

# **Research Quality Rankings of Heterodox Economic Journals in a Contested Discipline\***

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**ABSTRACT.** This article argues that the discipline of economics consists of two subdisciplines: heterodox and mainstream economics. Being distinct bodies of knowledge, it is possible that the processes of building scientific knowledge are different enough so to generate distinctly different referencing and citation practices. Therefore, a specific impact contribution score is necessary for ranking heterodox journals in terms of their contribution to building heterodox economics. If properly developed such a metric could also be used to produce a single overall quality-equality ranking of mainstream and heterodox journals. Utilizing citation data and peer evaluations of 62 heterodox economics journals, a research quality measure is developed and then used to rank the journals. The measure is then used in conjunction with the SSCI five-year impact factor to produce a comparative research quality-equality rankings of the 62 heterodox and the 192 mainstream journals in the SSCI.

The bibliometric<sup>1</sup> literature frequently addresses the issue of discipline ranking of journals. This is because the widely used impact factor approach to ranking journals does not necessarily capture the impact

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a journal has on its discipline since many of its citations may come from journals not at all connected with it.<sup>2</sup> Consequently, a discipline-contribution score has been developed. To calculate the score, it is necessary to identify the relevant discipline-specific journals. One way is to adopt a third party's, such as the Web of Science-Social Science Citation Index (SSCI) or Scopus, classification of journals; another way is to make an informed selection of the appropriate journals. A third way is to combine the previous two methods and utilize an iterative approach based on an informed, predetermined set of core journals, the journals they cite, a discipline impact factor, and a poll of relevant researchers. The approach of the discipline-contribution score can also be used to investigate more specialized areas of research within a discipline, where the subdiscipline research areas are viewed as significantly distinct from each other as measured in terms of citation flows and impact factor scores among the relevant subset of journals. As a result, a subdiscipline "specific impact contribution" score has been developed (Hirst 1978; Schubert and Braun 1993; van Raan 1996; Thomas and Watkins 1998; DuBois and Reeb 2000; Glanzel and Moed 2002; Vinkler 2002; Nisonger 2004; Moed 2005; Kodrzycki and Yu 2006; Azar 2007).<sup>3</sup>

Although the subdiscipline approach presumes that a common body of scientific knowledge binds the subdisciplines together into a single discipline, this need not be the case. Mainstream and heterodox economics are distinct alternative subdisciplines within economics, based on having distinct bodies of theoretical knowledge and problems and puzzles to investigate (Lee 2009, forthcoming). Moreover, being distinct bodies of knowledge, it is quite possible that the processes of building scientific knowledge are different enough so to generate distinctly different referencing and citation practices. Therefore, a "heterodox" subdiscipline or a specific impact contribution score is necessary for ranking heterodox journals in terms of their contribution to building heterodox economics and for evaluating their research quality relative to mainstream journals. That is, journal rankings are used to evaluate economists for hiring, tenure, and promotion and rank economic departments (Lee 2006). Because department rankings have financial and reputational impacts, it is important that journals are fairly ranked. As Lee, Grijalva, and Nowell (2010) show, a more equitable

journal ranking produces a significant change in the ranking of heterodox departments. Thus, equitable ranking of heterodox journals relative to mainstream journals is important for the working lives of heterodox economists and the viability of their workplace.<sup>4</sup>

In Lee (2008a, 2009) and Lee, Grijalva, and Nowell (2010) a case is made for ranking heterodox economic journals, a ranking methodology developed, and a select group of 17 and 20 heterodox journals ranked. Dolfsma and Leydesdorff (2008) and Cronin (2008) examined the same heterodox journals to explore their network relationships relative to the formation of a community of heterodox economists that engaged in common theoretical and applied pursuits and utilized a common theoretical language. In addition, Lee, Grijalva, and Nowell (2010) argue that the research quality measures used to rank mainstream and heterodox journals can be combined to produce a single overall *quality-equality* ranking of economic journals. This article draws on this bibliometric literature and combines it with a larger citation data set to further develop these contributions. First, it constructs a research quality ranking for 62 heterodox journals based on their contribution to building a more integrated heterodox economics. The construction of the ranking takes place in three steps. The initial one is to develop a comprehensive or total citation-based ranking of the journals that combines a bibliometric ranking based on the methodology in Lee (2008a) with a social network ranking. The next step is to develop a peer evaluation ranking of the heterodox journals, and the final step is to combine the total citation and peer evaluation rankings to arrive at a overall final research quality ranking of the heterodox journals.<sup>5</sup> Secondly, drawing on the previous results, a overall “comparative” research quality-equality rankings of the 62 heterodox and the 192 mainstream journals in the SSCI is developed. The final section concludes the article.

### **Research Quality Ranking of Heterodox Journals**

#### *Methodology*

Journals can be ranked according to any evaluative criterion that differentiates between them. And any methodology used to rank

journals is derived from the purpose for engaging in the ranking exercise. In the case of heterodox journals, the evaluative criterion is research quality, that is, the relative effectiveness, measured against a benchmark, for promoting the development of a coherent, integrated heterodox economic theory that explains the social provisioning process. Given the criterion for ranking, the appropriate methodology has three components. The first uses journal-specific citation data to determine in a piece-meal additive fashion the degree a heterodox journal builds journal-specific knowledge and promotes research dependency with other heterodox journals through importing and exporting citations. To overcome the limited evaluation of the interdependent relationship among heterodox journals, the second component utilizes social network analysis to evaluate the same citation data. Bibliometric methods are good at distinguishing between journals that make a significant contribution to research discourse and those that do not; but they are not very good for making refined distinctions. To do that, peer evaluation of journals is needed, which is the third component of the methodology. Together, the bibliometric measure, social network analysis, and peer evaluation produce an informed, citation-grounded ranking of heterodox journals based on their relative contribution to building an integrated heterodox economic theory.

Heterodox economic journals are established to publish peer-reviewed, community evaluated scientific knowledge, since it is through peer review and subsequent discussion by the heterodox community that the scholarly quality of journal publications is maintained. Because peer review is practiced by heterodox journals and buttressed by community discussion and the following of acceptable scientific practices is ubiquitous among heterodox economists, the articles, notes, and conference papers published in heterodox journals are similar in overall *scholarly quality* in terms of being adequately researched and written, competently utilizing research methodologies and techniques deemed relevant by heterodox economists; and address topics of relevance at least to some heterodox economists. In addition, heterodox journals are used to build up a body of heterodox scientific knowledge through publishing articles, notes, and conference papers that have *research quality*, that is, whose contents are useful to other heterodox economists. While scholarly quality is attached to an

individual article, research quality is a community generated attribute that is attached not to a single article but to a collection of articles, such as represented by a heterodox journal or more generally to a collection of heterodox journals. Thus, citations quantitatively represent the links between journal articles that build and bind together heterodox knowledge; in other words, they show “who talks to whom.” Therefore, citations can be used to evaluate how effective heterodox journals are in this regard (Borgman and Furner 2002; Moed 2005; Lockett and McWilliams 2005; Pieters and Baumgartner 2002).

There are two ways to achieve *research quality*, the first being to build up a body of specific knowledge associated with a particular heterodox approach(es), a specific area or topic of research, or a general body of knowledge that is important to all heterodox economists. Although they have the common goal of explaining the social provisioning process in its many aspects, heterodox economists have only gone part of the way of melding and synthesizing their different theoretical approaches and arguments. Hence not all heterodox scientific knowledge can be drawn upon by all heterodox economists. This makes for research and teaching uncertainty as well as hindering the overall development of heterodox economics. Therefore, the second way for heterodox journals to build heterodox knowledge is to promote the development of an integrated heterodox economic theory through increasing the research dependency among heterodox economists. *It is research quality—building specific economic knowledge and integrated heterodox theory through research dependency—that is the basis for evaluating and ranking heterodox economic journals.* Moreover, this process of building specific knowledge and research dependency results in the emergence of a heterodox normal science comparable with the mainstream normal “science,” complete with its acceptable scientific practices, relevant topics and puzzles to explore, and variety of research programs that push and remold the boundaries of heterodox economics (Aliseda and Gillies 2007).

