Profiling Brazilian scientific journals

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ARTIGO

PERFIL DOS PERIÓDICOS CIENTÍFICOS BRASILEIROS

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RESUMO: Em outubro de 2024, a Capes emitiu nota oficial delineando mudanças na metodologia de avaliação da produção científica nacional. Para entender o potencial impacto dessa mudança na educação e ciência brasileira, buscamos traçar o perfil dos periódicos científicos brasileiros, estimar quantos periódicos existem e quantos estão indexados em cada uma das bases de dados citadas nos currículos Lattes (Scielo, WoS e Scopus), além de estratificar os dados por área de conhecimento. Observamos que em relação ao número de periódicos indexados, "Estudos Interdisciplinares", "Ciências Sociais Aplicadas", "Ciências Humanas" e "Linguística, Literatura e Artes" estão em significativa desvantagem em relação às "Ciências Exatas e da Terra" e "Ciências da Saúde". Observamos também que a grande maioria das revistas científicas brasileiras não está indexada em nenhuma das bases de dados, o que pode resultar em menor atratividade para os autores. Esperamos que nossas descobertas possam fornecer informações sobre como os novos critérios de avaliação da Capes poderão afetar os periódicos brasileiros e a produção e disseminação de conhecimento científico nacional e se os periódicos nacionais realmente se beneficiarão com esta mudança.

Palavras-chave: perfil dos periódicos brasileiros, novo Qualis, pós-graduação, periódicos científicos, soberania de dados.

PROFILING BRAZILIAN SCIENTIFIC JOURNALS

ABSTRACT: In October 2024, Capes issued an official note outlining changes in the evaluation methodology for national scientific output. To understand the potential impact of this change on Brazilian education and science, we sought to profile Brazilian scientific journals, to estimate how many journals exist and how many are indexed in each of the databases cited in Lattes curricula: SciELO, WoS, and Scopus. We also stratified the findings per knowledge area. We observed that concerning the number of indexed journals, "Interdisciplinary Studies," "Applied Social Sciences," "Human Sciences," and "Linguistics, Literature, and Arts" are at a significant disadvantage compared to "Exact and Earth Sciences" and "Health Sciences". We also observed that the vast majority of Brazilian scientific journals are not indexed in either database, which might result in lower attractiveness for authors. We hope that our findings may provide additional information on how Capes' new evaluation criteria may affect Brazilian journals and the production and dissemination of national scientific knowledge, and whether national journals will actually benefit from this decision.

KeyWords: Brazilian journals' profile, new Qualis, graduate courses, scientific journals, data sovereignty.

PERFIL DE LAS REVISTAS CIENTÍFICAS BRASILEÑAS

RESUMEN: En octubre de 2024, la Capes emitió una nota oficial en la que describía cambios en la metodología de evaluación de la producción científica nacional. Para comprender el impacto potencial de este cambio en la educación y la ciencia brasileñas, buscamos perfilar las revistas científicas brasileñas, estimar cuántas revistas hay y cuántas están indexadas en cada una de las bases de datos citadas en los planes de estudio de Lattes: Scielo, WoS y Scopus. También estratificamos los hallazgos por área de conocimiento. Observamos que, en cuanto al número de revistas indexadas, "Estudios Interdisciplinarios", "Ciencias Sociales Aplicadas", "Ciencias Humanas" y "Lingüística, Literatura y Artes" se encuentran en importante desventaja frente a "Ciencias Exactas y de la Tierra" y "Ciencias de la Salud". También observamos que la gran mayoría de las revistas científicas brasileñas no están indexadas en ninguna de las bases de datos, lo que podría resultar en un menor atractivo para los autores. Esperamos que nuestros hallazgos puedan proporcionar información adicional sobre cómo los nuevos criterios de evaluación de Capes podrían afectar a las revistas brasileñas y a la producción y difusión del conocimiento científico nacional, y si las revistas nacionales realmente se beneficiarán de esta decisión.

Palabras clave: perfil de las revistas brasileñas, nuevo Qualis, estudios de posgrado, revistas científicas, soberanía de datos.

INTRODUCTION

Capes Official Note No. 46/2024-DAV/CAPES[1], dated October 3, 2024, marked a change in the way Brazilian scientific production is evaluated. In the second paragraph of this document, it is stated that the new classification will no longer use the Qualis metric but instead will rely on "bibliometric indicators" of articles and journals, as well as Altmetric data and qualitative criteria. Following this, Capes published a series of clarifications on its website addressing the changes in the evaluation methodology, explicitly mentioning that among the bibliometric indicators, "citation count" will be used. The adoption of such indicators had already been argued as a better solution than the Qualis system for assessing the relevance of Brazilian researchers' output. However, it is important to understand that 1) only indexed journals have a citation count; and 2) the quality and breadth of the indexing database is strongly and directly related to the true citation count.

