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International VS National Academic Bibliographies. A Comparative Analysis of Publication and Citation Patterns in Scopus, Google Scholar, and the Hungarian Scientific Bibliography

Gergő Háló[a,b] and Márton Demeter[a]

[a]Department of Social Communication, National University of Public Service, Budapest, Hungary; [b]Department of Communication and Media Science, Corvinus University of Budapest, Budapest, Hungary

ABSTRACT

Following academic globalization, successful integration into the international research community is a fundamental interest for all participating countries. The success of these internationalization processes, however, are often under scrutiny, and the results are rarely unequivocal. This holds true for Central and Eastern Europe, which usually is described as a semiperipheral region of global knowledge production. Analyzing the publication and citation indices of 365 Hungarian social scientists in one national (Hungarian Scientific Bibliography) and two global (Scopus, Google Scholar) databases, we explicate the current international impact of Hungarian academic research while exploring pivotal factors behind the major differences between databases. Our results indicate that Hungarian scholars lag behind their peers in neighboring countries, necessitating effective policy measures. To this end, the analysis recommends the use of standardized global publication databases instead of national datasets, while still acknowledging the shortcomings of the latter in research assessment protocols.

Introduction

The increasing internationalization of academic research is generated by a complex set of economic, political, and policy factors as well as by scientific components in a narrower sense. Scholars argue that the globalization of academia seems to share the dynamics of the globalization process of economy that has been extensively criticized by, among others, dependency theorists and world-system researchers (Demeter, 2019b; Wallerstein, 1974a, 1974b, 1979, 1983, 1991). Compared to the North American and Western European regions, the academic internationalization of other world regions,

CONTACT Gergő Háló ✉ halo.gergo@gmail.com 🖃 National University of Public Service, 1083 Ludovika sq. 2, Budapest, Hungary.

including Central and Eastern Europe (CEE) is often less successful, or even controversial (Demeter, 2017). In fact, at all levels of academic knowledge production—including publication output, citations, usage, theorization, and editorial board membership—there is a significant underrepresentation of non-Western regions (Demeter, 2017, 2018a, 2018b). Furthermore, these disproportionalities seem far more intensive in social sciences and humanities (SSH) compared to the natural sciences, where cultural and epistemic differences play a somewhat less significant role (Demeter, 2019a).

Although recently internationalization appears to be a strategic goal within the CEE, there is substantial resistance from within the academic field, where especially those holding higher academic positions are trying to maintain the "good old ways" (Havas & Fáber, 2020). It is clear, that the members of older academic generations (Kwiek, 2017) who currently hold senior positions had far fewer opportunities to increase their international visibility, and thus the introduction of frameworks linking positions to international excellence would greatly reduce their influence. Narratives questioning the legitimacy of international standards are therefore inevitably emerging and spreading. One such narrative is that national researchers should favor national topics with national societal relevance, and the results, especially in the case of relatively small and peripheral countries such as Hungary, cannot be published in international journals. Therefore, it is argued that international excellence should not be a significant factor of research assessment. However, despite the personal resistance of some—or even a larger number of—researchers, the results of several internationalization programs such as the Spanish (Fernández-Quijada & Masip-Masip, 2013) or Chinese (Xu, 2020) academic reforms indicate not only that internationalization strategies have increased the international visibility and thus the scientific influence of these countries, but that researchers themselves ultimately identified with both the purpose and the means of these reforms.

Within this article, we provide an analysis of the publication and citation indices of 365 Hungarian social scientists as they appear in one national (Hungarian Scientific Bibliography) and two international (Scopus, Google Scholar) databases. The aim is to explicate the current international impact of Hungarian academic research whilst exploring correlations between different databases to serve as basis for future policy making. First, we give a brief overview of the current internationalization processes within the CEE and Hungary, as well as the idiosyncratic database MTMT (Hungarian Scientific Bibliography), that serves as the basis for domestic research assessment. Second, we formulate our research questions and describe our methodology. Third, we provide a detailed description with regard to our

result. Finally, we formulate conclusions and recommendations for local policymaking and researchers, propagating a dual critique that attacks both the market-like logic of the university ranking paradigm that reproduces global inequalities in academia, as well as the local academic assessment protocols that lack transparency, objectivity, and promote informalities. Limitations of the study are also mentioned in the concluding sections.