#### *Bibliometric Measure of Research Quality*

One way for a journal to contribute to the building of heterodox economics is to build a journal-specific body of scientific knowledge.

This is done by publishing articles that draw upon scientific knowledge previously published in the journal. Such *domestic production* of scientific knowledge is manifested in terms of journal *self-citations*. In the economics ranking literature, journal self-citations are often dismissed because they have little impact on the profession at large. This view, which is rejected here and in the bibliometric literature (Moed 2005: 133), is predicated on the assumption that the journal is not a location of a body of specialized knowledge. In particular, journals in specific research areas and journals associated with specific theoretical approaches and interests build an integrative body of knowledge that is represented in terms of self-citations. This is what makes the journal interesting and relevant to the authors and readers in the first place. Journals that do not build an identifiable body of knowledge become marginal to all researchers since there is no reason to take the time to examine their content.

A second way for a journal to contribute is to promote the development of integrative theory through enhancing *research dependency* among heterodox economists. This is done by having them engage in their research with different heterodox approaches and draw upon different areas of research. This engagement is concretely manifested in terms of citations. Thus, a heterodox economist is building research dependency, hence integrative knowledge, when he/she cites articles from the recent and not-so-recent past from many different heterodox journals associated with different heterodox approaches and research areas. For a heterodox economist's research to contribute to research dependency it must also be utilized, hence cited, by other heterodox economists in their journal publications. Therefore, the significance of an article for developing heterodox theory is the degree to which it contributes to research dependency through its drawing upon and utilizing a wide range of heterodox research. Similarly, a journal is promoting research dependency when it publishes articles that cite journals associated with different heterodox approaches and research areas. In this way, the cited journals can be viewed as *imports* and increasing imports is a way to increase research dependency. Moreover, imported citations also represent *exported* citations from other heterodox journals; thus a journal's exported citations also contribute to research dependency. In short, the extent to which a heterodox

journal imports and exports recent and distance citations indicates the degree to which it promotes the development of heterodox economic theory through research dependency (Moed 2005; Lockett and McWilliams 2005).

A journal that is a significant builder of scientific knowledge through domestic production and research dependency generates domestic production of citations equal to its citation imports and exports, imports citations from and exports citations to most heterodox journals, and has an overall balance of trade; in addition, its domestic production and export citations include citations from recent (within the past five years) and distant publications. In contrast, a surplus trade balance indicates that a journal is not, relatively speaking, promoting research dependency because it is not drawing upon and engaging with other heterodox journals; a deficit trade balance implies that the journal's production of scientific knowledge is not readily usable by other journals and hence indicates a lack of contribution to research dependency; and a journal with significant domestic production relative to imports and exports is engaging in an inward production of scientific knowledge and not engaging in promoting the development of an integrative heterodox theory through research dependency and hence building a community of heterodox economists. *Therefore a journal's bibliometric research quality "score" and hence research quality ranking relative to other heterodox journals is a summary evaluation of its contribution to building both specialized and integrative scientific knowledge.*

The score itself is independent of the absolute number of citations but depends on the journal's domestic production of citations, the ratio of its imports and exports to its domestic production, its balance of trade, and the extent of its imports and exports. The overall intent of the research quality rankings qua evaluation is to indicate the extent that a journal needs to improve its building of specialized and/or integrative heterodox knowledge so that ultimately *all heterodox journals can achieve the same highest score or ranking* (Stigler 1994; Stigler, Stigler, and Friedland 1995; Liner and Amin 2004).

The criteria for scoring the research quality of a journal that emphasizes the building of specific knowledge and promoting research dependency are the following:

- (1) maximize domestic production (DP), citation exports (E), and citation imports (I);
- (2) maximize the number of journals to which citations are exported, subject to a threshold of 1 percent of domestic production;
- (3) maximize the number of journals to which citations are imported, subject to a threshold of 1 percent of domestic production;
- (4) maximize research dependency impact factor (RDIF);<sup>6</sup>
- (5) subject to the following constraints:
  - (i) ratio of domestic production to total citations (DP/TC)—defined as domestic production plus import and export citations—tends towards 0.33;
  - (ii) ratio of export citations to domestic production (E/DP), ratio of import citations to domestic production (I/DP), and ratio of imports to exports (I/E) all tending towards one;
  - (iii) ratio of the number of actual export journals (AEJ) to the total number of possible export journals (TEJ), which is 61 and tends towards one;
  - (iv) the ratio of the number of actual import journals (AIJ) to the total number of import journals (TIJ), which is also 61 and tends towards one; and
  - (v) RDIF tending towards 0.50.<sup>7</sup>

From the criteria, an algorithm for scoring the research quality of heterodox journals in terms of building specialized economic knowledge and promoting research dependency is derived. It consists of seven components, (DP/TC), (E/DP), (I/DP), (I/E), (AEJ/TEJ), (AIJ/TIJ), and (RDIF). Since each component has an equal say in the overall score, DP/TC is multiplied by three and RDIF is multiplied by two. Thus we have the following:

$$\begin{aligned} \text{Journal Bibliometric Quality Score (JBQS)} = & \\ (3)[DP/TC] + [E/DP] + [I/DP] + [I/E] + [AEJ/TEJ] + & \quad (1) \\ [AIJ/TIJ] + (2)[RDIF]. & \end{aligned}$$

The closer each component score is to one, the more effective is the journal in building specialized knowledge and promoting research dependency, thus the greater its research quality. Hence the scores of the components are based on minimizing their distance from one, except for (3)[DP/TC], [E/DP], [I/DP], [I/E], and (2)[RDIF] when their distance from one are greater than one, then their score is zero.<sup>8</sup> Therefore, the maximum JBQS a journal can receive is seven, which is the benchmark for assessing a journal's contribution to building both specialized and integrative scientific knowledge. Consequently, if a journal receives a score of five, it has achieved a 71 percent success in reaching the benchmark; and in comparison to a second journal with a score of 2.5, it is twice as successful in attaining the benchmark score.<sup>9</sup>

#### *Social Network Analysis and Research Quality*

The bibliometric approach produces heterodox journals' research quality scores that provide only a partial insight into the contributions a journal can make to building specific economic knowledge and integrated heterodox theory through research dependency. In particular, the relationship between journal self-citation and the import and export of citations, while clearly evident in the citation data in Table A1 in Appendix II, remains obscure because it is dealt with in a piece-meal fashion. A journal's significance may also derive in part from its position in the flow of knowledge among a research community, in the way that an entrepôt brokers international trade.