For example, Jaffé (2020) argued that the Qualis system discourages publishing in relevant journals, as many journals classified in higher Qualis tiers do not even have measured Impact Factors or international visibility. Since the number of articles published in high-tier Qualis journals directly influenced the distribution of funds (through grants, scholarships, and project support) in the Brazilian academic environment, it is expected that authors would seek paths that maximized their chances of being awarded such funding. Jaffé also investigated journals indexed in the Scopus, comparing their CiteScore – a performance indicator of journals indexed by Scopus based on number of citations received by a journal, considering the articles published in the previous three years – to their Qualis rankings and observed, for example, that journals in certain fields showed significant discrepancies between their CiteScore and Qualis ranking, indicating that journals in, for example, Qualis's tier A1 – the highest tier available – might not always merit such status. Thus, in conclusion, Jaffé suggested promoting the use of internationally recognized metrics to rank journals – precisely the direction Capes is now heading.

Rocha et al. (2020), restricting their analysis to journals in the "Education" field/group, reached a similar conclusion, finding that the A2 tier of the 2016 Qualis "Education" field grouped

[1] https://www.gov.br/capes/pt-br/centrais-de-conteudo/documentos/conselho-tecnico-cientifico-da-educacao-superior/oficios-ctc-es/14102024SEI_2470019_Oficio_Circular_46_resumoCTC_232.pdf.

journals with higher Impact Factors (JIF, Journal Impact Factor, provided by Clarivate) than those in the A1 tier. Rocha et al. also concluded that journals in the "Education" field tended to have limited impact on knowledge dissemination because the field did not usually require authors to publish in journals indexed in international databases. Castro and Oliveira Filho (2022) also identified distortions between the rankings in higher Qualis tiers and bibliometric indicators and, therefore, proposed alternative evaluation measures based on Impact Factors reported by the Web of Science (WoS), citation counts, h-index values, and secondary citations. Applying these proposed metrics to a group of faculty members of a post-graduate program (PPG), they observed discrepancies in the scores and ranking faculty members would obtain using Qualis versus those derived from the bibliometric indicators they suggested. As such, similarly to Jaffé (2020), Castro and Oliveira recommend the adoption of evaluation criteria based on bibliometric indicators.

This position, however, is not unanimous. Several authors and institutions have taken a stance against the adoption of these metrics as the criteria to reward and/or select researchers (e.g., for grants), arguing that they do not evaluate professional conduct holistically and that they may encourage practices that artificially inflate citation counts. Perhaps the most well-known manifesto opposing these metrics is DORA, the San Francisco Declaration (https://sfdora.org/read), which provides several recommendations to authors, editors, institutional directors, funding bodies, etc. and that states as its first recommendation: "do not use journal-based metrics, such as Journal Impact Factors, as a surrogate measure of the quality of individual research articles, to assess an individual scientist's contributions, or in hiring, promotion, or funding decisions."

In 1997, Seglen (1997) raised several criticisms regarding the use of Impact Factor as a metric for evaluating scientific journals. Among them, we highlight the fact that total number of citations directly determines Impact Factor values, but that this is not true the other way around, because citation distribution is very skewed towards left, and sometimes are not even normal, so that Impact Factor actually has a low correlation with the citation count of published articles. Other criticisms raised by Seglen include possible bias towards articles in English, and the adoption of editorial practices that may increase citation counts (e.g., through reviews, which tend to receive more citations). Seglen additionally pointed to the high numbers of items classified as "non-citable" on indexing databases, as well as the failures of indexing databases in detecting self-citations, both issues leading to overestimated citation counts. Finally, Seglen mentions inconsistencies in the formula used for calculating Impact Factor, given that it takes into account in its numerator all citations received (even citations in documents classified as "editorial" and "notes") but then proceeds to exclude these documents from the denominator – a critique also raised by the editors of PLoS Medicine (2006) in 2006. According to Clarivate (2022), the company delivering such metrics, this same formula remains in use today. Abramo et al. (2023) conducted a large-scale study involving nearly one million articles indexed in WoS, published by 28,000 Italian researchers between 2010 and 2019 and their analyses confirmed that Seglen's (1997) main critiques were still valid, reporting a weak correlation between citation counts and Impact Factors, ranging from 0.1 to 0.6, across various fields of knowledge.

As can be seen, there are strong arguments both for and against using bibliometric indicators based on citation counts to evaluate scientific output. If, on one hand, the Qualis evaluation system has significant problems and limitations, on the other hand, Impact Factor itself is also subject to numerous criticisms. Aiming to further clarify this issue, in this study we first estimated the number of Brazilian scientific journals and the proportion of such journals indexed in the databases cited in the Lattes curriculum – Scielo, WoS and Scopus – to be able to plot the frequency of indexed and non-indexed journals per knowledge area. Based on our findings we discuss Capes's proposed change in the way Brazilian scientific production is evaluated.