Internationalization of academic publication in CEE

Following the aforementioned academic globalization, policymakers in many CEE countries voted in favor of internationalization, and the process of CEE transformation is of great interest even outside the region. In 2017, one of the leading journals of higher education, the *European Educational Research Journal*, published a special issue about studies on research and higher education reforms in CEE. The transformation is interpreted in a broader European context by Antonowicz, Kohoutek, Pinheiro, and Hladchenko (2017) and traced back to the Lisbon Strategy, in which increasing research excellence and the quality of higher education is a key policy aspect. In the emerging discourse of research excellence, scientific publications increasingly appear as dominant criteria. However, excellence measured via output has been problematic for the academic environment of CEE from the outset. As Boyadijeva (2017) states, the privileged role of personal relationships in the region, the political entanglement, and the larger gap (compared to the Western world) between research being conducted mainly at institutes and teaching happening at universities are all part of the post-communist heritage. The underfunding of the region is particularly pronounced, and so scholars argue that international-level science should be underpinned by international funding (Dobbins & Kwiek, 2017; Kwiek, 2012). Researchers are also warning that the aforementioned issues—if not addressed urgently—could completely detach the Eastern European region from the growing European research array (Karady & Nagy, 2018; Kwiek, 2014; Warczok & Zarycki, 2018). For that reason, many countries in the region are beginning to realize the need to become more competitive within the international academic field, which can serve not only to increase the attractiveness of the country's scientific and higher education institutions, but as a prerequisite for successful external funding as well (Kohoutek, 2009; Wodak & Fairclough, 2010). Whether we approach the globalization of academic research with hopeful enthusiasm or critically, there is no point in denying the mere fact of internationalization and so the need of adjusting to an increased competition it brings forward. In Western European countries, international publication (that is, internationally visible and indexed publication) is already a highly

propagated requirement in university research positions. This, most likely, stems from the prevailing university ranking paradigm; including the fact that the most renowned international university rankings (i.e., QS, THE, ARWU)—as well as the most influential international research funds' allocation protocols—pay special attention toward internationally indexed output of the staff when evaluating institutions (Ianoş & Petrişor, 2020; Oancea, 2019). For that, CEE countries—alongside other peripheral and semi-peripheral regions with less funded research economies—are necessitated to adjust to international trends of research assessment in order to stay competitive, despite the apparent systematic shortcomings of these dynamics (Demeter, 2017; 2020; Gadd, 2020).

Consequently, to increase competitiveness, research assessment factors like those applied in Western regions appear in these countries, typically as requirements for publication excellence measures (e.g., number of publications, research productivity, place and citation count of publications, research performance; Dobbins, 2011; 2015; Froumin & Smolentseva, 2014; Kwiek, 2014). Analyzing research assessment reforms in three CEE countries (Serbia, Montenegro, and Slovenia), Popovic, Pekovic, and Matic (2019) indicated that, albeit to varying extents, publication in journals on Web of Science's SSCI list has become mandatory in all of them. Similar trends seem to be emerging in Hungary, where several universities reward—or even directly require—publication in Scopus-indexed international journals, and international criteria of excellence have appeared in both university career models (Sasvári & Urbanovics, 2019) and in the assessment protocols of scholarly funding allocations (Győrffy, Herman, & Szabó, 2020).

The Hungarian Scientific Bibliography

The idiosyncratic database, the Hungarian Scientific Bibliography (MTMT) that is primarily used for official research assessment, is of limited use when assessing international excellence. One of the most prominent shortcomings of MTMT is that data is uploaded by the authors without an external audit. This brings about least two problems. First, authors may enter the data incorrectly and so the database—that now contains incorrect information—will inevitably distort the output of the assessment. Second, although frequent updating is mandatory, authors may neglect their MTMT profiles, rendering the information incomplete. There are numerous possible alternatives to MTMT. These are typically Scopus, The Web of Science, or Google Scholar (GS), where author profiles are not fully manually edited, and thus provide more reliable data. The practice of Hungarian universities and grant allocators to use MTMT data in assessment and

decision-making is certainly debatable, as it implicitly promotes a system that is relatively independent of international visibility. Notwithstanding, the fact that international excellence criteria progressively appear in the discourse and the concrete implementations related to academic progress (Berács et al., 2017) indicates that, within the world-system of scientific globalization, Hungary is taking steps toward international participation rather than toward isolation.

Research questions and methodology

Focusing on the fields of social sciences and humanities (SSH), we aim to scrutinize the international visibility indicators of the members of the Hungarian research community who are able to devote a large part of their work to research. To this end, we formulate the following research questions:

Research Question 1 (RQ1): How does the international visibility of Hungarian SSH scientists appear in terms of the proportion of international publications to the total publication output, and citations visible at the international level?

Research Question 2 (RQ2): How do international publication patterns of Hungarian SSH scientists compare with other countries' output in the region?

