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Ranking economic history journals: a citation-based impact-adjusted analysis

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Abstract This study ranks—for the first time—12 international academic journals that have economic history as their main topic. The ranking is based on data collected for the year 2007. Journals are ranked using standard citation analysis where we adjust for age, size and self-citation of journals. We also compare the leading economic history journals with the leading journals in economics in order to measure the influence on economics of economic history, and vice versa. With a few exceptions, our results confirm the general idea about what economic history journals are the most influential for economic history, and that, although economic history is quite independent from economics as a whole, knowledge exchange between the two fields is indeed going on.

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1 Introduction

Scholars are increasingly being judged based on the quantity and quality of their research. Economic historians are no exception. The need for evaluating researchers, for recruitment purposes as well as funding decisions, has called for proper means of appraising the scientific quality of their journal publications. A vast and growing body of studies in economics seeks to produce ever more sophisticated means with which to measure the scientific impact of a journal. In the field of journal ranking, the most common method used is citation analysis (see, among others, Liebowitz and Palmer 1984; Laband and Piette 1994; Kalaitzidakis et al. 2003; Palacios-Huerta and Volij 2004; Kodrzycki and Yu 2006). Citation analysis normally relies on so-called impact factors. In its simplest version, a journal's impact factor reports, in a given year, the number of citations to articles published over the two previous years, relative to the number of articles published over the same period. Impact factors are regularly calculated by Thomson Scientific (formerly the Institute for Scientific Information) for a large variety of journals, and are reported annually in their journal citation reports (JCR).

Most economic history journals, however, do not appear in the JCR, creating this way a sort of dissatisfaction for the discipline. In 2007, only three economic history journals—*Economic History Review, Explorations in Economic History* and *Journal of Economic History*—were included in the JCR which thus ignores the bulk of journals that have economic history as their main field.[1] This makes it difficult to assess the scientific influence of most economic history journals, and to appraise the research quality of scholars who mainly or entirely publish in economic history journals that do not appear in the JCR. Hence, a citation analysis done on a proper set of academic economic history journals is called for.

What is more, since cluster analyses usually show that economic history is a relatively narrow and self-contained subfield of economics, and because the JCR captures the impact of a journal on *either* economics *or* history as a whole, it seems more appropriate to measure an economic history journal's scientific influence on its own field: economic history. Existing studies trying to do this, however, include too few journals to offer a comprehensive picture of the field, and they often group journals together, which makes it impossible to discriminate among journals within each class.

The current paper conducts a so-called *within-discipline* ranking. That is, we measure the scientific importance of economic history journals for their field. The ranking is based on a comprehensive set of international, academic journals

[1] The *European Review of Economic History* and the *Australian Economic History Review* will both appear in the JCR in the future.

(English-speaking, as well as non English-speaking ones) that have economic history as their main topic. The ranking is based on data collected for the year 2007. Journals are ranked according to a four-step procedure. We begin with (i) a crude citation count, after which we adjust for three types of biases: (ii) self-citation of the journal (reference to the journal itself may overestimate its scientific influence on the field as a whole); (iii) the age of the journal (older journals have published more articles and therefore tend to accumulate more citations); and (iv) the size of the journal (journals that publish more articles per year are likely to attract more citations).

To check the robustness of the ranking results, we then extend the analysis by four additional steps where we adjust for (v) self-citation of the authors (authors may cite their own work, not because it influenced their research, but to increase its diffusion); (vi) over-citation or multiple citation (a few highly cited articles tends to artificially boost up the scientific influence of a journal); (vii) reference intensity (citations received from journals that generate relatively few references are given more importance); and (viii) citation weight (citation received from highly ranked journals should weight more).

In addition to the *within-discipline* ranking described above, we also conduct a *between-discipline* ranking analysis where we compare the leading economic history journals with the key journals in economics in order to measure the influence on economics of economic history, and vice versa. Altogether, our results confirm—with a few exceptions—the general idea about what journals are most influential in economic history, and that, although economics and economic history are quite independent fields, they do indeed impact on each other.

The paper continues as follows. Section 2 explains in detail each step of the citation analysis; Sect. 3 describes the journal selection criteria and the data; Sect. 4 reports the statistical results; and Sect. 5 concludes.

2 Measuring a journal's impact

The *within-discipline* ranking procedure consists of a total of eight steps, the first four comprising the main ranking, the subsequent four making up the robustness analysis. Each step of the ranking procedure is common practise in impact-factor analysis in the field of social sciences. In the following, each of the eight steps are explained in detail.