WHAT ARE "BIBLIOMETRIC INDICATORS"?

Bibliometric indicators refer to a range of metrics about articles or journals. Examples of bibliometric indicators for an article include the authors' names, keywords, abstract, and funding sources, journal's name, year of publication, page range, and finally, the number of citations (and derived metrics).

Bibliometric indicators can also refer to the journals themselves, such as the case with field of knowledge and Impact Factor. Among these, citation count stands out as one of the most relevant indicators, as it forms the basis for metrics such as a journal's Impact Factor and author's h-index (a bibliometric indicator that measures the combined productivity and citation impact of a given researcher).

Unfortunately, there are not many providers of citation counts, and nowadays most are proprietary, paid/subscription-based, closed systems like Google, Dimensions, Scopus, and Web of Science (WoS), with only a few open-access and free alternatives existing such as OpenAlex and Scielo. Scopus, along with SciVal, ScienceDirect, Elsevier, and Mendeley, are all part of a suite of scientific data intelligence products owned by RELX. Similarly, Web of Science, along with JCR (Journal Citation Reports) and EndNote, are products owned by a company known as Clarivate. The Dimensions database, although being nearly as extensive as Scopus and WoS in terms of indexed documents and total number of citations, is not contracted by the Brazilian government and, for this reason, was considered as being outside the scope of this article. OpenAlex, according to Priem et al. (2022), is an open and free database launched in 2022 that automatically indexes journals, that has been growing in prominence among scientometric researchers. Lastly, we cite Scielo, an open-access journal library originally developed and maintained by FAPESP (Fundação de Amparo à Pesquisa do Estado de São Paulo). According to Marques (2024), by the end of 2024, Scielo's control had been divided among FAPESP (47%), Capes (48%), and CNPq – the Brazilian Conselho Nacional de Desenvolvimento Científico e Tecnológico – (5%), indicating a governmental intent to strengthen this database to support Brazilian journals.

When choosing a citation count provider, it is also necessary to consider the coverage of their indexed database, as citations are only counted within that database. According to OpenAlex (https://openalex.org/about#comparison), the approximate number of documents indexed by the major platforms is as follows: 82 million (WoS and Scopus); 390 million (Google Scholar); 148 million (Dimensions); 135 million (CrossRef); and 236 million (OpenAlex). Also, according to OpenAlex, the number of citations indexed in each is approximately: 1.8 billion (OpenAlex, Scopus, and WoS); 1.6 billion (Dimensions); and 1.3 billion (CrossRef). The number of citations indexed by Google Scholar is unknown. It should also be noted that the total number of citation counts can vary depending on the date of consultation and the database itself. Still, even for one same date, the number of citations for a given article can vary widely between platforms. For example, in August 2023, the article with DOI 10.1016/S0140-6736(20)30183-5 had 30,683 citations in Scopus, 17,740 in Web of Science (WoS), and 56,010 in Google Scholar. There are two main reasons for these discrepancies: 1) each database indexes a different set of documents, and 2) their methods for counting citations are not always identical. In the case of Scopus, Google, and WoS, the programming routines used are not publicly known – and as these are proprietary, closed-source software systems, they likely never will be. Scielo and OpenAlex, on the other hand, have open repositories on GitHub, making it possible to download the source code for various parts of the system, as well as article data.

Even without knowing exactly how citation counts are obtained in each different platform, certain challenges in dealing with this type of data can be anticipated, such as typographical errors made by authors, non-adherence to a single formatting style, and false positives caused by authors with same names. For author name disambiguation and detection of typographical errors, platforms likely make use of techniques such as string similarity comparisons, machine learning classification, and possibly even human editing. These tasks would most likely become less challenging if the data feeding these algorithms was somehow guaranteed to have good quality and structure, which, in the case of Scopus and WoS, could be achievable by the adoption of reference management tools (Mendeley® and EndNote®) and by proprietary interfaces for submitting approved articles from major publishers (such as Elsevier and Springer).

METHODOLOGY

The analysis conducted in this research had its foundation on the criteria announced by Capes in 2024 for the new evaluation model: 1) bibliometric indicators of journals; 2) quantitative indicators extracted directly from articles, such as citation count, promotion of Brazilian journals and/or

open-access journals; and 3) qualitative analysis of each evaluation subject-area, with specific criteria yet to be defined by Capes. It is also important to clarify that: 1) only indexing platforms providing citation counts can estimate metrics such as Impact Factor for journals; 2) only articles published in indexed journals have citation counts. Since the Lattes curriculum platform reports citation counts from Scielo, Scopus, and WoS, we chose these as the data sources for this study.

