072	97%
Ohlson, James A.	5,208	60	21	46	113	87	3,938	76%
Parker, Lee D.*	5,016	174	38	46	109	29	697	14%
Richardson, Scott A.	4,769	34	19	21	227	140	3,258	68%
McNichols, Maureen F.	4,760	34	23	38	125	140	3,134	66%
Cooper, David J.	4,686	55	33	46	102	85	2,953	63%
Otley, David T.	4,609	56	25	46	100	82	1,455	32%
Dhaliwal, Dan S.	4,604	80	32	50	92	58	3,501	76%
Hopwood, Anthony G.	4,577	98	21	48	95	47	3,837	84%
Bushee, Brian J.	4,484	22	17	24	187	204	4,373	98%
Scapens, Robert W.	4,465	85	28	47	95	53	792	18%
Subramanyam, K. R.	4,397	19	17	23	191	231	4,003	91%
Brown, Lawrence D.	4,347	67	30	42	104	65	1,849	43%
Chenhall, Robert H.	4,298	37	23	46	93	116	3,007	70%
Milne, Markus J.*	4,192	57	28	30	140	74	101	2%
Klein, April	3,908	22	16	35	112	178	2,288	59%
Hanlon, Michelle	3,807	30	23	18	212	127	2,771	73%
Beaver, William H.	3,771	39	24	46	82	97	2,794	74%
Clarkson, Peter M.	3,680	50	26	31	119	74	1,762	48%
Mouritsen, Jan	3,632	87	32	32	114	42	1,093	30%
Adams, Carol A.*	3,587	51	25	28	128	70	113	3%
Bebbington, Jan*	3,566	72	28	29	123	50	224	6%
Bedard, Jean C.	3,205	80	29	33	97	40	1,507	47%

Note: Data come from the Scopus database as of March 2021. Auto-citations from all authors of a publication are excluded. *TOTAL_CITES* represents the career total number of citations an author received until March 2021; *NB_ARTICLES* represents the total number of articles considered for an author; *H_INDEX* is the h index of the author; *TIME_SPAN* represents the number of years between the first and the last publication available; *CITES/YEAR* is the number of citations per year, i.e., *TOTAL_CITES/TIME_SPAN*; *CITES/PAPER* is the number of citations by article published by an author, i.e., *TOTAL_CITES/NB_ARTICLES*; *TOTAL_CITES_TOP5* represents the total number of citations of articles published in the ‘top 5’ accounting journals; and *PERCENT_TOP5* is the percentage of the total citations that comes from articles in the ‘top 5’ accounting journals for an author. Green cells of the table exhibit values above the average.

* denotes researchers in SEA research.

Table V. Citation differences between SEA researchers and the other researchers from the 50 most cited accounting researchers list

	SEA researchers (N = 8)	Other researchers (N = 42)	Difference and significance level (Mann-Whitney test)
<i>TOTAL_CITES</i>	5,261	6,260	-999 (<i>p-value</i> = 0.328)
<i>ARTICLES/YEAR</i>	2.6	1.5	1.1 *** (<i>p-value</i> = 0.002)
<i>H_INDEX</i>	30.75	26.88	3.87 (<i>p-value</i> = 0.121)
<i>CITES/YEAR</i>	164	189	-25 (<i>p-value</i> = 0.653)
<i>CITES/PAPER</i>	70	140	-70 *** (<i>p-value</i> = 0.005)
<i>PERCENT_TOP5</i>	12%	64%	-52% *** (<i>p-value</i> = 0.000)

Note: Data come from the Scopus database as of March 2021. Auto-citations from all authors of a publication are excluded. *TOTAL_CITES* represents the career total number of citations an author received until March 2021; *ARTICLES/YEAR* represents the average number of articles per year, i.e., *NB_ARTICLES/TIME_SPAN*; *H_INDEX* is the h index of the author; *CITES/YEAR* is the number of citations per year, i.e., *TOTAL_CITES/TIME_SPAN*; *CITES/PAPER* is the number of citations by article published by an author, i.e., *TOTAL_CITES/NB_ARTICLES*; and *PERCENT_TOP5* is the percentage of the total citations that comes from articles in the ‘top 5’ accounting journals for an author.