Furthermore, considering major differences between scientific databases, and the assumed misrepresentation of international visibility in MTMT, we formulate an additional research question:

Research Question 3 (RQ3): How do the publication and citation patterns of Hungarian SSH scientists correlate between different publication databases (i.e., MTMT, Scopus, and GS)?

Dataset

Data was drawn from the database of Tóth and Demeter (2021) containing the list of employees of the most relevant academic (ELKH) and governmental research institutes from 2019 in social sciences and humanities. A further check revealed that several researchers had relocated to other institutes since 2019. However, as we did not examine the output of individual academic institutes, but of researchers in specific disciplines, these changes hold no significance for our inquiry. It is noteworthy that differentiating between researchers and academics in general is especially important in the Hungarian context. In Hungary, as in many other CEE countries, research is traditionally conducted in academic research institutes, while the research expectations of university lecturers are significantly lower. Therefore, it can be assumed that the publication patterns found among members of

research institutes reflect the output of the most successful researchers (with the most research time), whereas the publication output of university staff is probably lower.

Overall, we analyzed researchers in a total of six institutions at ELKH with a focus on fields as *linguistics, history, law, art history, political science,* and *sociology* (see Appendix A for detailed coding protocol). Given the predominantly research-oriented profile of these academics, we assume that their scientific output provides the patterns of the research elites of these areas (MTA, 2019). We initially planned to compare measures from three databases: MTMT, Scopus, and GS; however, we could only use the latter to a limited extent.

The maintenance and regular updating of one's MTMT profile is mandatory for all Hungarian researchers and academics, therefore we used these profiles for all researchers. According to our methodological decision, we have accepted the input data as author's input, recognizing that such data do not necessarily refer to reality, but to the representation recorded by authors.

Unlike MTMT, records in Scopus can generally be considered objective and to represent visibility regardless of author manipulation. Data cleansing was done in the case of Scopus only when an unverifiably large number of authors were associated with one—usually very common—name and the identity of the original researcher could not be clearly established ($n = 3$). In some cases ($n = 4$), also in cases of common names, the profiles of several authors were incorrectly conjugated, as could be easily ascertained from the occurrence of disciplinary anomalies (e.g., an art historian who is also assigned articles related to cancer research or solid-state physics). After data cleansing, 365 of the original 372-person sample remained.

Unlike MTMT and Scopus, there is no theoretical grounds on which to reasonably assume the existence of any given researcher's GS profile, as the creation of such is neither mandatory (as for MTMT) nor automatic (as for Scopus). GS is, in many ways, mixed: the profile must be created by the researcher (who can even add manual entries), but the assignment of citations is automatized. Nevertheless, it uses far more sources than Scopus does, collecting them in virtually any language and from any outlet (e.g., books, journal articles, book chapters, conference publications, dissertation, etc.) that can be found digitalized on the Internet. However, due to its optional nature, only a part of the sample ($n = 113$) had a GS profile. For that reason, correlations between records on the three databases could only be supplemented on a smaller sample, maintaining that measures of the smaller sample are not necessarily representative of the whole.

We also examined how Hungarian, Russian, Polish, Czech, Slovenian, Croatian, and Romanian researchers perform on the European TOP 500

Table 1. Normality test of variables in the entire sample.

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Number of MTMT documents	.199	365	.000	.669	365	.000
Number of MTMT citations	.266	365	.000	.593	365	.000
MTMT H-index	.118	365	.000	.827	365	.000
Number of Scopus documents	.257	365	.000	.647	365	.000
Number of Scopus citations	.377	365	.000	.325	365	.000
Scopus H-index	.267	365	.000	.698	365	.000

[a]Lilliefors significance correction. MTMT = the Hungarian Scientific Bibliography.

SciVal list of the given fields. In each field, a certain number of publications is required to be included on the list. Therefore, the number of researchers on the list from the same country is instructive in a comparative manner.

Analysis and results

International visibility of Hungarian SSH research

The normality test for distribution clearly indicates that for variables based on data from both the MTMT and Scopus, hypotheses of normal distribution should be rejected (Table 1). Due to the non-normal distribution, we report median values instead of the means, as the latter tend to indicate distorted results in such cases (Table 2).

The results show, albeit to a varying extent, severely low proportions of Scopus-indexed international publications in all disciplines examined. In this regard, with 99% of their total output being virtually invisible in Scopus, and with the median of Scopus citations—and thus the median of H-indices—converging to zero, the fields of history and art history seem to perform the worst. To make the publication outputs easily comparable, Table 2 also indicates normalized values for 100 researchers (what output the given discipline would have for 100 researchers). The data shows that although historians and art historians publish quite a lot, they do it almost exclusively in outlets invisible to Scopus. For instance, historians in general publish more than twice as much as linguists, but the number of their internationally visible publications is less than half that of linguists.