Journals' data were obtained from the Scielo, Scopus, and WoS websites. Data on the existing Brazilian journals was obtained from Miguilim – an initiative supported by the Instituto Brasileiro de Informação em Ciência e Tecnologia (IBICT) – as there is no aggregated list endorsed officially by Capes/CNPq. Miguilim indexes 4,985 Brazilian journals, and 4,051 have a rating in the current version of Qualis's tiers/ranking for journals, meaning they are in Capes's view "scientific/academic" journals. Miguilim also assigns each journal to one "knowledge area", which we used in our study.

By excluding journals not listed in Qualis and merging these databases using ISSN and EISSN numbers as primary keys, we were able to identify the journals listed in Miguilim also indexed in the Scopus, WoS and Scielo databases. After these steps, our database had 4.163 Brazilian journals.

RESULTS

The proportion of non-indexed and indexed journals is shown in Table 1. It shows that the vast majority of Brazilian journals – 83% – are not indexed by any of the three analyzed platforms, which should raise concern considering that Capes's new orientation towards article evaluation rewards citation counts, and only articles published in indexed journals can have such a metric. We also see, in Table 1, that the number of journals indexed only in Scopus, only in WoS and in Scopus & WoS is similar. Additionally, the number of journals indexed in Scielo is remarkably low, even though this platform is directly supported by the Brazilian government.

Table 1 – Number and percentage of indexed and non-indexed national journals.

Classification	Quantity (~%)
Not indexed	3.441 (83%)
Only Scopus	233 (6%)
Only WoS	217 (5%)
Only Scielo	20 (0%)
Scopus & Wos	199 (5%)
Scopus & Scielo	25 (1%)
WoS & Scielo	6 (0%)
Scopus, Wos & Scielo	22 (1%)

Figure 1 shows the percentage of journals by indexing platform (colored bars on the x axis) and knowledge area (y axis) following CNPq's categories. Observe that, for Figure 1, the colored bars represent percentages and not the actual number of articles (those can be found only in the label of the y axis). This figure shows that, for all areas, the vast majority of journals are not indexed in international databases, even though these journals are listed in Capes' Qualis. The areas with the highest percentage of indexed journals are Agrarian Sciences, Biological Sciences, Health Science, Engineering and Exact Sciences, while the category "Multidisciplinary" displays the lowest percentage despite a considerably larger total number of individual journals compared to areas such as Engineering and Biological Sciences.

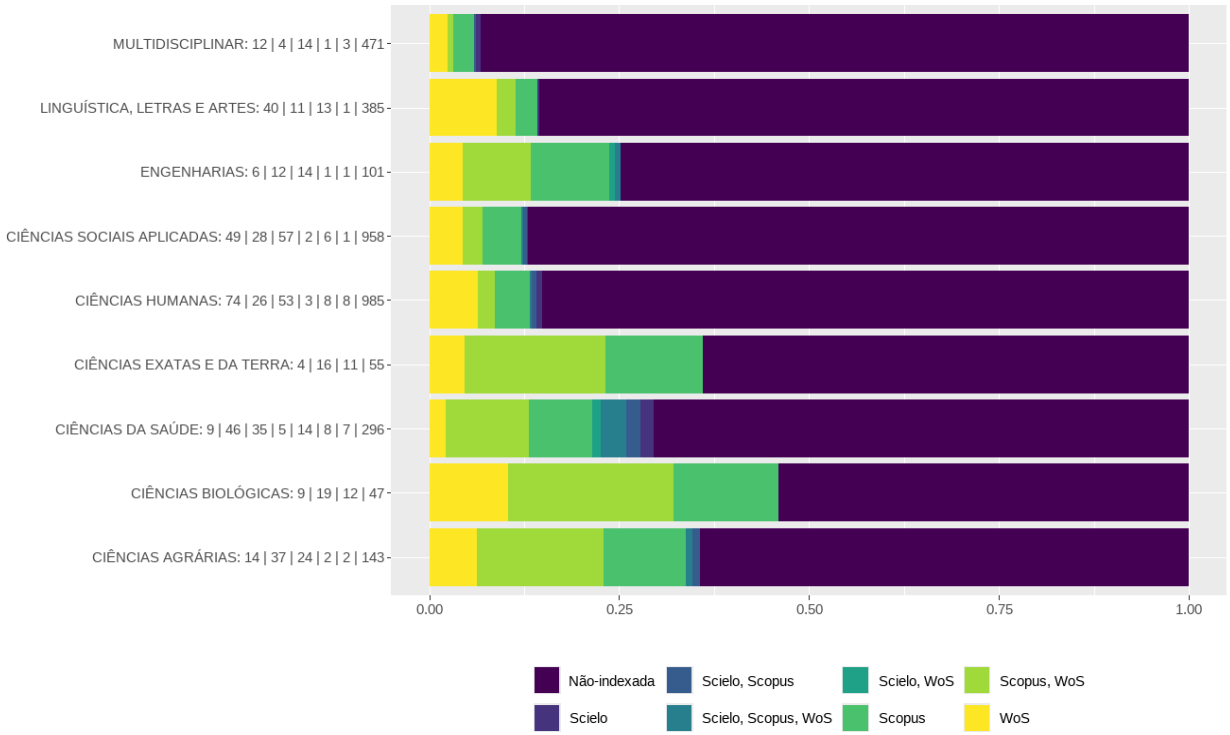

Figure 1 - Proportion of indexed and non-indexed national journals per area of knowledge (CNPq).