2.1 Basic citation count and standard adjustment procedure

We start by counting the total number of citations made to each journal in the sample, i.e. we calculate

$$I(1)_{i,t} = \frac{\sum_{j=1}^{n} C_{ij,t}}{\max_{i} \sum_{j=1}^{n} C_{ij,t}}, \quad i,j = 1,\ldots n, \tag{1}$$

where $I(1)_{i,t}$ is the impact of journal i in year t; $C_{ij,t}$ is the number of citations that journal i receives from journal j in year t; n is the number of the journals included in the sample; the max operator is used to express the ranking results in relative terms, since it captures the value of the highest impact journal; and the number between parentheses on the left-hand side, i.e. 1, indexes the procedure's step. Since $C_{ij,t}$ is the number of citations received by articles published in journal i, Eq. 1 basically counts citations to a (cited) journal, in a specific year, from the (citing) journals of the sample (including the cited journal itself). The variable $I(1)_{i,t}$, can be also seen as measurement of a journal's cumulated impact, because it takes into account all citations to articles published by a given journal.

This impact, however, is heavily influenced by several factors, each of which creates a bias with respect to the phenomenon of interest. Therefore we implement some adjustment steps, that are commonly acknowledged as standard procedures in impact factor analysis (see, for instance, Kalaitzidakis et al. 2003). First, if the ranking is supposed to capture the scientific influence of a journal on its field, and not on itself, then self-citations of the journal needs to be controlled for.[2] This is obtained by modifying Eq. 1, so that the impact measurement becomes

$$I(2)_{i,t} = \frac{\sum_{j=1}^{n} C_{ij,t}}{\max_i \sum_{j=1}^{n} C_{ij,t}}, \text{ where } C_{ij,t} = 0 \quad \text{if } i = j, \quad \forall i,j. \tag{2}$$

Eliminating self-cites of the journal means assigning a null-value to the citation, if the citing journal is equal to the cited one. This leads the elements in the main diagonal of the n by n citation matrix to take on the value zero.

Second, older journals, as well as journals that publish more articles per year, are likely to attract more citations. To make the impact measurement comparable among journals founded in different years, we hold the age of the cited articles fixed, thus rewriting Eq. 2 as

$$I(3)_{i,t} = \frac{\sum_{j=1}^{n} C_{ij,t}^{t-4,t}}{\max_i \sum_{j=1}^{n} C_{ij,t}^{t-4,t}}, \tag{3}$$

where $C_{ij,t}^{t-4,t}$ is the number of citations from journal j to articles published over a 5-year period in journal i.[3]

Next, to take into account any differences in the size of journals, $I(3)_{i,t}$ can be expressed in per article terms, i.e. as

$$I(4)_{i,t} = \frac{\sum_{j=1}^{n} (C_{ij,t}^{t-4,t} / \sum_{t=-4}^{t} a_{i,t})}{\max_i \sum_{j=1}^{n} (C_{ij,t}^{t-4,t} / \sum_{t=-4}^{t} a_{i,t}),} \tag{4}$$

[2] Such adjustment step also corrects the bias due to authors who artificially produce citations to show that their research is akin to the topics of the journal which they intend to publish on.

[3] Kalaitzidakis et al. (2003) use the same time window. The ISI uses a 2-year window, which we find is a bit short for the field of economic history.

where $a_{i,t}$ is the number of articles published by journal i at time t.[4] Ultimately, $I(4)_{i,t}$ is the measurement upon which journals will be compared according to the main ranking.[5]

2.2 The robustness test

In the following steps we conduct a sensitivity analysis useful to check if the results of the main ranking are robust to additional control factors. The detail of our data permit us to eliminate the self-citations of authors. In this way we correct the bias due to authors who cite their work, not because it inspired their research, but to increase its diffusion. Define that $C_{ij,t}^{t-4,t} = \sum_{k \in j} c_{ik,t}^{t-4,t}$, where $c_{ik,t}^{t-4,t}$ is citation k produced from journal j to journal i. Rewriting Eq. 4, we can adjust for self-citation of authors using the following measurement:

$$I(5)_{i,t} = \frac{\sum_{j=1}^{n} \left(\sum_{k \in j} c_{ik,t}^{t-4,t} / \sum_{t=-4}^{t} a_{i,t} \right)}{\max_i \sum_{j=1}^{n} \left(\sum_{k \in j} c_{ik,t}^{t-4,t} / \sum_{t=-4}^{t} a_{i,t} \right)}, \tag{5}$$

$$\begin{cases} c_{ik} = 0 & \text{if } i\text{'s author} = k\text{'s author} \\ c_{ik} = 1 & \text{otherwise} \end{cases} \quad \forall i, k,$$

where the i's author is the author of the cited article in journal i, and the k's author is the author making the citation k from the article in journal j. According to this step, if the author of both the cited and the citing article is identical, then the citation is deleted.

In the next step, we adjust for articles being over-represented; i.e., we want to eliminate a bias created by the fact that one or a few articles are being extremely cited, which tends to overestimate the scientific influence of a journal. More precisely, since the impact-measure used is based on the average number of per article citations, the measurement becomes very sensitive to outliers. Extreme values, therefore, tend to skew the underlying distribution of citation rates, meaning the sample's mean value is not a good representative of its median.[6] Since the ranking is supposed to measure the influence of the *representative* article, outliers are removed. This is taken care of by turning Eq. 5 into

$$I(6)_{i,t} = \frac{\sum_{j=1}^{n} \left(\sum_{k \in j} z_{ik,t}^{t-4,t} / \sum_{t=-4}^{t} a_{i,t} \right)}{\max_i \sum_{j=1}^{n} \left(\sum_{k \in j} z_{ik,t}^{t-4,t} / \sum_{t=-4}^{t} a_{i,t} \right)}, \tag{6}$$

[4] Some researchers have sought to control for number of pages or characters published. Here, we follow the standard practice of adjusting for number of articles, which is motived by the fact that an article is the basic unit of citation.