*** denotes significance at the 1% level.

Table VI. Description of the variables used in the PCA

Bibliometric variable name	Description	Reputation component included	Source	Mean	Std. dev.	Min.	Max.
<i>JCR_IF</i>	JCR impact factor		Clarivate Analytics Web of Science	2.56	1.98	0.17	20.84
<i>JCR_IF5</i>	JCR impact factor over 5 years		Clarivate Analytics Web of Science	3.21	2.57	0.25	26.26
<i>JCR_IFNoCite</i>	JCR impact factor with no self-citations		Clarivate Analytics Web of Science	2.3	1.85	0.04	20.6
<i>JCR_NEF</i>	JCR normalized Eigenfactor	X	Clarivate Analytics Web of Science	0.62	1.18	0	15.73
<i>JCR_IS</i>	JCR influence score	X	Clarivate Analytics Web of Science	1.2	1.66	0	22.02
<i>JCR_Immediacy</i>	JCR immediacy index		Clarivate Analytics Web of Science	0.69	0.72	0	12.83
<i>ABS</i>	ABS ranking	X	ABS	2.54	1.01	1	5
<i>ABDC</i>	ABDC ranking	X	ABDC	3.81	0.82	2	5
<i>SJR</i>	SCImago journal ranking	X	Scopus	1.82	2.49	0.14	36.22
<i>SJR_Hindex</i>	SJR H index		Scopus	73.06	48.56	5	351
<i>SJR_Cites</i>	SJR cite score		Scopus	3.24	2.51	0.16	23.94

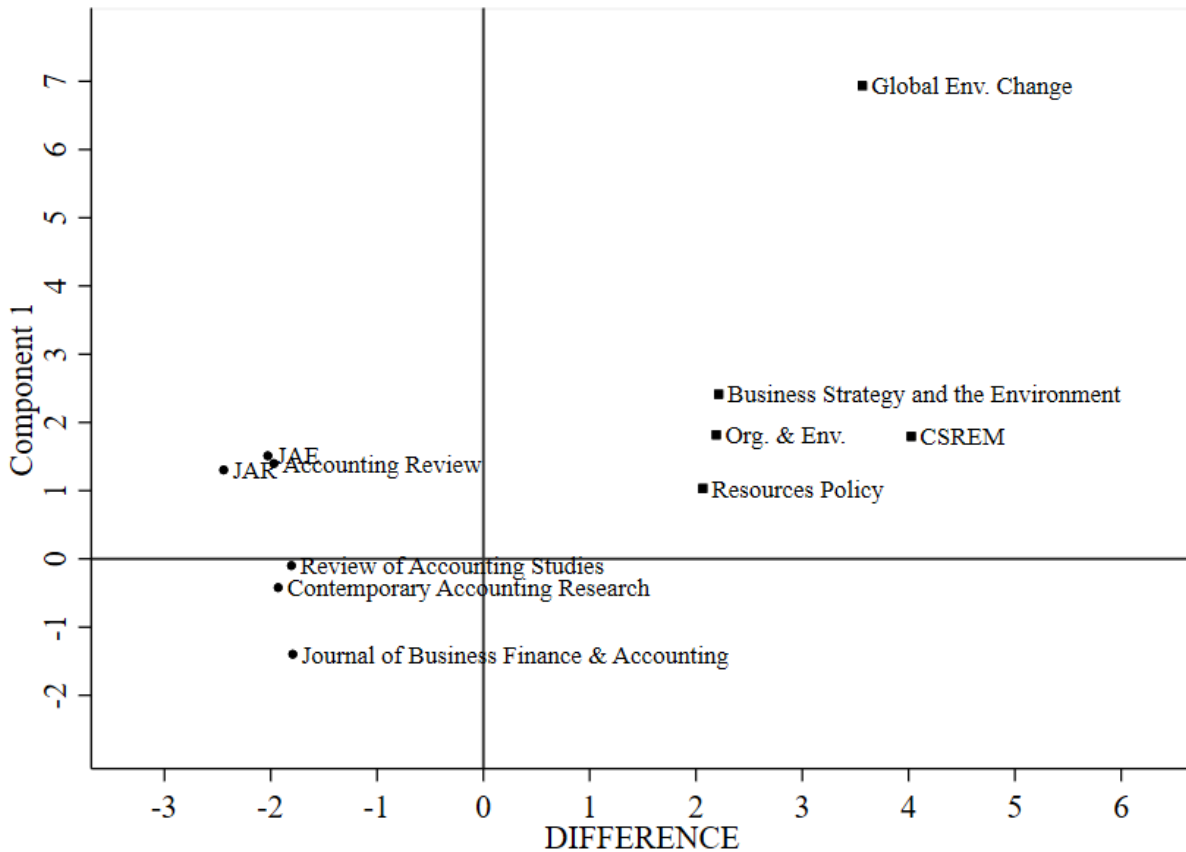
Note: All variables are retrieved in March 2021.

Table VII. Component loadings of the PCA

Bibliometric variable name	Component 1	Component 2
<i>JCR_IF</i>	0.47	
<i>JCR_IF5</i>	0.41	
<i>JCR_IFNoCite</i>	0.45	
<i>JCR_NEF</i>		0.39
<i>JCR_IS</i>		0.37
<i>JCR_Immediacy</i>	0.39	
<i>ABS</i>		0.48
<i>ABDC</i>		0.44
<i>SJR</i>		0.38
<i>SJR_Hindex</i>		0.35
<i>SJR_Cites</i>	0.47	

Note: N=774. This table presents the component loadings of the first two components of the PCA performed on the variables defined in Table VII (only component loadings above 0.30 are reported).