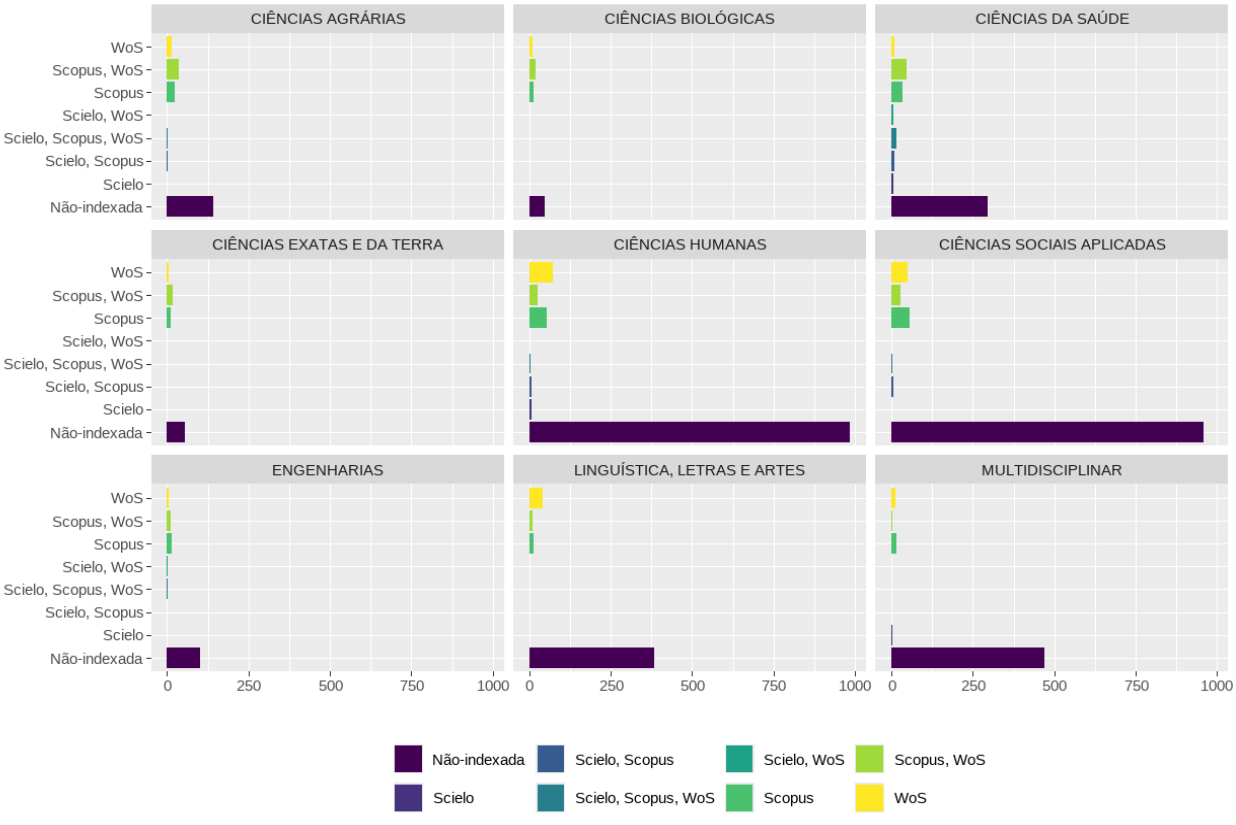

Figure 2 - Number of journals per knowledge area (CNPq).

Figure 2 complements the data portrayed in Figure 1, by displaying in a more detailed view the number of journals per each of CNPq's knowledge areas. If one were to break down the analysis on knowledge areas even further, what would be found is that certain fields have an impressive number of non-indexed journals, listing more than 250 different titles: Linguistics and Literature (321), Education (316), Law (280), Public Administration & Business Administration, Accounting, and Tourism (266), and Interdisciplinary Studies (259). The areas with the highest percentages of non-indexed journals were Material Sciences (100%, 3 journals); Social Assistance (100%, 24 journals); Teaching (96%, 152 journals), Architecture and Design (95%, 59 journals); Interdisciplinary studies (94%, 259 journals); Biotechnology (93%, 14 journals); Urban planning (91%, 30 journals). It may be worth evaluating whether maintaining so many different journals actually contributes to strengthening national research in each of these fields.