Legal researchers, political scientists, and sociologists perform the best in terms of international output. However, medians are relatively high only in the cases of the latter two, which means that a few top-performing researchers in law increase the output of the entire field, whilst among political scientists and sociologists, a larger proportion of authors are regularly publishing in international outlets. Similar trends are seen in the case of linguistics, where—despite the large number of documents—Scopus medians are relatively low, indicating extremely unequal publication

Table 2. Descriptive statistical results.

	Linguistics	History	Law	Art history	Political science	Sociology	Aggregated
n	105	101	48	27	39	45	365
Number of MTMT publications	6,097	12,812	6,688	3,681	3,497	5,795	38,570
Normalized ($n = 100$)	5,806	12,685	13,983	13,633	8,966	12,877	10,567
Median of MTMT publications	33	100	80	75	67	112	75
Median of MTMT citations	100	192	132	59	132	248	152
Median of MTMT H-index	5	7	6	4	6	9	6
Number of Scopus publications	494	190	211	55	272	351	1,573
Normalized ($n = 100$)	470	188	440	204	697	780	431
Median of Scopus publications	2	1	3	1	6	6	2
**SciVal TOP 10	45	12	14	NA	29	29	26
Median of Scopus citations	1	0	1	0	10	12	1
**SciVal TOP 10	411	5	15	NA	244	244	184
Median of Scopus H-index	1	0	1	0	2	2	1
**SciVal TOP 10	12	2	2	NA	8	8	6
Scopus visibility rate (%)	8	1	3	1	8	6	4
Scopus citation rate (%)	16	1	3	1	11	16	6

MTMT = the Hungarian Scientific Bibliography.

patterns. Notwithstanding, data on the top performing Hungarian authors (SciVal TOP 10) also indicate that these low values cannot be explained by the notion that Hungarian authors working at Hungarian institutes are by default unable to publish in places visible to Scopus. In fact, the publication output of the top performing Hungarian authors working in Hungary are several times higher than the median values of the sample examined, both in terms of scientific output and citations. Therefore, publishing in internationally acknowledged, Scopus-indexed outlets is clearly possible for Hungarian social scientists and humanities researchers, just as it is also possible to create a context for being regularly cited—which requires, of course, visible publications.

Due to the power function distribution of variables, the examination of distribution curves is also instructive, as it indicates that—especially in Scopus—the visibility of a discipline is owed almost exclusively to the work of a few researchers in the field (Figure 1).

Distributions show that the field is far from homogeneous, as a small group of authors generate most publications and citations. Distributions are most imbalanced in the data of Scopus, where most of the authors have zero or minimal output. Of the total sample ($n = 365$), 209 researchers (57%) have at most two Scopus-indexed items, of which 107 (29%) have no visible work listed in Scopus. However, there are significant differences between the disciplines examined: among historians, the proportion of researchers with no more than two items visible in Scopus is 76%, and almost half of the authors in total (49%) have no output in Scopus at all. Only art historians seem to perform worse, where the proportion of those with no more than two Scopus items is 85%, notwithstanding, the proportion of completely invisible researchers among them is only 33%. Political scientists perform the best here as well: the proportion of those with no
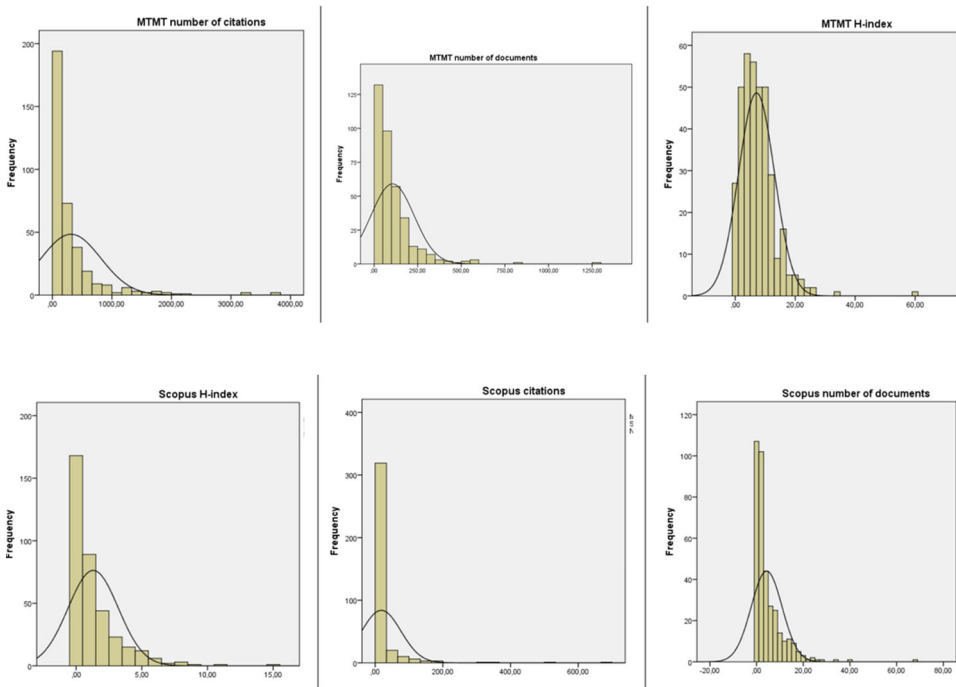
Figure 1. The correlation of data between Google Scholar, the Hungarian Scientific Bibliography (MTMT), and Scopus.