To make the specific nature of the interdependent relationships among the heterodox journals more evident, social network analysis (SNA) is utilized. A key concept in this context is centrality, the extent to which a single journal is the focal point of the myriad of individual citations. One way of conceiving this is the number of total citations a journal is involved in, whether being export-citations or import-citations and including or excluding self-citations; the journal with the most total citations over a defined period might be considered the most central journal in the discipline. This view of centrality (degree centrality) is encompassed in the bibliographic counts in the preceding analysis. However, a concentration on "big hitters" often

overlooks other important players who engage different parts of a community without being highly cited in raw terms themselves. So a journal may be significant because it is cited by two big hitters who may not directly cite each other. This idea that raw degree centrality should be offset by the extent to which citations engage journals that are more central to the discipline is termed eigenvector centrality (EC). Alternatively, a journal may be significant not because it engages with journals that are highly central, but because it spans parts of the discipline that are otherwise weakly connected, a brokering role termed betweenness centrality (BC). SNA also allows the identification of groups of more closely related journals, that is, different regions of a network (k-cores), and the discrimination of different roles in brokering situations between these groups, such as representing or gate-keeping in relation to a group (Bonacich 1972; Freeman 1979; Seidman 1983; Cronin 2008; Dolfsma and Leydesdorff 2008).

In terms of assessing the contribution to building both specialized and integrative scientific knowledge, within the citation relationships among heterodox journals, eigenvector centrality (EC) reveals concentrations of specialized knowledge within a discipline and betweenness (BC) demonstrates integration. Similarly, in Gould and Fernandez's (1989) demarcation of brokerage roles, some are oriented towards the group of origin, which reinforces specialization, the coordinator (C), itinerant broker (I), and gatekeeper (G) roles. Others are orientated externally, that is, integrative, the representative (R) and liaison (L) roles. Thus, in the same manner as the preceding analysis a single metric of disciplinary importance in network terms can be constructed by summing these indicators. Each indicator is normalized as proportions of the highest result, thus each has a maximum of one. Each is weighted equally with the exception of the three specialization and the two integrative brokerage roles, where a single specialization and integrative broker score is drawn from the mean:

$$\text{Journal Network Quality Score (JNQS)} = \frac{[EC] + [BC] + ([C] + [I] + [G])/3 + ([R] + [L])/2}{2} \quad (2)$$

As in the preceding analysis, the closer each component score is to one, the more effective is the journal in building specialized knowledge and promoting research dependency, thus the greater its research quality. To allow comparison with the JBQSs, the JNQS is rescaled on a 1–7 range so that the highest score (JNQS\*) possible on this indicator is seven, which would highlight a journal with a pattern of citations maximizing specialization and integration within the network.

#### *Peer Evaluation and Research Quality*

Bibliometric methods distinguish between journals that make a significant contribution to research discourse and those that do not, but they are not very good for making more refined distinctions. To do the latter with a significant degree of accuracy, peer evaluation is needed. In the numerous studies on the correlation between bibliometric and peer evaluation ranking of journals (and academic departments), the results are positive, but not perfect. This is to be expected since peer evaluation of journals has an impact on where to publish and what to cite, while citation patterns have an impact on peer evaluations. It is because of this interdependency that peer evaluation can be used to inform the ranking of journals. That is, it is through peer evaluation that qualitative, informed judgments of heterodox economists have an impact on the final ranking of journals (Moed 2005; van Raan 1996; Weingart 2005).

To obtain the peer evaluation of the research quality of a journal, a questionnaire was used. It consisted of two pages explaining its purpose, defining research quality, and asking for country affiliation and JEL classifications of research and research interests. For each of the 62 heterodox journals, three questions were asked. The first was familiarity with the journal. If the response was “not familiar,” the respondent went to the next journal. However, if the response was “some” or “considerable,” the respondent was asked in what way and given five possibilities to choose from, including subscribing to it, publishing in it, being its editor, being on its editorial board, and/or consulting it for research. Given positive responses for the first two questions, the respondent was then asked to evaluate the research quality of the journal as “distinguished,” “strong,” “good,” “adequate,”

“minimal,” or “no response.” The questionnaire ended with an invitation to the respondent to add any comments—see Appendix I, Table 4A. The criteria for scoring the peer evaluation of the research quality of the journals first involved assigning a numerical value to each of the research quality categories: distinguished (5), strong (4), good (3), adequate (2), minimal (1), and no response (0). The next step was to weight the scores in terms of the respondent’s familiarity with the journal: considerable (1) or some (0.5). The third step was to aggregate the scores of all the respondents for each journal and then apply an overall familiarity weight, which is the ratio of all the respondents who had some or considerable familiarity with the journal to the total number of respondents. Finally, to get the average peer evaluation research quality score for the journal, the weighted aggregate score was divided by the number of respondents. Thus we have the following:

$$\begin{aligned} \text{Journal Peer Evaluation Quality Score (JPEQS)} = \\ (w_j)(1/n_j) \sum_{i=1}^n (z_i \times v_i) = (1/R) \sum_{i=1}^n (z_i \times v_i), \end{aligned} \quad (3)$$

where  $w_j = n_j/R$  is the overall familiarity weight for the  $j$ -th journal;  
 $n_j$  is the number of respondents who had some or considerable familiarity with the  $j$ -th journal;  
 $R$  is the total number of respondents;  
 $z_i$  is equal to 1 or 0.5 when the respondent has considerable or some familiarity with the  $j$ -th journal; and  
 $v_i$  is equal to 1, . . . , 5 depending on the research quality score chosen by the respondents for the  $j$ -th journal.

The maximum JPEQS and hence benchmark for a journal is five, but this would require that all respondents answering the questionnaire are considerably familiar with the journal and evaluated its research quality as distinguished; on the other hand, the minimum score is zero when no respondent is familiar with the journal. Thus, a journal with a score of four has achieved an 80 percent success of reaching the benchmark and is twice as successful in attaining it relative to a journal with a score of two.

*Data*

Because economics is a discipline with nonhomogeneous knowledge that is divided into theoretically distinct subdisciplines of mainstream and heterodox economics, it is possible to develop a ranking methodology specifically adapted for heterodox economics. The first step is to identify or target the journals relevant to heterodox economics. The *Informational Directory for Heterodox Economists* (Lee 2008b) provides the most comprehensive selection of generalist, specialist, and interdisciplinary heterodox economic journals. It includes 122 journals, but some are not accessible for the study while others, such as multidisciplinary and popular journals, are of interest to heterodox economists yet are not considered relevant for ranking since they are not directly relevant to the building of heterodox economics. That is, since the purpose of ranking heterodox journals is to evaluate how they contribute to the building of heterodox economics, the relevant journals are those that engage in scholarly communication through publishing scholarly works between scholars. Thus heterodox journals whose aims are to communicate heterodox economics to a popular or practical-political oriented audience are not included (Borgman and Furner 2002). From the *Directory* 62 heterodox journals are selected for research quality ranking: 27 generalist, 13 specialist, and 22 interdisciplinary journals—see Appendix I, Table 1A, columns 1 and 2.<sup>10</sup> The second step is to collect from the journals their citation data for the period 2002 to 2008 for the 62 heterodox journals (see Appendix II, Table A1).<sup>11</sup> Since our concern is with journals that contribute to heterodox economics, only citations to the 62 heterodox journals were collected;<sup>12</sup> and they were not collected from a specific citation source (such as is the case for the SSCI), but from a number of different sources including Scopus, hardcopies, and electronic and online copies—see Appendix I, Table 1A, column 4.<sup>13</sup> Citations were obtained from articles and notes and reviews (if they were longer than four pages). The citation counts were done by hand count of physical journals, PDF files, or through Scopus, which aggregated the per-year count electronically. The resulting  $62 \times 62$  matrix of citations plus 2008 RDIF citations were used to derive the JBQSs

and the JNQs for the 62 heterodox journals—see Appendix I, Tables 2A and 3A and Appendix II, Tables A1 and A2.