To the non-Brazilian readers of this paper, the large total number of non-indexed journals found in our analysis, will most likely be perceived as surprising given that many – if not most – internationally well-recognized scientific journals tend to be indexed. Yet, this present scenario in Brazil could be explained by a number of different factors including: 1) the existence of many non-indexed journals with high Qualis rankings, leading authors to submit their research in them rather than in index journals; 2) limited options of indexed journals; 3) a field/category with journals with particularly high APCs (Article Processing Charges) or long editorial cycles when it comes to indexed journals; 4) lack of receptiveness by international indexed journals; 5) lack of adequate funding for both local authors and local journals; 6) cultural issues and language barriers that might discourage local researchers from publishing in international journals (where there would be more indexed options); 7) or even a focus on topics of national or regional interest, that could drive authors to prefer more local or subject-specific journals, even if they are potentially less internationally prestigious and not indexed.

These findings not only help understand the local research landscape of Brazil and the possible consequences embedded in Capes's decision to change its evaluation method but also highlight how such change would most likely impact certain knowledge areas and subject-fields – and consequently the PPGs from each different subject-field – more than others. The findings also suggest that any efforts to change the evaluation methods for national journals that aim to actually increase that nation's national journal's overall value should be accompanied by projects to strengthen areas with imbalances in the proportion between indexed and non-indexed journals.

DISCUSSION

The announcement of the modifications in Capes' method of evaluation of Brazilian PPGs sparked intense debates and doubts among Brazilian researchers. The instructions of Capes' Official Note No. 46/2024-DAV/CAPES (CAPES, 2024) and of the information available about it on Capes' website encouraged speculation – something predictable given the profound impact that these changes will bring. After all, all the actions taken by Brazilian researchers are aimed at strengthening their respective PPGs and research groups, which often depend on funding from government agencies. Hence, if the criteria for the distribution of these resources' change, the allocation of funds amongst PPGs, projects and researchers will likely also change, potentially affecting even the progress of ongoing research initiatives.

The decision to base the evaluation on objective and quantitative criteria (i.e., numerical and measurable) seems, at first glance, to be the most appropriate, as it appears to be free of biases, and perfectly meritocratic – it will reward those with the best performance, as if we were all running a marathon. Nevertheless, as this article sought to demonstrate, when looking at this marathon from a broader perspective, we see that everyone is running with different levels of equipment and even, one may say, on different tracks! The data clearly shows how some areas would be immensely disadvantaged by the proposed change, and that the new evaluation method would imply a change in how authors choose where to submit their research. Authors from knowledge areas that do not typically publish in journals indexed by the Scopus and WoS platforms may have valid reasons for avoiding publication in these journals and, because of this possibility, these reasons should be investigated before any action is

taken. This is also true concerning a somewhat expected prejudice that may arise as a biproduct of our findings, that is, to believe that a preference towards national non-indexed journals would directly imply a work (and journal) of lower standards and/or quality.

One possible solution for Capes' dilemma on how to adequately evaluate Brazilian scientific production would be to allow the different knowledge areas – in the form of groups of PPGs – to choose the journal indexing platform that best suits their needs, allowing, for example, for the use of platforms such as OpenAlex or Google Scholar, which indexes all journals without any form of moderation. Yet, we foresee two difficulties in leaving this decision to the discretion of the executive boards of each area: 1) the integration (or lack thereof) with the Lattes system and, consequently, with the Qualis Sucupira platform, and 2) the reliance on potentially low-quality metrics and data. To put these issues into perspective, consider a scenario where, by discussing these matters with the knowledge area coordinators from Capes, representatives of the Multidisciplinary area, for example, advocated for the use of Google Scholar indexers if the journal was not listed in Scopus or WoS. This request might seem reasonable at first, but if such a suggestion were to be accepted, this would mean that the Multidisciplinary area would be relying on a platform that indexes documents that may not even have undergone double-blind peer review, such as books and dissertations, since that is how Google Scholar chooses to operate. In other words, this would incentivize authors to continue publishing in non-indexed journals, effectively swapping "six for half a dozen". Another consequence of adopting metrics from platforms like Google Scholar and OpenAlex is that journals would have no incentive to seek indexing, as they could rely on, for example, the Google Scholar "H5 index," a pale proxy of the Impact Factor published by JCR.