[5] Impact measures provided by Thomson Scientific in the *Journal Citation Report* rely on a procedure largely similar to the one described above, except for the exclusion of self-citations and the time span.

[6] A journal's impact factor is not representative of its articles, because the citation rate of individual articles in the journal is not narrowly distributed around the mean value. This issue was previously pointed out by Seglen (1997).

where $z_{ik,t}^{t-4,t}$ is citation k to journal i from journal j, over the period considered, once outlier observations have been removed from the sample. We define an article as being an outlier, if its citation rate is above or below 1.5 times the interquartile range (IQR) of the distribution.[7] This adjustment step ensures that only the mass of the distribution is taken into account, while the observations falling in the tails of the distribution are excluded. If no outliers exist among the articles of the cited journal, then $I(6)_{i,t}$ becomes identical to $I(5)_{i,t}$.

A different issue is related to the length of the reference list of articles. A long reference list may reflect the fact that a paper includes some sort of a literature review section. Review sections often appear because authors (possibly encouraged by the editor) try to place their contributions into the context of a broad literature that did not necessarily inspire or influence the authors' original work. Following Palacios-Huerta and Volij (2004), therefore, we adjust for this bias by assigning a higher value to citations coming from journals that have relatively short reference lists. Accordingly, Eq. 6 is transformed into

$$I(7)_{i,t} = \frac{\sum_{j=1}^{n}\left(\sum_{k\in j} z_{ik,t}^{t-4,t} / \sum_{t=-4}^{t} a_{i,t}\right)/\left(\sum_{i=1}^{n} C_{ij,t}^{t-4,t}/a_{j,t}\right)}{\max_i \sum_{j=1}^{n}\left(\sum_{k\in j} z_{ik,t}^{t-4,t} / \sum_{t=-4}^{t} a_{i,t}\right)/\left(\sum_{i=1}^{n} C_{ij,t}^{t-4,t}/a_{j,t}\right)}, \tag{7}$$

where the notation has the same meaning as before. Equation 7 considers this way the average number of per article citations, received by the cited journal, out of the average number of per article references, produced by the citing journal, controlling, thereby, for the reference intensity.

Finally, following the procedure introduced by Liebowitz and Palmer (1984), citations coming from journals that are highly ranked should be attributed a higher value. In terms of knowledge diffusion, as well as exchange of ideas, "a journal's impact on highly influential journals is probably of greater value than its impact on less influential journals" (*ibid.*, p. 82). To make an account of this, in the final step we assign a different importance to the citing journal, weighting citations by means of an iterative procedure, which, after s iterations, is given by

$$I(8)_{i,t}^{s} = \frac{\sum_{j=1}^{n}\left(\sum_{k\in j} z_{ik,t}^{t-4,t} / \sum_{t=-4}^{t} a_{i,t}\right)/\left(\sum_{i=1}^{n} C_{ij,t}^{t-4,t}/a_{j,t}\right) \cdot I(8)_{j,t}^{s-1}}{\max_i \sum_{j=1}^{n}\left(\sum_{k\in j} z_{ik,t}^{t-4,t} / \sum_{t=-4}^{t} a_{i,t}\right)/\left(\sum_{i=1}^{n} C_{ij,t}^{t-4,t}/a_{j,t}\right) \cdot I(8)_{j,t}^{s-1}}, \tag{8}$$

where $I(8)_{i,t}^{0} = I(7)_{i,t}$. We repeat the iteration procedure until the results reach a convergence threshold, after which any improvement can be considered negligible.[8] The impact measurement given by $I(8)_{i,t}$ thus comprises (in the following order) adjustments for journal self-citation, age and size of the journal, author self-citation, over-citation, reference intensity and citation quality. Hence, $I(8)_{i,t}$ is the

[7] The IQR equals $R3_i - R1_i$, where $R3_i$ and $R1_i$ are the values of the upper and lower quartile, respectively, of the citation rates distribution. More precisely, we consider any observation falling outside the interval given by $[R1_i - 1.5 \cdot \text{IQR}, R3_i + 1.5 \cdot \text{IQR}]$ to be an outlier. We first calculate the n interquantile ranges for each journal's distribution, and then remove the outliers according to the different ranges.

[8] The threshold is set to 0.000001. The procedure reached convergence after 22 iterations.

measurement upon which journals will be compared for the purpose of robustness check of the main ranking described above.