Initially the questionnaire was sent to 20 heterodox economists to get feedback. After making minor revisions to the questionnaire, it was converted into a web-based questionnaire: <http://cei.umkc.edu/Lee>. Then on 18 August 2009 it was sent to approximately 3,550 to 4,000 economists that are on the *Heterodox Economics Newsletter* listserv: over 1,000 located in the United States and Canada, over 400 in Latin America, over 1,500 in Europe including the British Isles, and finally over 450 elsewhere around the world; a reminder e-mail was sent out on 9 September 2009. As of 15 November 2009, the total number of responses was 408 of which 405 were usable.<sup>14</sup>

The creditability of any peer evaluation depends on the qualifications of the peers doing the evaluation; and if the peer evaluation is to carry an “international” weight, the peers cannot be selected from just one or two countries, but must draw upon peers around the world. Of the 405 respondents, 200 are located in Europe, 102 in the United States, 34 in Latin America, and 69 elsewhere. Each respondent on average knew, at least to some degree, nearly 17 journals, but only between 14 well enough to evaluate their research quality. The basis of their knowledge includes journal subscriptions for 186 respondents (who subscribed to on average three heterodox journals); publishing in the journal for 242 respondents (who published on average in three to four different heterodox journals); being an editor of a journal for 23 respondents (who on average were editors of two different heterodox journals); being on the editorial board of a journal for 74 respondents (who on average were on the editorial board of almost two heterodox journals); and/or consulting the journal for research purposes for 356 respondents (who on average consulted over 12 heterodox journals when doing research). All together, the 384 respondents had on average 2.5 different relationships to each of the nearly 17 journals with which they were familiar. Moreover, the research interests of the respondents include all of the JEL classifications and the research interests of the individual respondent cover on average over five JEL classifications. The most popular classification is the “schools of economic thought, methodology, and heterodox approaches” (392 respondents), followed by “economic development,

technological change and growth” (237 respondents) and “macroeconomics and monetary policy” (202 respondents). So overall, the respondents are geographically dispersed, have a working to quite intimate knowledge of 14 heterodox journals, and have a sufficient range of research interests to be able to evaluate distinctly different heterodox journals. Thus, as a whole the respondents are well qualified to evaluate the research quality of the heterodox journals; and their evaluations are as “objective” as citation-based evaluations. That is, the respondents use hands-on working (as opposed to impressionistic) knowledge to evaluate a journal’s research quality. Hence, although different, peer evaluation of journals is equal to and hence objective as any citation-based evaluation of journals (Appendix I, Table 4A.1).

#### *Results and Discussion*

The bibliometric approach produces interesting but unexpected results. First, *Development and Change* has the top score of 5.23, which amounts to nearly 75 percent of the benchmark score (see Appendix I, Table 2A, column 9). This suggests that all heterodox journals have much to do to improve their research quality. Secondly, *Development and Change* bibliometric research quality is 131 percent more than that of the *Cambridge Journal of Economics (CJE)*, clearly an unexpected result. It arises because the bibliometric approach emphasizes research interdependency as the driving force for its research quality score and uses an algorithm that neutralizes the impact of a journal’s citation size on its JBQS, hence its ranking; thus interdisciplinary, specialist, and smaller generalist journals have a better chance of scoring well relative to a larger citation generalist journal. Therefore, we find that the bibliometric rankings of heterodox journals include in the top 20 large and not-so-large interdisciplinary, specialist, and generalist journals—see Table 1, column 3. However, the absence in the top 20 journals of well-known heterodox journals, such as *CJE*, *Review of Social Economy (ROSE)*, *Metroeconomica*, and *Review of Political Economy (ROPE)*, suggests that the bibliometric approach captures only part of the contributions a journal makes towards building specific heterodox economic

Table 1  
 Research Quality Ranking of the 62 Heterodox Journals

Journal Name	Type of Journal	Bibliometric Ranking	Social Network Ranking	Total Citation Ranking	Peer Evaluation Ranking	Final Ranking —HJQS (Z Score)
<i>Cambridge Journal of Economics</i>	General	24	2	5	1	<b>1</b> 0.5419 (3.43)
<i>Journal of Economic Issues</i>	General	5	19	6	3	<b>2</b> 0.4412 (2.32)
<i>Journal of Post Keynesian Economics</i>	General	18	30	23	2	<b>3</b> 0.3931 (1.79)
<i>Review of Radical Political Economics</i>	General	14	15	8	4	<b>4</b> 0.3802 (1.65)
<i>Economy and Society</i>	Interdisciplinary	9	7	4	13	<b>5</b> 0.3521 (1.34)
<i>Development and Change</i>	Specialist	1	12	2	28	<b>6</b> 0.3480 (1.29)
<i>Review of Political Economy</i>	General	46	5	17	5	<b>7</b> 0.3373 (1.17)
<i>Review of International Political Economy</i>	Specialist	11	1	1	34	<b>8</b> 0.3277 (1.07)
<i>Journal of Economic Behavior and Organization</i>	General	23	20	15	6	<b>9</b> 0.3211 (0.99)
<i>International Labour Review</i>	Interdisciplinary	6	4	3	38	<b>10</b> 0.3062 (0.83)
<i>American Journal of Economics and Sociology</i>	General	26	3	7	26	<b>11</b> 0.3022 (0.79)
<i>Capital and Class</i>	General	16	14	9	20	<b>12</b> 0.3009 (0.77)

Table 1 *Continued*

Journal Name	Type of Journal	Bibliometric Ranking	Social Network Ranking	Total Citation Ranking	Peer Evaluation Ranking	Final Ranking —HJQS (Z Score)
<i>Metroeconomica: International Review of Economics</i>	General	35	9	21	10	<b>13</b> 0.2991 (0.75)
<i>European Journal of the History of Economic Thought</i>	Specialist	41	13	26	8	<b>14</b> 0.2964 (0.72)
<i>Review of Social Economy</i>	General	25	10	14	18	<b>15</b> 0.2936 (0.69)
<i>Journal of the History of Economic Thought</i>	Specialist	21	26	24	12	<b>16</b> 0.2919 (0.67)
<i>Science and Society</i>	Interdisciplinary	3	32	10	24	<b>17</b> 0.2910 (0.66)
<i>Feminist Economics</i>	General	4	31	11	23	<b>18</b> 0.2905 (0.66)
<i>Journal of Evolutionary Economics</i>	General	36	17	25	11	<b>19</b> 0.2882 (0.63)
<i>Rethinking Marxism</i>	Interdisciplinary	12	21	12	27	<b>20</b> 0.2824 (0.57)
<i>Journal of Development Studies</i>	Interdisciplinary	7	38	19	21	<b>21</b> 0.2742 (0.48)
<i>Journal of Economic Methodology</i>	Specialist	22	45	30	14	<b>22</b> 0.2547 (0.26)
<i>History of Political Economy</i>	Specialist	39	40	40	9	<b>23</b> 0.2538 (0.25)
<i>Structural Change and Economic Dynamics</i>	Specialist	20	46	31	16	<b>24</b> 0.2502 (0.21)