This situation leads to a discussion related to the issue of support for national journals. The process of indexing through Scielo, WoS, and Scopus platforms requires considerable planning and effort by journal editors. This begs the question: with that in mind, are the Universities, Capes, and CNPq ready to support the editors who wish to make such a transition? All of these indexing platforms assess a set of factors related to the journals, including preparation that can take up to six months, for journals which have a history of regularly published issues (SCOPUS, 2025), requiring the collection of various metadata in the journal's electronic submission system and from the published articles, including: editor in charge; international editorial board; title-abstract-keywords in English; dates of submission and publication; list of reviewers of each issue; clearly published editorial, review, and copyright policies; website in English; DOI. These are extensive demands, and often the only support available to a chief-editor in Brazilian public institutions is that of an undergraduate fellow receiving the minimum stipend from the university, along with the selfless and unpaid work of master's and doctoral students who act as reviewers. Under such a system, it becomes unfeasible to maintain a journal that qualifies to be included in the JCR list.

On the other hand, we observed that not all post-graduation programs will have difficulty adapting to the new evaluation method, as some are already accustomed to publishing in indexed journals listed in the JCR. However, it is important to consider that publishing in these journals often involves the risk of incurring translation costs to English even before knowing whether the article will be accepted, as well as waiting through a potentially lengthy review process that may ultimately result in rejection.

The final point we would like to raise about this change in the evaluation system concerns the abandonment of a project for data sovereignty. We understand that replacing Qualis – a fully national and public system – with indicators provided by private foreign companies means, to some extent, giving these companies the power to influence how Brazilian research will be made and evaluated. First, let us remember that, despite providing material for indexing (i.e., articles) for free or even at a cost, these companies do not provide citation indicators free-of-charge. Secondly, the Brazilian federal government has contracts with various scientific databases with different scopes, involving different agencies and contract durations. While most of the Brazilian academic community has reading access to many international paywalled journals, it is essential to remember that this access is not free – on the contrary, it is quite expensive. Scopus and WoS are part of the product portfolios of non-governmental companies that have complete freedom to decide what characteristics journals must have to be indexed, which also provides them with a degree of control over the production of national (and even international) scientific knowledge – that may not align with national interests. As private companies, they are under no obligation

to provide transparency regarding most of their decisions: from the rules for the indexing of journals and metrics used, to the algorithms used to display search results. We will never know how search results are chosen and ranked when conducting a simple keyword search: will the results with most citations be prioritized? Those with similar keywords? Those from productive authors? Or will there be other criteria? Their search platforms do, indeed, provide researchers with some level of filters and controls, but there remains still a large number of relevant unknowns hidden behind the scenes. What would stop these companies – which are publicly traded and answer to shareholders – from introducing mechanisms to sell or reserve keywords, similar to other search engines? What would stop them from selling advertising space or having "sponsored articles" at the top of the search result list? And, in cases of a trade embargo, what would happen to all the data produced by Brazilian researchers with Brazilian government funding?

The reader may believe that concerns such as these might be exaggerated, and that a company entrusted with such valuable documents and data would act impartially, but history suggests otherwise. If one were to ask for a real-life practical example, a quick look at the current state of the discussions concerning open-access should be enough. In simple, general terms, open-access in scholarly publishing refers to the free and unrestricted online availability of research articles, removing barriers to accessing scientific knowledge and, thus, represents a particularly promising avenue for democratizing access to scientific knowledge not only for readers, but – one would believe – authors as well. Unfortunately, this is not always the case.

The OECD (Organization for Economic Co-operation and Development, 2022), in 2022, recognized the need to broaden access to scientific literature, committing to "balancing the interests of open-access, to increase the quality and efficiency of research and innovation, with the need for restriction of access in some instances to protect social, scientific and economic interests." And The European Commission, in 2012, held an even more radical position, initially recommending that all publicly funded research should be open-access (The European Commission, 2012) and eventually creating the Plan S initiative, initiated by the Open Access Envoy of the European Commission, that demanded that any research funded by any member of research organizations, national funds, charitable funders, and international funders associated to it had to be immediately available as open-access, without any delay/embargo period (Schiltz, 2018). Both these statements represent important moves in the direction of democratizing access to scientific knowledge, however, given that most existing scientific journals *do not* rely on a fully national and public system (as opposed to Capes), there exists a barrier between the intention of entities such as OECD and The European Commission and the actual implementation of their plans regarding open-access. Private for-profit companies control a large share of the global market for scientific publishing, and it is not always in their best interest to follow along with recommendations such as these. Elsevier (part of the RELX Group, that also owns Scopus), for example, one of the largest worldwide scientific publishers, had, in 2022, 182 journals committed to Plan S 'Transformative Journal' criteria, which commits to "gradually increase the share of Open Access content, and to offset subscription income from payments for publishing services"[2]. Nevertheless, upon further inspection, we find that, in practical terms, this "open-access business model" appears to present itself only as a way to comply with international regulatory requirements while still finding means to increase revenue. Subscriptions for access to paywalled scientific articles represent a large share of RELX's revenue (RELX, 2022), therefore, there appears to be no tangible incentive for Elsevier to go open-access, unless authors consider it so advantageous for themselves to have their work published openly that they are willing to pay considerable fees for such "privilege" and that the total volume of articles being published as such continues to increase. Interestingly, RELX's 2022 annual report (RELX, 2022, p.18) states that "In Primary Research academic & government segments, which also represent around 45% of divisional revenue, growth was driven by higher volumes of articles submitted and published, with pay-to-publish open access articles growing particularly strongly [...]". Indeed, one could argue that that instead of publishing in open-access journals with expensive APCs, researchers could choose to submit their articles to one of the 13,219 journals indexed in the DOAJ – Directory of Open Access Journals – that do not charge APCs. However, many institutions and funding organizations worldwide demand that their