more than two items is 31 and 33%, while only 10 and 2% of authors are invisible. However, the most radical disproportion is shown not in the number of Scopus items, but in the number of Scopus citations: almost half of the total sample (46%) was never cited in Scopus items, and the proportion of those with no more than two citations is close to 60%. The differences between disciplines are also distinctive here: 70% of historians in the sample have no Scopus citations at all, and the proportion of authors cited no more than twice is 80%. The same proportions are 43 and 59% for linguists, 44 and 65% for legal researchers, 79 and 85% for art historians, 15 and 31% for political scientists, and 11 and 18% for sociologists. Accordingly, the distribution of Scopus H-indices is extremely imbalanced: more than 70% of the researchers examined have an H-index of no more than 1, and the proportion of authors with H-indices higher than 5 is only 2%.

Regional comparison

As a comparative test of the region, we measured the performance of Hungarian authors against that of researchers from Hungary's neighboring countries in the same disciplines. As in Scopus/SciVal, fields of political science and sociology are categorized as one, values obtained here were

Table 3. International publication output of the best performing researchers in a regional comparison.

SciVal 2018–2021	Linguistics	History	Law	Political Science + Sociology
Europe Top 500	Min. 8	Min. 6	Min. 6	Min. 9
Russia	39	233	18	27
Poland	28	5	8	9
Czech Republic	11	4	10	9
Slovenia	10	13	4	1
Croatia	0	5	2	4
Romania	0	23	0	0
Hungary	6	0	1	2

interpreted for both disciplines. In the case of art history, which lacks a suitable Scopus category, the comparison could not be made (Table 3).

Table 3 indicates that researchers from countries neighboring Hungary are more likely to be included on SciVal's Top 500 European list based on their productivity visible in Scopus and, thus, internationally. In Hungary, for instance, there is no historian whose performance is sufficient enough to be included, while such researchers are found in all the other countries examined. For example, in Romania, 23 historians write enough international articles to be among the 500 most productive researchers, and even in Slovenia—a relatively small country compared to Hungary—13 historians excel in productivity at a European level. The argument that national topics cannot be published internationally is, therefore, unconvincing, because if Polish, Czech, Slovenian, Croatian, and Romanian researchers—not to mention Russians, of course—succeed in doing so, it is certainly, with the right habitus, a possibility for Hungarian authors as well. According to Table 3, Hungarian researchers lag behind their Russian, Polish, Czech, and Slovenian colleagues in most of the fields of study, and since the measurements refer to the individual research level, the size of the foreign research institutions is not an important factor here. Based on this, it is reasonable to assume that the habitus of not only the best European researchers in general, but also of the authors in the region is more oriented towards internationally visible publication than that of their Hungarian colleagues, and so there is certainly room for improvement.

Correlations between different scientific databases

In addition to the differences between records of the databases examined (i.e., descriptive statistical analysis), we investigated correlations between the two complete databases (MTMT and Scopus) for the measured variables (Table 4). Correlations were also calculated within the subsample that had a GS profile (Table 5). Since our variables were not normally distributed, nonparametric tests were performed in both cases (Spearman's Rho).

Table 4. The correlation of data between Scopus and MTMT.

Scopus/MTMT correlation	Linguistics	History	Law	Art history	Political science	Sociology	Aggregated
n	105	101	48	27	39	45	365
Document count	.633**	.258**	.397**	.457**	.455**	.370*	.377**
Citation count	.590**	.293**	.293**	.575**	.322**	Not significant	.316**
H-index	.596**	.318*	.298**	.574**	.320**	Not significant	.319**

MTMT = the Hungarian Scientific Bibliography. **Correlation is significant at the 0.01 level. *Correlation is significant at the 0.05 level.