3 Selection criteria and data description

Network analysis carried out by Leydesdorff (2004) demonstrates that the linkages between social science journals are less frequent than those characterizing journals in the natural science. Indeed, disciplines such as economics, psychology, or political science tend to interact only marginally. This may have to do with the fact that some social sciences accept the use of quantitative methods, while other rely on more hermeneutic interpretations, a matter potentially applicable to economic history versus economics. Along similar lines, some studies indicate that the field of economic history constitutes a separated cluster from the rest of the journals in economics included in the Social Science Citation Index. This, in turn, suggests that the field of economic history is relatively self-contained. Specifically, cluster analysis conducted by Pieters and Baumgartner (2002) shows that economic history journals receive most of their citations from their own field (i.e. economic history), while sharing only a few citations with journals belonging to a broader economics category. As will be discussed shortly, an analysis carried out below (the between-discipline analysis) tends to confirms this conclusion.

To begin with, we follow the standard procedure of ranking analysis by making the *citing* journals identical to the *cited* ones. In other words, we start by evaluating the influence of economic history journals for the field of economic history, thus performing a so-called *within-discipline* ranking. Further below we conduct a *between-discipline* analysis, where we compare the leading economic history journals to those of economics. As regards the selection of journals to be included in the *within-discipline* ranking, we found that the following matters were important. Economic history should be the main topic of the journal; its output should have a scientific nature; the journal needs to be available (on-line or in print); and it should publish original research articles. For these reasons, the main set of journals selected for the ranking procedure fulfills the following four criteria: (1) the term 'economic history' is mentioned in the title of the journal; (2) the journal is included in the economics category of JCR and/or in ECONLIT for the specific year, i.e. 2007; (3) the journal is available online, or as a hard copy, for the relevant period; and (4) the journal publishes original research articles. Hence, journals that are not devoted to publishing work on general economic history topics, such as agricultural history, business history, financial history, labor history etc, are omitted from the analysis.

Specifically, the main set of journals ranked comprises *Australian Economic History Review* (AEHR), *Economic History Review* (EHR), *European Review of Economic History* (EREH), *Explorations in Economic History* (EEH), *Indian Economic and Social History Review* (IESHR), *Journal of Economic History* (JEH), *Revista de Historia Económica / Journal of Iberian and Latin American Economic*

Table 1 List of journals

Journal name	Abbreviation
Australian Economic History Review	AEHR
Annales	ANN
Explorations in Economic History	EEH
Economic History Review	EHR
European Review of Economic History	EREH
Irish Economic and Social History	IESH
Indian Economic and Social History Review	IESHR
Journal of Economic History	JEH
Jahrbuch für Wirtschaftsgeschichte	JW
Revista de Historia Económica	RHE
Rivista di Storia Economica	RSE
Scandinavian Economic History Review	SEHR

History (RHE), *Rivista di Storia Economica* (RSE) *and Scandinavian Economic History Review* (SEHR).[9]

In addition, we include a number of journals that are generally considered to be of importance for the field of economic history (as reflected in existing rankings that will be discussed shortly), but that do not fulfill all of the four criteria outlined above. These are: *Annales: Histoire, Sciences Sociales* (ANN), *Irish Economic and Social History* (IESH) and *Jahrbuch für Wirtschaftsgeschichte* (JW). While it will be premature to have *Cliometrica: Journal of Historical Economics and Econometric History* (CLIO) appearing in the ranking analysis, it is nevertheless included due to its crucial impact on other journals in the sample.[10] By contrast, *Research in Economic History* has been omitted from analysis due to its publication of monograph-like articles, as well as its yearbook status.

The full sample thus comprises a total of 13 economic history journals. Out of these journals, 12 are reported in the ranking, while one (CLIO) is used for calculation purposes only (Table 1). From this sample, citations were collected for the year 2007 from a total of 217 original research articles (editorial notes, comments, discussions and book reviews were not included). Removing all irrelevant citations, such as reviews, books, archive sources, conference proceedings etc, left us with a total of 657 citations made to research articles published in the journals included in the sample. This fairly modest citation sample reflects the fact that economic historians makes extensive use of archive material, official documents, monograph studies etc, all of which play no role in standard journal citation analysis.

The 657 citations made to research articles published in the journals make up the basis for the calculations. As was discussed in the methodology section, a potential

[9] Journals appearing in both JCR and ECONLIT are EHR, EEH, and JEH. The remaining journals appear only in ECONLIT. The latter database also mentions (i) *African Economic History*, *Archives of Economic History* and *Journal of European Economic History*, none of which was available electronically or in hard copies for 2007; (ii) *Business and Economic History* which was left out because it publishes only conference papers.

[10] CLIO published its first volume in 2007.