Table 1 *Continued*

Journal Name	Type of Journal	Bibliometric Ranking	Social Network Ranking	Total Citation Ranking	Peer Evaluation Ranking	Final Ranking —HJQS (Z Score)
<i>International Review of Applied Economics</i>	General	34	27	29	17	<b>25</b> 0.2495 (0.20)
<i>Economics and Philosophy</i>	Specialist	31	36	34	15	<b>26</b> 0.2466 (0.17)
<i>International Journal of Social Economics</i>	Interdisciplinary	32	6	13	42	<b>27</b> 0.2447 (0.15)
<i>Capitalism, Nature, Socialism</i>	Interdisciplinary	2	53	16	40	<b>28</b> 0.2347 (0.04)
<i>International Journal of Political Economy</i>	General	55	8	32	22	<b>29</b> 0.2342 (0.04)
<i>New Left Review</i>	Interdisciplinary	62	24	55	7	<b>30</b> 0.2292 (-0.02)
<i>Contributions to Political Economy</i>	General	53	22	37	25	<b>31</b> 0.2225 (-0.09)
<i>New Political Economy</i>	Interdisciplinary	15	39	27	36	<b>32</b> 0.2203 (-0.12)
<i>Journal of Socio-Economics</i>	Interdisciplinary	19	51	36	29	<b>33</b> 0.2192 (-0.13)
<i>Journal of Institutional Economics</i>	General	43	42	46	19	<b>34</b> 0.2174 (-0.15)
<i>Constitutional Political Economy</i>	General	8	37	18	53	<b>35</b> 0.2147 (-0.18)
<i>Antipode</i>	Interdisciplinary	30	16	22	47	<b>36</b> 0.2120 (-0.21)

Table 1 *Continued*

Journal Name	Type of Journal	Bibliometric Ranking	Social Network Ranking	Total Citation Ranking	Peer Evaluation Ranking	Final Ranking —HJQS (Z Score)
<i>Review of Austrian Economics</i>	General	17	29	20	54	<b>37</b> 0.2101 (-0.23)
<i>Historical Materialism</i>	Interdisciplinary	45	23	35	31	<b>38</b> 0.2052 (-0.28)
<i>History of Economics Review</i>	Specialist	37	28	33	33	<b>39</b> 0.1994 (-0.35)
<i>Journal of Income Distribution</i>	Specialist	10	46	28	49	<b>40</b> 0.1881 (-0.47)
<i>Oxford Development Studies</i>	Interdisciplinary	57	18	39	35	<b>41</b> 0.1848 (-0.51)
<i>Ecological Economics</i>	Interdisciplinary	47	43	51	30	<b>42</b> 0.1838 (-0.52)
<i>Cepal Review</i>	Specialist	58	25	50	32	<b>43</b> 0.1765 (-0.60)
<i>Studies in Political Economy</i>	Interdisciplinary	13	61	38	48	<b>44</b> 0.1704 (-0.67)
<i>Review of African Political Economy</i>	Specialist	27	50	41	44	<b>45</b> 0.1677 (-0.70)
<i>Revista de Economia Politica/Brazilian Journal of Political Economy</i>	General	61	11	42	43	<b>46</b> 0.1674 (-0.70)
<i>Forum for Social Economics</i>	General	49	41	51	37	<b>47</b> 0.1629 (-0.75)
<i>Econ Journal Watch</i>	General	28	54	43	45	<b>48</b> 0.1602 (-0.78)

Table 1 *Continued*

Journal Name	Type of Journal	Bibliometric Ranking	Social Network Ranking	Total Citation Ranking	Peer Evaluation Ranking	Final Ranking —HJQS (Z Score)
<i>Economic Systems Research</i>	General	29	52	44	46	<b>49</b> 0.1582 (-0.80)
<i>Journal of Australian Political Economy</i>	General	50	33	47	51	<b>50</b> 0.1504 (-0.89)
<i>Quarterly Journal of Austrian Economics</i>	General	33	49	45	57	<b>51</b> 0.1460 (-0.94)
<i>Critical Sociology</i>	Interdisciplinary	40	48	49	55	<b>52</b> 0.1443 (-0.96)
<i>Research in the History of Economic Thought and Methodology</i>	Specialist	60	34	58	41	<b>53</b> 0.1363 (-1.04)
<i>Organization and Environment</i>	Interdisciplinary	54	35	48	60	<b>54</b> 0.1355 (-1.05)
<i>Work, Employment and Society</i>	Interdisciplinary	42	57	56	50	<b>55</b> 0.1320 (-1.09)
<i>Advances in Austrian Economics</i>	General	48	47	54	56	<b>56</b> 0.1317 (-1.10)
<i>Journal of Interdisciplinary Economics</i>	Interdisciplinary	51	44	53	58	<b>57</b> 0.1287 (-1.13)
<i>International Journal of Green Economics</i>	Interdisciplinary	38	59	57	59	<b>58</b> 0.1229 (-1.19)
<i>Intervention: European Journal of Economics and Economic Policy</i>	General	59	55	62	39	<b>59</b> 0.1171 (-1.26)

Table 1 Continued

Journal Name	Type of Journal	Bibliometric Ranking	Social Network Ranking	Total Citation Ranking	Peer Evaluation Ranking	Final Ranking —HJQS (Z Score)
<i>Review of Black Political Economy</i>	General	52	60	59	52	<b>60</b> 0.1091 (-1.35)
<i>Critical Perspectives on International Business</i>	Interdisciplinary	56	58	61	61	<b>61</b> 0.0928 (-1.52)
<i>Debate</i>	Interdisciplinary	44	62	60	62	<b>62</b> 0.0873 (-1.59)

Derived from Appendix I: Table 5A.

knowledge and integrated heterodox theory through research dependency.

SNA directly addresses this weakness in part because a journal’s citation size is not neutralized. Using the same data set, it shows that the *CJE* has the second-rank JNQS\* of 3.96, which amounts to 56 percent of the benchmark score, and that its social network research quality is 44 percent more than that of *Development and Change* (see Appendix I, Table 3A). More generally, the above four journals are in the SNA’s top 10 ranking, while 13 of the top 20 bibliometric-ranked journals are not included in the top 20 SNA-ranked journals—see Table 1, column 4. More specifically, the Spearman rank correlation between the bibliometric and SNA rankings is a quite small ( $R_s = 0.129$ ). Journals such as the *Review of International Political Economy (RIPE)*, *CJE*, *ROPE*, *Metroeconomica*, and *American Journal of Economics and Sociology (AJES)* have much higher network rankings than in the bibliometric rankings. The disparity between the two rankings is least with interdisciplinary journals ( $R_s = 0.178$ ) and generalist journals ( $R_s = 0.142$ ) and the greatest with specialist journals ( $R_s = -0.071$ ). Thus SNA makes a substantive contribution towards capturing the specialization and integrative impact of heterodox journals.

The bibliometric and social network approaches utilize the same citation data but in different ways to measure research quality; thus they stand on equal footing with each other. Consequently, to combine their contributions, the social network scores are rescaled to make them equivalent to the bibliometric scores and then added together, which means that the total citation benchmark score is now 14:

$$\text{Total Citation Score (TCS)} = \text{JBQS} + \text{JNQS}^*. \quad (4)$$

The journal with the top TCS is the *RIPE* (8.10), which is 58 percent of the benchmark score, suggesting, as above, that all heterodox journals have much to do to improve their research quality. Moreover and unexpectedly, none of the top four journals are noted heterodox journals. In addition, despite the fact that the total citation ranking includes some (but not all) noted heterodox journals in the top 20, it would be difficult to convince a majority of heterodox economists that the *RIPE* contribution to research quality and hence to the development of heterodox economics is 53 percent more than that of the *Journal of Post Keynesian Economics (JPKE)* (see Table 1, column 5 and Appendix I, Table 5A). In short, although the total citation rankings are based on a comprehensive evaluation of the journal citations,<sup>15</sup> they lack “believability” because they lack “peer accuracy.”