Tables 1 and 2 show a positive correlation between Scopus and MTMT data for the total sample, however, the correlation is weak for both the number of documents, the number of citations, and the H-index, as Spearman rho values below 0.4 are weak for both positive and negative correlations (Prion & Haerling, 2014). Differences between disciplines are, once again, significant: the correlation coefficients are the highest in linguistics and lowest in history, but there is no significant correlation between MTMT and Scopus data for sociologists in terms of citation or H-index. The partial sample—including records of GS—indicates that MTMT data correlate more strongly with GS than Scopus for all three variables: coefficients reveal a moderate positive correlation of document count, and strong positive correlations of citation count and H-index between the two databases. Overall, GS and MTMT tend to present a similar picture—at least for researchers who have created a Scholar profile for themselves—whereas Scopus data cannot be reliably inferred from records of MTMT or vice versa.

Discussion and recommendations

Based on our results, we can say that, for Hungarian scholars, the representation of the analyzed SSH fields in international, indexed, transparently recorded, and accessible (e.g., for assessment systems and university rankings) publications is very low. In general, notwithstanding disciplinary differences, the vast majority (96%) of publications are invisible in Scopus and thus are lost to international assessment systems. Therefore, only 4%—in some fields, as little as 1%—of the published articles are included in the international representation of the Hungarian scientific output. Accordingly, the proportion of international citations to Hungarian research is negligible, as lower visibility generates a lower scientific impact. Our research also indicates that this cannot be explained by general assumptions that national science is unpublishable in international outlets of Anglo-Saxon traditions. We showed that both the most successful Hungarian researchers and the internationally visible authors of the countries neighboring Hungary can generate significant Scopus visibility, and so we conclude that the low international scientific output of Hungary is

Table 5. The correlation of data between Google Scholar, MTMT, and Scopus.

Correlations

			MTMT publication count	MTMT citation count	MTMT H-index	Scopus publication count	Scopus citation count	Scopus H-index	Google Scholar citation count	Google Scholar H-index
Spearman's rho	MTMT publication count	Correlation Coefficient	1,000	.725**	.687**	.289**	.244**	.240*	.462**	.446**
		Sig. (2-tailed)		.000	.000	.002	.009	.011	.000	.000
		N	113	113	113	113	113	113	113	113
	MTMT citation count	Correlation Coefficient	.725**	1,000	.916**	.472**	.451**	.461**	.700**	.696**
		Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.000
		N	113	113	113	113	113	113	113	113
	MTMT H-index	Correlation Coefficient	.687**	.916**	1,000	.485**	.461**	.469**	.658**	.679**
		Sig. (2-tailed)	.000	.000		.000	.000	.000	.000	.000
		N	113	113	113	113	113	113	113	113
	Scopus publication count	Correlation Coefficient	.289**	.472**	.485**	1,000	.905**	.881**	.678**	.706**
		Sig. (2-tailed)	.002	.000	.000		.000	.000	.000	.000
		N	113	113	113	113	113	113	113	113
	Scopus citation count	Correlation Coefficient	.244**	.451**	.461**	.905**	1,000	.977**	.703**	.735**
		Sig. (2-tailed)	.009	.000	.000	.000		.000	.000	.000
		N	113	113	113	113	113	113	113	113
	Scopus H-index	Correlation Coefficient	.240*	.461**	.469**	.881**	.977**	1,000	.706**	.744**
		Sig. (2-tailed)	.011	.000	.000	.000	.000		.000	.000
		N	113	113	113	113	113	113	113	113
	Google Scholar citation count	Correlation Coefficient	.462**	.700**	.658**	.678**	.703**	.706**	1,000	.956**
		Sig. (2-tailed)	.000	.000	.000	.000	.000	.000		.000
		N	113	113	113	113	113	113	113	113
	Goodle Scholar H-index	Correlation Coefficient	.446**	.696**	.679**	.706**	.735**	.744**	.956**	1,000
		Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	
		N	113	113	113	113	113	113	113	113

**Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level (2-tailed).

primarily due to a specific domestic habitus unfavorable toward international visibility (Sasvári, Bakacsi, & Urbanovics, 2021), and not, or at least not significantly, to the often-voiced impossibility of conditions.