Table 2 Scientific openness indicators

	(1)	(2)	(3)
AEHR	0.07	0.35	0.06
ANN	0.02	0.64	0.01
EEH	0.21	0.16	0.23
EHR	0.11	0.26	0.10
EREH	0.13	0.09	0.15
IESH	0.00	0.50	0.00
IESHR	0.01	0.92	0.00
JEH	0.28	0.21	0.28
JW	0.01	0.17	0.01
RHE	0.06	0.23	0.06
RSE	0.03	0.38	0.02
SEHR	0.03	0.14	0.04

(1) Scientific openness indicator, *(2)* self-citation indicator, *(3)* net openness indicator

problem in the data occurs when the sample's mean value of per article citation, i.e. its citation rate, deviates from its median. That is, a few articles that receive exceptionally many citations can induce a rightward skewness in the distribution of the data. Since our ranking is based on an average value, we take into account this potential problem in the robustness check analysis by removing a number of outliers from the data as specified in the methodology section's Eq. 6 above.

4 Ranking results

Before we turn to the results of the citation analysis described in the methodology section, it is instructive to enquire a bit into what we define as a journal's *scientific openness indicator*.

4.1 Scientific openness

The *scientific openness indicator* gives the proportion of citations to and from a specific journal over the entire set of citations analyzed.[11] It offers a crude insight into a journal's openness towards research exchange with other journals in the sample, i.e. a journal's propensity to provide information to, and to receive it from, the journals to which it compares. Specifically, the openness indicator helps understanding why some journals quickly lose their impact once we start to adjust for the various biases.

Column (1) of Table 2 reports the scientific openness indicator for each journal in the sample. Remarkable, nearly two thirds (62%) of all citations generated can be attributed to three journals: JEH (0.28), EEH (0.21) and EREH (0.13).[12] By contrast,

[11] This is calculated using the formula $\sum_{j=1}^{n} (C_{ij,t} + C_{ji,t}) / \sum_{i=1}^{n} C_{ij,t}$.

[12] These values make clear that regionally oriented journals do not dominate the set of citations, as it could be argued. Actually, almost 50% of citations is related to JEH and EEH, which are general topic journals.

the three journals that have the lowest degree of openness—IESH (0.00), IESHR (0.01) and JW (0.01)—are responsible for a total of 2% of all citations exchange.

The *self-citation indicator* stated in column (2), which reports the share of self-citations to all citations produced and received by a journal, varies substantially across the sample.[13] Some journals—such as ANN (0.64) and especially IESHR (0.92)—appear to be highly self-contained.[14] Others have fairly low rates of self-citations—like EREH (0.09), SEHR (0.14) and EEH (0.16)—suggesting a relatively strong reliance among these journals on flows of information from other journals in the field.

Finally, the so-called *net openness indicator* reported in column (3) appears by removing self-citations from the numbers calculated for column (1). By adjusting for self-citations, a few journals—AEHR, ANN, EHR, IESHR, RSE—are being 'penalized' for relying too much on its own research. The rest are either unaffected hereby, or slightly benefit.

Except for a few extreme cases (i.e. ANN and IESHR), citations made to the journals do not seem to play a devastating role for the field of economic history. That is, economic history as a research field does not appear to be dominated by self-contained, topic-specific journals. Looking at the ranking of journals with respect to openness towards research exchange, it is particularly noteworthy that EHR (0.11) is not quite as much in touch with its field as other general-topic journals, such as JEH (0.28) and EEH (0.23).

4.2 Within-discipline analysis

Turning now to the citation analysis described in the methodology section, i.e. the *within-discipline* analysis, the results of the main ranking are presented in Table 3. Column (1) reports the total (unadjusted) number of citations received by a given journal, normalized relative to the journal with the highest impact factor. As expected, well-established, general-field journals, such as JEH (1.00), EEH (0.48) and EHR (0.40), collect the bulk of citations. Figure 1 tracks the relative positions of the top-seven journals over each of the four steps of the main ranking (as well as the subsequent four steps of the robustness analysis). The figure shows that the JEH, to begin, i.e. in the unadjusted ranking, is substantially more influential than any of its competitors. However, this dominance is challenged once we start to adjust for various biases in the data.

Column (2) of Table 3 reports the results after the removal of citations that a journal receives from itself. Note that this adjustment step hardly affects the relative positions of the top-seven journals (Fig. 1), and, therefore, that the JEH largely maintains its dominance even after this step. In the lower end of the ranking, however, self-citations appear to matter somewhat more (Table 3). Regionally orientated journals, such as AEHR (Australian), ANN (French), and IESHR (Indian), suffer in terms of impact by this adjustment procedure, indicating that these journals are highly self-contained. Remarkably, despite their regional focus,

[13] Figures do not sum to one since they relate to the specific journal, not to the whole set of citations.

[14] As for the case of ANN, this may be explained by a language bias.

Table 3 Ranking results

Rank[a]	Journal	(1)	(2)	(3)	(4)
1	JEH	1.00	1.00	1.00	1.00
2	EREH	0.19	0.18	0.44	0.98
3	EEH	0.48	0.45	0.68	0.83
4	EHR	0.40	0.37	0.29	0.50
5	RSE	0.09	0.06	0.12	0.36
6	SEHR	0.07	0.07	0.09	0.24
7	JW	0.04	0.04	0.09	0.23
8	AEHR	0.13	0.03	0.06	0.13
9	RHE	0.12	0.09	0.03	0.06
10	ANN	0.06	0.01	0.00	0.00
11	IESH	0.02	0.01	0.00	0.00
12	IESHR	0.05	0.01	0.00	0.00

Although CLIO is included in the calculation procedure, its position is not reported in the ranking or robustness tables. Journals receiving the same value are ranked by alphabetical order

(1) Tot. cit.; *(2)* journal self-cit. adj.; *(3)* journal self-cit. and age adj.; *(4)* journal self-cit., age and size adj.