To increase the accuracy of the journal rankings it is necessary to turn to peer evaluation. Over 75 percent of the journal evaluations are good, strong, or distinguished, while half of the journals have an average score of two or better. On the other hand, the familiarity weightings range from nearly 90 percent down to nearly 2 percent. However, because the average scores are positively correlated with the familiarity weight ( $R = 0.74$ ), they reinforce each other. Thus the JPEQs range from 2.9 for the *CJE* down to 0.02 for *Debatte* (see Appendix I, Tables 4A.2 and 4A.3). The rankings derived from the JPEQs are different from the total citation ranking ( $R_s = 0.536$ ).<sup>16</sup> In particular, the top 10 journals are dominated by generalist heterodox journals, while none of the top four total citation ranked journals are included (see Table 1, columns 5 and 6). Hence, from a bibliometric qua citation-base perspective, peer evaluation contributes to the accuracy of ranking journals. But since peer evaluations are as “objective”

as citation-based evaluations, it can also be said that the latter contributes to the accuracy of the former. Because the different approaches contribute different but compatible evaluations of journals, they can be combined on an equal footing to each other. So to construct the best possible ranking of heterodox journals, the contributions of both approaches are combined into a single overall score qua ranking that indicates the extent a journal has achieved research quality relative to the benchmarks noted above (normalized to equal one):

$$\text{Heterodox Journal Quality Score (HJQS)} = [0.5][\text{TCS}/14 + \text{JPEQS}/5]. \quad (5)$$

Thus, each HJQS represents a journal's overall percentage attainment of achieving 100 percent benchmark research quality.

The HJQS scoring and final ranking of heterodox journals reveal a number of interesting results and outcomes. The first is that the research quality of heterodox journals is less than 50 percent of the benchmark maximum. That is, the *CJE* has the top HJQS score of 0.54 or that it has obtained only 54 percent of attainable research quality; but the next HJQS is 0.44 (or 44 percent of the attainable research quality) for the *Journal of Economic Issues (JEI)* and it declines down to 0.09 for *Debatte*. Since research quality is defined as building specific economic knowledge and integrating heterodox theory through research dependency, the *CJE* as well as all other heterodox journals have significant room to improve their contributions to heterodox economics. Because of the positive rank correlation between total citations and peer evaluation ( $R_s = 0.536$ ), improving TCSs would also improve JPEQs and vice versa; thus citation improvements coincides with peer evaluation improvements. This interlocking virtuous reinforcing outcome implies that improving a journal's research quality can be done by improving its familiarity with heterodox economists and by promoting dependency (and specialized) citation practices.<sup>17</sup> A second result is that the rankings of the HJQSs have generalist journals making more of a contribution to research quality than interdisciplinary journals: of the top 20 journals, 12 are generalist journals while four are interdisciplinary journals, but of the bottom 42 journals, 18 are interdisciplinary while 15 are generalist journals—see Table 1. This outcome suggests that there is a limit to the extent that

interdisciplinary journals can contribute to the development of heterodox economics. In particular, because not all their articles qua citations are necessarily relevant to heterodox economics, the JNQSs of interdisciplinary journals are depressed; and similarly because heterodox economists are not as familiar with interdisciplinary journals as a whole, their JPEQs are also depressed. Together, the two factors “explain” why the contributions of interdisciplinary journals to heterodox economics are not on par with generalist heterodox journals (Appendix I, Tables 2A and 4A.3).<sup>18</sup>

Regarding the final ranking, the top 10 journals include the top six journals of both the total citation and peer evaluation ranking; and the top 20 journals include 15 of the top 20 journals in the total citation rankings and 13 of the top 20 journals in the peer evaluation ranking. This suggests that the HJQSs qua final rankings are more believable than either the TCSs or the JPEQs and their rankings are individually. Thus by combining the two scores, a more accurate research quality score is produced and a more believable journal ranking is achieved.<sup>19</sup> In particular, the top four journals—*CJE*, *JEI*, *JPKE*, and *Review of Radical Political Economics (RRPE)*—represent the heterodox approaches of post-Keynesian-Sraffian, institutional, and Marxian-radical economics; and within the top 20 journals, there is *Feminist Economics*, *ROSE*, and the *Journal of Evolutionary Economics*, each representing the heterodox approaches of feminist, social, and evolutionary economics. So, most of the various heterodox approaches are represented in the top 20 journals. The final rankings also reveal interesting clustering of heterodox journals. First, of the seven Marxist-radical journals (ranked 4, 12, 17, 20, 30, 38, 44), four are in the top 20; and of the eight post-Keynesian-Sraffian-institutional journals (ranked 1, 2, 3, 7, 13, 29, 46, 59), five are also in the top 20. This suggests that these two broad heterodox approaches collectively play a significant role in developing heterodox economics. Secondly, of the eight history of thought, methodology, and philosophy journals (ranked 14, 16, 22, 23, 26, 31, 39, 53), two appear in the top 20 and five appear in the top 30 journals. This clearly points to the centrality of these research areas for the development of heterodox economics. Just below these three clusters of journals in terms of contributing are the five development journals (ranked 6, 21, 41, 43, 45) and the four

social economic journals (15, 27, 33, 47). Finally, the three environment-ecological journals (ranked 28, 42, 58) and the five Austrian journals (ranked 35, 37, 48, 50, 56) are all but one in the lower half of the journal rankings. This suggests that these research areas are currently not central to the development of heterodox economics.<sup>20</sup>

The final journal ranking reveals which journals individually and in clusters are better at contributing to the development of heterodox economics. However, this ranking should not be deified since none of the heterodox journals are outstanding in this regard—there is much room for improvement. Moreover, except for the *CJE* and *JEI*, the distribution of the HJQSs is so compact (as indicated by their Z scores) that their differences are not very significant. Therefore, it is perhaps more appropriate to view the rankings as simply showing that all heterodox journals contribute to the development of heterodox economics (which is after all what is important) although in different amounts.

### **Research Quality-Equality Ranking of Heterodox and Mainstream Journals**

#### *Methodology and Data*

Economics is about explaining the provisioning process. Even though heterodox and mainstream economics contest each other's explanation of it, they both adhere to the discipline's goal of producing more scientific knowledge about it. Thus, the research quality of a journal is broadly the same for both—the usefulness of its articles to researchers in their analysis of the provisioning process. What constitutes advancement in scientific knowledge for heterodox and mainstream economists, however, is quite different. Therefore, a research quality metric utilized for mainstream economics is not appropriate for identifying quality research in heterodox economics; or putting it another way, heterodox journals perform poorly when evaluating the usefulness of their research for mainstream economists and vice-versa. In the previous section, the HJQS was developed to measure the research quality of heterodox journals and hence rank them

accordingly. As noted below, the SSCI impact factor is widely used by mainstream economists to measure the research quality of mainstream journals and also rank them accordingly. While these two measures for research quality are different in that they represent two distinct subdisciplines of different economic knowledge, they can be synthesized into a quality-equality economic journal ranking where heterodox and mainstream journals can be compared in terms of their research quality relative to their paradigm-based benchmark (Lee, Grijalva, and Nowell 2010).

The SSCI impact factor measures the importance of a journal to a predetermined collection of journals in terms of usefulness or relevance. That is, the impact factor for a journal in 2008 is calculated based on a two-year or a five-year period prior to 2008. The number of times the journal's articles in the previous two- or five-year period are cited in the collection of journals during 2008 is divided by the number of "citable items" in the preceding time periods produces a two- or a five-year impact factor. Thus, the impact factor is one way to measure the usefulness of a journal's articles to the research community that is represented by the collection of journals; that is, the impact factor is one way to measure research quality. Ideally, a journal's impact factor is derived only from a collection of journals like itself in that they all are engaged in similar research issues and building a common body of scientific knowledge and, as a result, have similar referencing and citation practices. However, this is not the case for SSCI impact factor scores. In particular, the impact factor scores for economic journals are not constrained to the subdiscipline of economics but include all the Web of Science social science journals, which means they are greater than if restricted to the 209 journals the SSCI identifies as economic journals. Yet, despite the misspecification of the impact factor scores for economic journals and other criticisms (see note 6 and its references), mainstream economists generally accept them as a legitimate measure of a journal's research quality relative to the research agenda and the building of scientific knowledge of mainstream economics.