Our research also offers results worth considering about MTMT (and more generally, any idiosyncratic national publication database) and its applications in research assessment, as well as in academic promotion protocols. The data indicates that a high proportion of researchers with MTMT profiles that show immense productivity are virtually invisible in Scopus. It is at least questionable if the institutional application of MTMT by default supports a habitus that promotes the easy way instead of international excellence. Notwithstanding, the strong correlation between GS and MTMT data indicates that the creation of GS profiles could be propagated even via policy measures, as they include not only international but also Hungarian research and citations, whilst in the case of records not being submitted directly by the authors, there is a lower possibility of human error in data collection. However, as making a GS profile is not automatic and individual researchers—or their institutions—must register, an official and mandatory requirement for scholars to make GS profiles may raise considerable questions regarding scientific integrity.

Finally, the fact that for many researchers there are significant differences between the citations in MTMT and on GS (at times, a difference of hundreds or even thousands) raises serious questions. Of these, the easier to understand cases are when the number of Scholar citations exceeds the number of MTMT citations (in these cases, the author obviously does not maintain the MTMT profile up-to-date and so citations are left out). The opposite case, however, when the number of MTMT citations exceed the number of citations seen by Scholar by hundreds or even thousands, is more difficult to interpret, because GS, in principle, notices all citations that appear online in any form. Thus, MTMT overcitation can only occur if recorded citations come from publications that cannot be found online at all. This, of course, raises questions about how hundreds and thousands of these citations can be acquired, and how these records could be verified at all. It is no coincidence that in international practice, researchers increasingly indicate their number of citations via links to their research profile on online, automated platforms (i.e., GS, Scopus/SciVal, Publons, Mendeley, Semantic Scholar, IMpactU, etc.), for data within these systems are transparent, easily verifiable, and suitable for benchmarking. In the case of MTMT—and most likely many other national databases—these conditions are not sufficiently met due to the author-reliant data entry protocol.

Based on our results, and in line with the relevant literature discussing the improvement of higher education institutions' competitiveness (Aguinis, Yu, & Tosun, 2021; Walsh, 2011), we propose that—in the case

of countries with national bibliographic databases—clear frameworks should be introduced in research planning, research funding, and research assessment, highlighting the importance of enhancing international visibility, therefore, whilst taking disciplinary differences and domestic particularities in account, being largely in line with the international practices to achieve a better international position. Furthermore, we propagate the use of standardized global publication databases instead of national datasets for research assessment protocols. This, of course, also requires that higher standards be applied for Scopus articles and citations compared to those of local database entries (e.g., MTMT; Sasvári & Urbanovics, 2021). Such incentives may encourage researchers to publish articles visible in Scopus, as they can not only achieve higher scores in assessment, but also bypass possible errors resulting from manual data entry. These recommendations are, of course, only beneficial if they are applied in a transparent, fair, and competitive way at all levels of the scientific field, including academic job applications, promotions, appointments to key positions, research grants, or scholarships. The development of predictable frameworks and confidence in their correct and transparent application may promote an academic habitus, which can significantly increase the visibility of CEE social sciences, elevating the international competitiveness of domestic higher education institutions.

Limitations and the future of CEE research

As mentioned in the beginning, CEE countries—alongside other peripheral and semi-peripheral regions with less funded research economies—are necessitated to adjust to international trends of research assessment promoted by international university rankings and research funds in order to keep their heads above water, despite the apparent systematic shortcomings of these dynamics (Ianoş & Petrişor, 2020; Oancea, 2019). For most of the methodological decisions of our current study were based on this prevailing market-like perspective, we feel obligated to address the weaknesses of current academic research assessment protocols along with the associated limitations of this analysis.

On one hand, there are particular shortcomings regarding the coverage of international databases such as Scopus. These limitations are especially problematic in the more culturally contextualized fields of arts, humanities, and social sciences (e.g., fields of this study; Art History and History), as compared to STEM. Furthermore, in many of these fields, book chapters and monographs are still very dominant publication outlets and, therefore, conceptualizing publication output merely based on high-JIF (Journal Impact Factor) publications most probably hinders adequate assessment.

After that, these aspects not only question the prevailing assessment dynamics, but also limit our analysis, as, for instance, correlation measures between MTMT and Scopus could also be easily hindered. A similar argument can be raised with regards to h-index, for although it is less and less viewed as an appropriate or meaningful research evaluation metric, it is still propagated in international databases such as Scopus. Therefore, the inclusion of h-index as a variable in our analysis is more attributed to this latter, while at the same time we acknowledge and emphasize the limitations and skewed nature of this measure in research assessment protocols.