[a] According to (4)

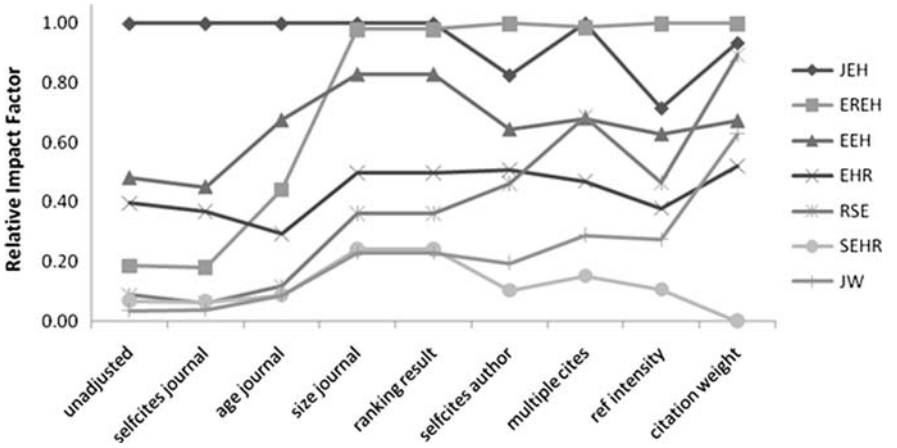

Fig. 1 Top-seven evolution: *x-axis* adjustment step, *y-axis* relative impact factor

the same is not the case for JW (German) and SEHR (Scandinavian), which are the only ones to maintain their impact relative to the JEH after the removal of journal self-cites.

Once we adjust for age and size of journals, this affects not only the low-end journals but has profound implications across the board. Adjusting for age takes us to column (3) in Table 3. Here, only citations to articles published in the period 2003-2007 are included. Effectively, this adjustment step makes journals equally old. It follows that AEHR, EEH, EREH, JW, RSE and SEHR all gain in on the JEH, whereas ANN, IESH, IESHR, EHR and RHE lose terrain. In fact, ANN, IESH and IESHR at this point no longer receive citations. This is mainly due to their high reliance on self-citations (e.g. 92% of all citations of IESHR comes from the journal itself; 64% in the case of ANN; and 50% for IESH), as well as to the fact that citations to relatively old articles have been removed. Adjusting for size, which

Table 4 Ranking comparison of top-seven journals

Rank	Di Vaio-Weisdorf	JCR	CNRS	VS-WA	ABS
1	JEH (1)	EHR (1)	EHR (1)	EHR (a)	EHR (1)
2	EREH (2)	JEH (2)	JEH (1)	JEH (a)	EEH (2)
3	EEH (3)	EEH (3)	EEH (2)	EREH (b)	JEH (2)
4	EHR (4)	–	EREH (2)	EEH (b)	–
5	RSE (5)	–	AEHR (3)	JW (b)	–
6	SEHR (6)	–	SEHR (4)	ANN (c)	–
7	JW (7)	–	–	SEHR (c)	–

Journals receiving the same value are ranked according to alphabetical order. For comparative purposes, we consider only the journals appearing in our ranking

Di Vaio-Weisdorf according to Table 3; in parentheses: position, *JCR* Institute for Scientific Information—Thomson Scientific (2007); in parentheses: position, *CNRS* Comité National de la Recherche Scientifique (2007); in parentheses: category, *VS-WA* Verein für Socialpolitik (2006); in parentheses: group, *ABS* Association of Business Schools (2007); in parentheses: category

takes us to column (4) of Table 3, journal that still receive citations at this point all improve their impact relative to JEH (see also Figure 1). This result follows from the fact that the JEH publishes approximately twice as many research articles as the rest of the journals in the sample.

To summarize the results of the main ranking—column (4) of Table 3—the most remarkable outcome of the ranking procedure seems to be (a) the strong catching-up of the EEH and the EREH relative to the JEH, when we adjust so as to make journals equally old and large (i.e. when we correct for age and size); (b) the fairly poor performance of the EHR, a journal deemed elsewhere to be highly significant for the field of economic history (see the comparison to other rankings below); (c) the comparatively good performance of regional journals such as RSE, SEHR and JW; and (d) that well-established ANN has almost no influence on the international economic history society.[15]

Compared to existing rankings of economic history journals (Table 4), the current results, though capturing the general perception, appear to be at odds with most of them on a few important points. First, the EHR, consistently placed in the absolute top-end of existing rankings, in the present analysis comes in four with an impact factor half the size of that of the best performing journals (i.e. the JEH and the EREH).[16] Second, JW, placed as number seven in the current ranking, does not appear in any of the other studies, except for a German ranking (the VS-WA). Thirdly, the EREH, a new-comer in economic history (first volume published in 1997), performs much better with us, relative to its closest competitors (EEH, EHR and JEH), than in any of the existing rankings. What our analysis shows, in fact, is that an average article published in the EREH would have been cited more often than one published in the EEH or the EHR, and virtually as often as one published in the JEH, had the EREH been equally old and large as its closest competitors.