For 2008, the SSCI identifies 209 economic journals that also include 17 heterodox journals; excluding the latter journals reduces the number of mainstream journals to 192. For 165 journals, the SSCI

five-year impact factor scores are used; and for the remaining recently added 27 journals, the SSCI two-year impact factor scores are used—see Appendix I, Table 6A.<sup>21</sup> The HJQS represents a heterodox journal's overall percentage attainment of achieving the research quality benchmark, while the SSCI impact factor does not do this directly. Following Lee, Grijalva, and Nowell (2010), it is possible to revise the impact factor to do this by using the scores of the top five journals as the benchmark to which all mainstream journals can aspire. That is, for 2008 the five journals with the highest impact factor scores are *Quarterly Journal of Economics* (8.716), *Journal of Economic Literature* (8.380), *Journal of Economic Growth* (6.032), *Journal of Political Economy* (5.742), and *Journal of Financial Economics* (5.203); and the average of their scores is 6.814. Taking this as the impact factor benchmark for mainstream journals, a journal's score that indicates its achieved degree of research quality relative to the benchmark is:

$$\text{Mainstream Journal Quality Score (MJQS)} = \text{MIF}/6.814, \quad (6)$$

where MIF is the impact factor score for the mainstream journal.

Thus, each MJQS represents a mainstream journal's percentage attainment of achieving benchmark research quality. Because HJQS and MJQS are a percentage of a heterodox or mainstream benchmark research quality, they can be synthesized into a composite *quality-equality* ranking of economics journals in which heterodox and mainstream journals can be compared in terms of research quality achievement:

$$\text{Journal Quality-Equality Score (JQES)} = (\text{HJQS}, \text{MJQS}), \quad (7)$$

where for any heterodox (mainstream) journal  $\text{JQES} = \text{HJQS} (\text{MJQS})$ .

### **Results and Discussion**

Before examining the quality-equality rankings, it is noticeable that in comparison to the MJQs for the 17 SSCI heterodox economics journals, the HJQs are, except for two journals, 1.2 to over 10 times higher and the scores of the *CJE*, *JEI*, and the *JPKE* (the top three

Table 2

## Comparative Research Quality Scores for Heterodox Journals

JOURNAL	MJQS	HJQS	HJQS/MJQS
<i>American Journal of Economics and Sociology</i>	0.053	0.302	5.70
<i>Cambridge Journal of Economics</i>	0.139	0.542	3.90
<i>Ecological Economics</i>	0.348	0.184	0.53
<i>Economics and Philosophy</i>	0.104	0.247	2.38
<i>Economy and Society</i>	0.288	0.352	1.22
<i>European Journal of the History of Economic thought</i>	0.030	0.296	9.87
<i>Feminist Economics</i>	0.170	0.290	1.71
<i>History of Political Economy</i>	0.025	0.254	10.16
<i>Journal of Development Studies</i>	0.174	0.274	1.57
<i>Journal of Economic Behavior and Organization</i>	0.242	0.321	1.33
<i>Journal of Economic Issues</i>	0.069	0.441	6.39
<i>Journal of Evolutionary Economics</i>	0.210	0.288	1.37
<i>Journal of Post Keynesian Economics</i>	0.057	0.393	6.89
<i>New Political Economy</i>	0.108	0.229	2.12
<i>Review of International Political Economy</i>	0.197	0.328	1.66
<i>Revista de Economia Politica</i>	0.017	0.167	9.82
<i>Work Employment and Society</i>	0.293	0.132	0.45

heterodox journals) are four to seven times higher—see Table 2. This suggests that heterodox journals contribute much less to mainstream economics than they do to heterodox economics, an expected outcome since, as argued above, mainstream and heterodox economics are distinct subdisciplines in economics and the SSCI does not include many heterodox journals.<sup>22</sup> Therefore, the SSCI impact factor is simply the wrong measure to assess the research quality of heterodox journals.

The JQES ranking of 254 mainstream and heterodox journals shows the degree to which each has attained its research quality benchmark and hence provides a basis for comparing research quality—see Table 3. Consider the first 25 journals, of which three are heterodox journals. The JQES for the *CJE* is slightly below that of the *American Economic Review* and slightly above the *Review of Economics and Statistics*. Thus in terms of their quality relative to their respective but different benchmarks, they are roughly the same—different but equal.

Table 3  
 Research Quality Ranking of 254 Heterodox and  
 Mainstream Journals

JOURNAL	JQES	ARE	BRE
<i>Quarterly Journal of Economics</i>	1.279	A1	A1
<i>Journal of Economic Literature</i>	1.230	A1	A1
<i>Journal of Economic Growth</i>	0.885	A1	A2
<i>Journal of Political Economy</i>	0.843	A1	A1
<i>Journal of Financial Economics</i>	0.764	A1*	A1
<i>Journal of Economic Perspectives</i>	0.742	A1	A1
<i>Econometrica</i>	0.725	A1	A1
<i>Journal of Economic Geography</i>	0.669	A2	
<i>Journal of Accounting and Economics</i>	0.646	A1	
<i>Review of Economic Studies</i>	0.592	A1	A1
<i>American Economics Review</i>	0.554	A1	A1
<b>Cambridge Journal of Economics</b>	<b>0.542</b>	<b>A2</b>	<b>A1</b>
<i>Review of Economics and Statistics</i>	0.533	A1	A1
<i>Journal of Health Economics</i>	0.526	A1	A2
<i>Economic Geography</i>	0.525	A2	
<i>Brookings Papers of Economic Activity</i>	0.518	A2	A2
<b>Journal of Economic Issues</b>	<b>0.441</b>	<b>C</b>	<b>A2</b>
<i>Economic Policy</i>	0.422	A2	
<i>Economic Journal</i>	0.406	A1	
<i>Journal of International Economics</i>	0.403	A1	A1
<i>Journal of Monetary Economics</i>	0.402	A1	
<i>Journal of Labor Economics</i>	0.400	A1	A2
<i>Energy Economics</i>	0.400	A2	B3
<b>Journal of Post Keynesian Economics</b>	<b>0.393</b>	<b>A2</b>	<b>A1</b>
<i>Health Economics</i>	0.385	A2	B1
<i>Journal of Econometrics</i>	0.385	A1	A1
<b>Review of Radical Political Economics</b>	<b>0.380</b>	<b>B</b>	<b>A2</b>
<i>Journal of Environmental Economics and Management</i>	0.378	A2	A2
<b>Economy and Society</b>	<b>0.352</b>	<b>A2*</b>	<b>B1</b>
<b>Development and Change</b>	<b>0.348</b>	<b>B</b>	<b>B3</b>
<i>World Development</i>	0.342	A2	B1
<b>Review of Political Economy</b>	<b>0.337</b>	<b>B</b>	<b>A2</b>
<i>Rand Journal of Economics</i>	0.336	A1	A1
<b>Review of International Political Economy</b>	<b>0.328</b>	<b>A2</b>	<b>B4</b>
<i>Journal of Human Resources</i>	0.328	A1	A2
<i>World Bank Research Observer</i>	0.325	B*	B3
<i>Journal of Financial and Quantitative Analysis</i>	0.325	A2	