Within this study, we conceptualized visibility along the market-like perspective of the university ranking paradigm based on high-JIF publications to raise awareness of CEE's current underrepresentation in global academia. However, it is at least questionable, whether the protocols employed by these rankings are adequate, are based on meritocratic values, and, therefore, should be propagated at all (Gadd, 2020). Most recently, these dynamics are being criticized along the line of the *San Francisco Declaration on Research Assessment* (DORA, 2012), an initiative that recognizes the need to improve the ways researchers and the outputs of scholarly research are being evaluated and calls for placing less emphasis on publication metrics and becoming more inclusive of nonarticle outputs. Gadd (2021) highlights fundamental critiques stated in the DORA regarding journal metrics and university rankings, including problems with construction of these rankings (e.g., they use poor proxies for evaluating the quality of education, most often overlook societal impact of universities, and the data sources they use are typically biased towards the global North), as well as the validity and their academic impact. The truth, as she notes (Gadd, 2021), is that "that the 'top' universities are mainly top at being old, large, wealthy, English-speaking, research-focussed and based in the global north" (p. 2). Similar concerns regarding systematic disparities are also raised by peripheral scholars with regards to alternative business models that are supposed to serve their interests. For instance, OA (Open Access) publishing, although a promising tool when considering citation advantage, seem not to by-pass the apparent systematic problems of global academic knowledge production regarding geopolitical inequalities (Demeter, 2019c; Demeter & Istratii, 2020).

Taking all this into consideration, we argue—from a CEE perspective—that we need to be critical both toward the central academic dynamics motivated by the university ranking paradigm that result in the constant reproduction of global inequalities, as well as those local academic assessment protocols that lack transparency, objectivity, promote informalities, and, therefore, hinder the integration into the international research community, the international competitiveness of local HEIs, and render the career path of individual, especially young, researchers unpredictable. We

argue that criticism of global inequalities and urging self-critical renewal together mark two sides of a single dynamic that promotes development. Conceptualizing excellence and visibility along the lines of university rankings and high-JIF publications are apparently problematic. However, in order for peripheral scholars to be able to raise their concerns in a meaningful way, they need to make an impact; we need to be at least visible from a central perspective to propagate actual change.

Disclosure statement

ORCID

Gergő Háló ⓘD http://orcid.org/0000-0002-7656-4043
Márton Demeter ⓘD http://orcid.org/0000-0002-9888-9682

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Appendix A

The following variables were used for the analyses:

<name> the name of the researcher

<discipline> 1 = linguistics; 2 = history; 3 = law; 4 = art history; 5 = political science; 6 = sociology. The basis for determining the discipline is the institute to which the researcher was affiliated (we did not investigate the objectively undecidable question of whether x is *actually* a historian, but only whether x worked at the Institute of History of the Hungarian Academy of Sciences at the time of data collection).

<number of MTMT documents> Collected from the MTMT database, counting only scientific publications (i.e., journal articles, books, edited books, book excerpts, abstracts, conference papers, and other scientific papers).

<number of MTMT citations> Collected from the MTMT database, counting only citations of scientific publications, including self-citations, as those are not separated in Scopus or Google Scholar either.

<MTMT H-index> Collected from the MTMT database and, in line with the aforementioned, factoring in only the citations to scientific publications.

<Number of Scopus documents> Collected from the Scopus database for the entire oeuvre, counting all indexed documents (i.e., journal articles, book chapters, books, conference articles, book reviews, etc.).

<Number of Scopus citations> Collected from the Scopus database for the entire oeuvre.

<Scopus H-index> Collected from the Scopus database for the entire oeuvre.

<Number of Google Scholar citations> Collected from the Google Scholar database for the entire oeuvre.

<Google Scholar H-index> Collected from Google Scholar database for the entire oeuvre.

Google Scholar does not count documents, so no data concerning document count has been collected here.

<Scopus visibility rate> The ratio of the total publication record to the record also visible in Scopus.

<Scopus citation rate> The ratio of the total citation record to the record also visible in Scopus.

Scopus measures were applied on two different samples to aid international comparison.

<top 10 sample> Data (Scopus article count, Scopus citation count, Scopus H-index) of the authors with the most publications in Scopus in the examined fields and within the most recent period (2018–2021) according to SciVal.

<regional sample> We examined how Hungarian, Russian, Polish, Czech, Slovenian, Croatian, and Romanian researchers perform on the European TOP 500 SciVal list of the given fields. In each field, a certain number of publications must be met to be included on the list, so we examined how many researchers of each country meet these preconditions. We believe this method to be more suitable for comparing the habitus of researchers than both institutional-level (as the number of researchers at different institutions may radically vary) and expenditure-level measurements (since it is impossible to know how expenditures are being distributed among research units and researchers). At an individual-level comparison, we measure (and compare) only the best performing researchers, regardless of the size of the institution they work for.