Figure 1. Accounting and environment journal titles for which the absolute value of the *DIFFERENCE* variable is greater than 1.65



Note: This Figure plots journal titles for which the absolute value of the *DIFFERENCE* variable is greater than 1.65 and which are identified as belonging to either the accounting or the environmental fields. *DIFFERENCE* is computed as the difference between the first component and the second component of the PCA. Components 1 and 2 are obtained from the PCA of the *JCR_IF*, *JCR_IF5*, *JCR_IFNoCite*, *JCR_NEF*, *JCR_IS*, *JCR_Immediacy*, *ABS*, *ABDC*, *SJR*, *SJR_Hindex* and *SJR_Cites* variables. All variables are defined in Table VI. The PCA is performed on 774 management science journals. We use the following abbreviations: CSREM (*Corporate Social Responsibility and Environmental Management*), JAE (*Journal of Accounting and Economics*) and JAR (*Journal of Accounting Research*).

Appendix 1. Journal titles for which the absolute value of the *DIFFERENCE* variable is greater than 1.65

Journal titles	
<i>DIFFERENCE</i> > 1.65	<i>DIFFERENCE</i> < -1.65
<i>Academy of Management Annals</i>	<i>American Economic Journal: Microeconomics</i>
<i>Academy of Management Review</i>	<i>American Economic Review</i>
<i>Active Learning in Higher Education</i>	<i>American Journal of Sociology</i>
<i>Annual Review of Psychology</i>	<i>Annals of Statistics</i>
<i>Asian Business and Management</i>	<i>Biometrika</i>
<i>Baltic Journal of Economics</i>	<i>British Journal of Industrial Relations</i>
<i>Baltic Journal of Management</i>	<i>Business History Review</i>
<i>Brookings Papers on Economic Activity</i>	<i>Canadian Journal of Economics</i>
<i>Building Research and Information</i>	<i>Computational Statistics & Data Analysis</i>
<i>Business and Society</i>	<i>Contemporary Accounting Research</i>
<i>Business Horizons</i>	<i>Econometric Theory</i>
<i>Business Strategy and the Environment</i>	<i>Econometrica</i>
<i>Cambridge Journal of Regions, Economy and Society</i>	<i>Economic History Review</i>
<i>Central European Journal of Operations Research</i>	<i>Economic Inquiry</i>
<i>Communications of the ACM</i>	<i>Economic Journal</i>
<i>Corporate Social Responsibility and Environmental Management</i>	<i>Economic Theory</i>
<i>Current Issues in Tourism</i>	<i>Economics Letters</i>
<i>Economic Geography</i>	<i>Enterprise & Society</i>
<i>Educational Management Administration & Leadership</i>	<i>European Economic Review</i>
<i>Electronic Commerce Research and Applications</i>	<i>European Journal of Operational Research</i>
<i>Electronic Markets</i>	<i>Games and Economic Behavior</i>
<i>Entrepreneurship Theory and Practice</i>	<i>Health Economics</i>
<i>Ethics and Information Technology</i>	<i>IMF Economic Review</i>
<i>Expert Systems with Applications</i>	<i>Industrial Relations</i>
<i>Family Business Review</i>	<i>Information Systems Research</i>
<i>Flexible Services and Manufacturing Journal</i>	<i>Insurance: Mathematics & Economics</i>
<i>Global Environmental Change</i>	<i>International Economic Review</i>
<i>Global Strategy Journal</i>	<i>Journal of Accounting and Economics</i>
<i>Harvard Business Review</i>	<i>Journal of Accounting Research</i>
<i>Human Resource Development Quarterly</i>	<i>Journal of Applied Econometrics</i>
<i>Human Resource Management Review</i>	<i>Journal of Banking & Finance</i>
<i>Human-Computer Interaction</i>	<i>Journal of Business Finance & Accounting</i>
<i>Industrial and Organizational Psychology: perspectives on science & practice</i>	<i>Journal of Consumer Psychology</i>
<i>Industry and Innovation</i>	<i>Journal of Development Economics</i>
<i>Information Processing & Management</i>	<i>Journal of Econometrics</i>
<i>Information Systems Frontiers</i>	<i>Journal of Economic Behavior and Organization</i>
<i>Information Systems Journal</i>	<i>Journal of Economic Dynamics and Control</i>
<i>Information Technology for Development</i>	<i>Journal of Economic History</i>
<i>Information, Communication & Society</i>	<i>Journal of Economic Theory</i>
<i>Innovation: Organization & Management</i>	<i>Journal of Finance</i>
<i>International Entrepreneurship and Management Journal</i>	<i>Journal of Financial and Quantitative Analysis</i>
<i>International Journal of Contemporary Hospitality Management</i>	<i>Journal of Financial Econometrics</i>
<i>International Journal of Hospitality Management</i>	<i>Journal of Financial Economics</i>
<i>International Journal of Information Management</i>	<i>Journal of Financial Markets</i>
<i>International Journal of Logistics Research and Applications</i>	<i>Journal of Health Economics</i>