[2] https://www.coalition-s.org/faq/what-is-a-transformative-journal/

researchers publish in journals with high Impact Factor, which, in turn, are often owned by these larger publishers that charge high-cost APCs, thus leaving researchers without real alternatives (Perry & Soares Pereira, 2026).

Retraction Watch (2023) and the Open Access Directory (2023) have continually published lists of mass resignations of editors from established-well-regarded scholarly journals, motivated by disagreements with publishing companies on issues related to APCs practices and editorial interference. *Lingua*, a journal on general linguistics, had its entire editorial board resign after failed attempts to negotiate acceptable APC prices with their for-profit publisher – note that the editorial board receives no monetary gains from APCs, thus, this was a disagreement specifically at the excessive costs of APCs for authors (see The Open Access Directory, 2023; Samson, 2015; Elsevier, 2015). *Design Studies* also had a full editorial board resignation, due to its for-profit publisher's alleged intrusive approach to running the journal. The withdrawn and unpublished editorial from former editor-in-chief Peter Lloyd (2023) reads: "at the beginning of this year [2023] Elsevier, the publisher of Design Studies, suggested that the journal was not publishing enough papers. From around 35 published papers a year a target of 250 papers was mooted. With around 600 submissions a year, many of which are wildly unsuited to Design Studies, this was at best extremely ambitious". According to Quelette (2024), at the end of 2024, the whole editorial board from Elsevier's journal "Evolution" resigned due to very similar reasons as well.

This whole situation exemplifies quite well why we believe it to be of such importance to preserve and develop a project for data sovereignty. To concede autonomy on this issue is, in our opinion, to give private entities the power to influence how Brazilian research will be made and evaluated.

CONCLUSION

Throughout this study we sought to characterize the profile of Brazilian scientific journals in relation to their indexing (or lack thereof) in Scielo, Scopus, and Web of Science, and to examine the potential implications of Capes's announced changes to the evaluation of Brazilian scientific production. Our results show that 83% of the Brazilian journals included in our analysis are not indexed in any of these databases, with substantial differences among knowledge areas. This suggests that a transition towards citation-based evaluation would face serious difficulties of practical implementation and cannot be considered a neutral change, since it may disproportionately affect areas in which publication in indexed journals is less common.

Our findings also indicate that the discussion surrounding the new evaluation model should not be reduced to a choice exclusively between Qualis and bibliometric indicators. Therefore, strengthening Brazilian scientific journals and supporting their transition towards indexing; investigating the reasons and finding ways to deal with the differences in publication preferences and priorities between knowledge areas/PPGs; and maintaining national capacity to collect and evaluate scientific data, should all be considered complementary components of any change in the evaluation system.

Ultimately, we argue that replacing a national evaluation framework with indicators produced by private international companies raises not only methodological questions, but also questions concerning the autonomy with which Brazilian science is evaluated and developed. A robust and adequate evaluation system should, therefore, recognize differences among knowledge areas while also ensuring that the infrastructure used to evaluate Brazilian research remains transparent, accessible, and aligned with national scientific interests.

LIMITATIONS

Research efforts that rely on third-party databases which were not designed and populated to meet the specific objectives of the study in question must, invariably, deal with inconveniences and limitations. Inconveniences can be worked out, and should not affect data quality, such as formatting issues. Such procedures are commonplace in this type of investigation, even having specific names to them: "data wrangling", "data munging", or "data cleaning". Limitations, however, might not be resolved,

and must be highlighted throughout the article. In the case of this study, the lack of uniformity in the ISSNs fields represented a considerable challenge, as this was central in our effort to merge the various different tables: WoS/Scopus/Scielo (from which we extracted citation counts); DOAJ (from which we extracted APCs); and Miguilim (from which we extracted the names and knowledge areas of national journals). Some journals had no ISSN but had an EISSN – as well as the other way around; some had the ISSN in one database listed under the EISSN column and under the ISSN column on another database; and so forth. Ideally, a centralized and officially endorsed database would have been used, but such a resource does not exist.

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