[15] This might be due to the language bias for which we do not adjust.

[16] The difference can be explained by the fact that the existing analyses largely rely on the JCR, which ranks EHR as a top-end journal.

By contrast to the current study, the categorization of journals found in most existing rankings makes it impossible to distinguish between journals within the same category. Suppose, for comparative purposes, that we were asked to group the top-seven journals into two main categories based on our main ranking result (column (4) of Table 3). Let Group A consist of journals whose impact factor is more than 50% of the leading journal, and let Group B consist of journals with less then 50%. Group A would then comprise JEH, EREH and EEH, while Group B would include EHR, RSE, SEHR and JW. Taking also into account the journals from the bottom-end of the main ranking, Group C journals (defined as having less than 15% relative impact) would consist of AEHR and RHE, while Group D (characterized as having zero relative impact) would contain ANN, IESH and IESHR.

Returning to the *within-discipline* ranking, we also conduct a sensitivity analysis for the purpose of robustness check. Departing from Table 3's Column (4), we do four additional steps where we adjusted for self-citations of authors, over-citation, reference intensity and citation weight. The results are reported in Table 5, and the effects on the ranking can be traced in Fig. 1. As regards the first step of the robustness check, the detail of the data permits us to eliminate a potential bias created by authors citing their work, not because it influenced their research, but in order to increase its diffusion. In column (1) of Table 5, therefore, we adjust for self-citation of authors. The JEH and the EEH lose ground in the adjustment step, together with AEHR, JW, SEHR and particularly RHE. The RSE gains in on the leading journals through this adjustment, while the impact factor of the EHR remains largely unchanged. Note that RHE receives no citations at this point, having lost its remaining impact due to authors citing themselves elsewhere.

Next, adjusting in column (2) for over-citation (i.e. outliers in the data) takes the JEH back into the lead, with the EREH as a very close runner-up. Except for the EREH and the EHR, both of which appear to suffer from a few outliers, journals that still receive citations at this point all improve their impact in relative terms, especially the RSE.[17] In column (3) of Table 5, citations received by a journal are assigned a higher value if they come from journals that are less prone to give out citations. This step takes the EREH back into the lead.

Finally, when citations received from highly ranked journals are assigned a higher value, column (4) of Table 5 shows a ranking that at first glance appears to differ somewhat from the main ranking described in column (4) of Table 3. The main differences are that the EREH is now the leading journal, that the RSE ends up in third position, pushing the EEH into fourth, and that the JW comes in five, surpassing the EHR who ends up six. The results of the main ranking (Table 3) nonetheless appear to be fairly robust, as reflected in the so-called Pearson's correlation coefficient. This measures the correlation between the main ranking and

[17] A few articles are over-cited with respect to the sample average citation rate, and this generates a rightward skewness in the data. For instance, the most cited article is by Prados de la Escosura (2000), which receives nine citations, followed by three articles—Abramovitz (1986) and Williamson (1995; 2002)—each of which are cited seven times. However, the robustness analysis of step *I*(6) shows that impact factors are only marginally affected by multiple citations, while the journal positions remains intact after the robustness check.

that of the robustness test, and in our case equals 0.87.[18] Further, among the top-seven journals, EREH and JEH maintain top positions, while EEH and EHR drop only slightly. Looking at the middle part of the ranking, RSE and JW increase their relative impact, the main reasons being that they are not affected by outliers, and that they receive most of their citations from highly ranked journals. The SEHR, by contrast, loses most of its impact by the final adjustment step, which is due to the fact that most of its citations come from low-end journals.

4.3 Between-discipline analysis

The ranking reported in Table 3 above captures the impact of an economic history journal on its own field—i.e., economic history. For comparative purposes, it would be interesting to hold this *within-discipline* analysis up against a ranking analysis that compares the impact of the leading economic history journals on the field of economics, and vice versa. To this end, we construct a *between-discipline* analysis for a sample of eight journals. Four of them, representing economic history, are the top-four journals of the main ranking (column (4) of Table 3).[19] Representing economics, we chose the top-four economic journals according to the ranking provided by Palacios-Huerta and Volij (2004). These are (in alphabetic order) *American Economic Review* (AER), *Econometrica* (ECON), *Journal of Economic Literature* (JEL) and *Quarterly Journal of Economics* (QJE).[20]

The results of the *between-discipline* analysis are reported in Table 6. Column (1) captures the impact of the eight journals on the field of economics.[21] As expected, even the leading economic history journals do not have much impact on the field of economics, at least not on the top-end economics journals. The JEH has a relative impact factor of 13% (which does indeed constitute some impact); the EEH has a 6% impact, while the EREH and the EHR have no impact whatsoever.