<i>International Journal of Management Reviews</i>	<i>Journal of Industrial Economics</i>
<i>International Journal of Physical Distribution & Logistics Management</i>	<i>Journal of International Economics</i>
<i>International Journal of Project Management</i>	<i>Journal of Labor Economics</i>
<i>International Transactions in Operational Research</i>	<i>Journal of Law and Economics</i>
<i>Internet Research</i>	<i>Journal of Law, Economics and Organization</i>
<i>Journal of Advertising</i>	<i>Journal of Marketing Research</i>
<i>Journal of Business Logistics</i>	<i>Journal of Mathematical Economics</i>
<i>Journal of Business Venturing</i>	<i>Journal of Monetary Economics</i>
<i>Journal of Destination Marketing & Management</i>	<i>Journal of Money, Credit and Banking</i>
<i>Journal of Family Business Strategy</i>	<i>Journal of Multivariate Analysis</i>
<i>Journal of Intelligent Manufacturing</i>	<i>Journal of Optimization Theory and Applications</i>
<i>Journal of Interactive Marketing</i>	<i>Journal of Political Economy</i>
<i>Journal of International Business Studies</i>	<i>Journal of Public Economics</i>
<i>Journal of Knowledge Management</i>	<i>Journal of Risk and Uncertainty</i>
<i>Journal of Management</i>	<i>Journal of the American Statistical Association</i>
<i>Journal of Manufacturing Systems</i>	<i>Journal of the European Economic Association</i>
<i>Journal of Occupational Health Psychology</i>	<i>Journal of the Royal Statistical Society : Series B (Statistical Methodology)</i>
<i>Journal of Purchasing and Supply Management</i>	<i>Journal of Time Series Analysis</i>
<i>Journal of Service Management</i>	<i>Labour Economics</i>
<i>Journal of Service Research</i>	<i>Management Science</i>
<i>Journal of Supply Chain Management</i>	<i>Marketing Science</i>
<i>Journal of Technology Transfer</i>	<i>Operations Research</i>
<i>Journal of the Academy of Marketing Science</i>	<i>Organization Science</i>
<i>Journal of Theoretical and Applied Electronic Commerce Research</i>	<i>Organizational Behavior and Human Decision Processes</i>
<i>Journal of Travel & Tourism Marketing</i>	<i>Oxford Bulletin of Economics and Statistics</i>
<i>Journal of Travel Research</i>	<i>Oxford Economic Papers</i>
<i>Omega</i>	<i>Personality and Individual Differences</i>
<i>Operational Research</i>	<i>Personality and Social Psychology Bulletin</i>
<i>Operations Management Research</i>	<i>Production and Operations Management</i>
Organization & Environment	<i>Psychological Science</i>
<i>Organizational Research Methods</i>	<i>Quantitative Economics</i>
<i>Policy Sciences</i>	<i>Quantitative Marketing and Economics</i>
<i>Psychological Bulletin</i>	<i>Quarterly Journal of Economics</i>
Resources Policy	<i>RAND Journal of Economics</i>
Review of Environmental Economics & Policy	Review of Accounting Studies
<i>Review of Public Personnel Administration</i>	<i>Review of Economic Dynamics</i>
<i>Service Industries Journal</i>	<i>Review of Economic Studies</i>
<i>Small Business Economics</i>	<i>Review of Economics and Statistics</i>
<i>Socio-Economic Planning Sciences</i>	<i>Review of Finance</i>
<i>Sport Management Review</i>	<i>Review of Financial Studies</i>
<i>Strategic Entrepreneurship Journal</i>	<i>Scandinavian Journal of Statistics</i>
<i>Supply Chain Management: An International Journal</i>	<i>Social Choice and Welfare</i>
<i>Technological Forecasting and Social Change</i>	<i>Strategic Management Journal</i>
<i>Technovation</i>	The Accounting Review
<i>Total Quality Management & Business Excellence</i>	<i>Theoretical Economics</i>
<i>Tourism Geographies</i>	
<i>Tourism Management</i>	
<i>Transport Reviews</i>	
<i>Transportation</i>	

Note: This table lists journal titles for which the absolute value of the *DIFFERENCE* variable is above 1.65. *DIFFERENCE* is computed as the difference between the first component and the second component of the PCA. Journal titles in bold are environmental or accounting journals.