By contrast, column (2) of Table 6 reports the results when we measure the impact of the eight journals on the field of economic history.[22] Not surprisingly, this virtually turns the ranking result of column (1) upside-down. That is, economic history journals, led by the JEH, are the leaders when it comes to impact on the field of economic history. The most influential economics journal, the JEL, has a relative impact factor of 21%. Notably, the economics journals together stand for 43% of the impact, while the joint impact of the leading economic history journals on the field of economics was just 19%. These results confirm the idea that economic history is somewhat separate from economics, measured in terms of scientific influence on that field. Economics, according to this simple test, has twice as much impact on

[18] Due to tied ranks, the Spearman's rank correlation coefficient cannot be calculated directly.

[19] This choice is due in part to the fact the top-four economic history journals are included in the Social Science Citations Index. This enables the collection of citations from the electronic database of the JCR to be used in the between-discipline analysis.

[20] Had we selected the top-four economic journals from the ranking conducted by Kalaitzidakis et al. (2003), the results would have been largely identical to those presented below.

[21] The ranking is obtained making use of citations from economic journals.

[22] The ranking is built on citations from economic history journals.

Table 5 Robustness check

Rank[a]	Journal	(1)	(2)	(3)	(4)
1	EREH	1.00	0.99	1.00	1.00
2	JEH	0.83	1.00	0.71	0.93
3	RSE	0.46	0.68	0.47	0.89
4	EEH	0.64	0.68	0.63	0.67
5	JW	0.20	0.29	0.27	0.63
6	EHR	0.51	0.47	0.38	0.52
7	AEHR	0.08	0.12	0.14	0.00
8	ANN	0.00	0.00	0.00	0.00
9	IESH	0.00	0.00	0.00	0.00
10	IESHR	0.00	0.00	0.00	0.00
11	RHE	0.00	0.00	0.00	0.00
12	SEHR	0.10	0.15	0.11	0.00

Journals receiving the same value are ranked by alphabetical order

(1) Journal self-cit., age, size and author self-cit. adj., *(2)* journal self-cit., age, size, author self-cit. and multiple cit. adj., *(3)* journal self-cit., age, size, author self-cit., multiple cit. and ref. intensity adj., *(4)* journal self-cit., age, size, author self-cit., multiple cit., ref. intensity and cit. weight adj

[a] According to (4)

Table 6 Between-discipline ranking

(1)		(2)	
QJE	1.00	JEH	1.00
ECON	0.64	EREH	0.85
JEL	0.57	EEH	0.74
AER	0.36	EHR	0.44
JEH	0.13	JEL	0.21
EEH	0.06	QJE	0.12
EHR	0.00	AER	0.08
EREH	0.00	ECON	0.02

(1) Economics impact ranking, *(2)* economic history impact ranking

economic history, and so the exchange of scientific knowledge between the two fields goes mostly in the direction from economics to economic history.

5 Conclusions

This study ranks 12 international academic economic history journals using citation-based impact-factor analysis. The ranking is based on data collected for the year 2007. Journals are assessed using an eight-step bias-adjusting procedure. The first four steps constitute the main ranking, while the subsequent four steps are done for the purpose of robustness check. Starting with a crude citation count, we adjust for self-citation of journals, as well as their age and size. In the subsequent robustness

analysis, we also adjust for self-citation of authors, over-citation, reference intensity and citation weight.

Journals reported to have the highest scientific impact on the field of economic history are (in the following order) *Journal of Economic History*, *European Economic History Review* and *Explorations in Economic History*. In a runner-up category we find (in the following order) *Economic History Review*, *Rivista di Storia Economica*, *Scandinavian Economic History Review* and *Jahrbuch für Wirtschaftsgeschichte*. The rest of the journals in the ranking have little or no impact on the fields once we adjust for the various biases.

A *between-discipline* ranking conducted among the top-four economic history journals, as well as the top-four economics journals, reveals that the two disciplines do indeed influence each other, although the direction of the scientific knowledge is going mostly from economics towards economic history rather than the opposite.

Compared to other ranking studies of economic history journals, the present ranking is more comprehensive in terms of number of journals included. In spite of that, future research would take into account also journals concentrated on more topic-specific economic history subjects, such as *Business History Review, Financial History Review*, or comprising interdisciplinary research, such as *Journal of Interdisciplinary History*. As regards between-discipline ranking, more economics journals could be included, and economic history could be compared to the field of history. Moreover, a test for time-consistency would improve the quality of the ranking results. Finally, future research might include a ranking of journals based on their impact on books on economic history topics.[24]

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[24] We believe that a common practice among economic historians that publish books is to simultaneously publish the main results of the book in an economic history journal. If this is indeed a common practice, then that means that we will implicitly pick up the role of economic history journal publication on books, because, presumably, the reference to research that inspired the author's work in the book are repeated in the article, which is based on the book.

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