Table 3 *Continued*

JOURNAL	JQES	ARE	BRE
<i>World Bank Economic Review</i>	0.322	A2	B1
<b><i>Journal of Economic Behavior and Organization</i></b>	<b>0.321</b>	<b>A2</b>	<b>A2</b>
<i>Journal of Risk and Uncertainty</i>	0.316	A1*	B1
<i>Journal of Public Economics</i>	0.312	A1	A1
<i>Industrial and Corporate Change</i>	0.307	A2*	A2
<b><i>International Labour Review</i></b>	<b>0.306</b>	<b>B*</b>	
<b><i>American Journal of Economics and Sociology</i></b>	<b>0.302</b>	<b>B</b>	
<b><i>Capital and Class</i></b>	<b>0.301</b>	<b>B*</b>	<b>B3</b>
<i>Journal of Law and Economics</i>	0.301	A1	A2
<b><i>Metroeconomica</i></b>	<b>0.299</b>	<b>B</b>	<b>B1</b>
<i>Journal of Business and Economic Statistics</i>	0.298	A1	A1
<i>Resource and Energy Economics</i>	0.298	A2	B2
<i>Journal of Money, Credit, and Banking</i>	0.296	A1	A1
<b><i>European Journal of the History of Economic Thought</i></b>	<b>0.296</b>	<b>A2</b>	
<b><i>Review of Social Economy</i></b>	<b>0.294</b>	<b>B</b>	<b>B3</b>
<b><i>Journal of the History of Economic Thought</i></b>	<b>0.292</b>	<b>A2</b>	
<b><i>Science and Society</i></b>	<b>0.291</b>	<b>B*</b>	<b>B3</b>
<b><i>Feminist Economics</i></b>	<b>0.290</b>	<b>B</b>	
<i>Journal of Applied Econometrics</i>	0.289	A1	A2
<b><i>Journal of Evolutionary Economics</i></b>	<b>0.288</b>	<b>A2</b>	
<i>Food Policy</i>	0.282	B*	
<b><i>Retinking Marxism</i></b>	<b>0.282</b>	<b>C</b>	
<i>Journal of Law Economics and Organization</i>	0.279	A1	A2
<i>Experimental Economics</i>	0.275	A2	
<i>Energy Journal</i>	0.274	A2*	B1
<b><i>Journal of Development Studies</i></b>	<b>0.274</b>	<b>A2</b>	<b>B1</b>
<i>Journal of Development Economics</i>	0.273	A1	A2
<i>China Economic Review</i>	0.270	B	
<i>Journal of Urban Economics</i>	0.270	A1	B1
<i>Journal of Industrial Economics</i>	0.266	A1	A2
<i>Journal of Economic Surveys</i>	0.263	A2	
<i>European Economic Review</i>	0.258	A1	A1
<b><i>Journal of Economic Methodology</i></b>	<b>0.255</b>	<b>B</b>	<b>A1</b>
<b><i>History of Political Economy</i></b>	<b>0.254</b>	<b>A1</b>	<b>A1</b>
<i>Economics and Human Biology</i>	0.253	B	B4
<i>Transform Business Economics</i>	0.251	—	
<i>Small Business Economics</i>	0.251	A2*	B3
<b><i>Structural Change and Economic Dynamics</i></b>	<b>0.250</b>	<b>B</b>	<b>B1</b>
<b><i>International Review of Applied Economics</i></b>	<b>0.249</b>	<b>B</b>	

Table 3 *Continued*

JOURNAL	JQES	ARE	BRE
<i>Land Economics</i>	0.249	A2	B1
<i>Journal of Common Market Studies</i>	0.248	A2*	B3
<b>Economics and Philosophy</b>	<b>0.247</b>	<b>A2</b>	<b>B1</b>
<i>European Review of Agricultural Economics</i>	0.246	A2	B3
<b>International Journal of Social Economics</b>	<b>0.245</b>	<b>B</b>	<b>B1</b>
<i>Mathematical Finance</i>	0.244	A1*	
<i>Journal of Policy Reform</i>	0.238	—	B2
<i>Game and Economic Behavior</i>	0.238	A1	A1
<b>Capitalism, Nature, Socialism</b>	<b>0.235</b>	<b>C</b>	
<b>International Journal of Political Economy</b>	<b>0.234</b>	<b>C</b>	<b>B3</b>
<i>International Journal of Forecasting</i>	0.234	A2	
<i>International Journal of Industrial Organization</i>	0.234	A2	
<i>Journal of Comparative Economics</i>	0.234	A2	B2
<i>Journal of Economics and Management Strategy</i>	0.233	A2	B1
<i>Insurance: Mathematics and Economics</i>	0.231	A2	
<i>Regional Science and Urban Economics</i>	0.230	A2	B1
<b>New Left Review</b>	<b>0.229</b>	<b>A2*</b>	
<i>Journal of Economic Theory</i>	0.228	A1	A1
<i>International Economic Review</i>	0.228	A1	A1
<i>American Journal of Agricultural Economics</i>	0.225	A1	B1
<i>Journal of Policy Analysis and Management</i>	0.224	A2*	B1
<i>Oxford Economic Papers</i>	0.223	A2	B1
<b>Contributions to Political Economy</b>	<b>0.223</b>	<b>B</b>	<b>B5</b>
<b>New Political Economy</b>	<b>0.220</b>	<b>A2</b>	<b>B2</b>
<i>Environmental and Resource Economics</i>	0.220	A2	B1
<b>Journal of Socio-Economics</b>	<b>0.219</b>	<b>B</b>	<b>B5</b>
<b>Journal of Institutional Economics</b>	<b>0.217</b>	<b>B</b>	<b>B4</b>
<i>Oxford Review of Economic Policy</i>	0.216	A2	B1
<b>Constitutional Political Economy</b>	<b>0.215</b>	<b>B</b>	
<i>Oxford Bulletin of Economics and Statistics</i>	0.215	A2	B1
<b>Antipode</b>	<b>0.212</b>	<b>A2*</b>	
<i>Scandinavian Journal of Economics</i>	0.211	A2	B1
<b>Review of Austrian Economics</b>	<b>0.210</b>	<b>C</b>	
<i>Australian Journal of Agricultural and Resource Economics</i>	0.206	A2	B3
<b>Historical Materialism</b>	<b>0.205</b>	<b>C</b>	
<i>Journal of Agrarian Change</i>	0.202	B	
<b>History of Economics Review</b>	<b>0.199</b>	<b>B</b>	
<i>Journal of European Economic Association</i>	0.199	A2	
<i>Econometric Theory</i>	0.198	A1	

Table 3 *Continued*

JOURNAL	JQES	ARE	BRE
<i>Journal of Economic Psychology</i>	0.195	A2	B2
<i>Journal of Banking and Finance</i>	0.190	A1*	A2
<i>World Economics</i>	0.188	B	B2
<b><i>Journal of Income Distribution</i></b>	<b>0.188</b>	<b>B</b>	<b>B4</b>
<i>Journal of Agricultural Economics</i>	0.186	A2	B2
<b><i>Oxford Development Studies</i></b>	<b>0.185</b>	<b>B</b>	<b>B2</b>
<b><i>Ecological Economics</i></b>	<b>0.184</b>	<b>A2</b>	<b>B1</b>
<i>Labour Economics</i>	0.183	A2	B1
<i>Review of Economic Dynamics</i>	0.181	A2	A2
<i>Econometric Reviews</i>	0.179	A2	B2
<b><i>Cepal Review</i></b>	<b>0.177</b>	—	<b>B2</b>
<i>Journal of Economic Dynamics and Control</i>	0.174	A1	A2
<i>Economics of Transition</i>	0.172	A2	
<i>Economic Development and Cultural Change</i>	0.172	A2	B2
<b><i>Studies in Political Economy</i></b>	<b>0.170</b>	<b>C</b>	<b>B4</b>
<i>Journal of Risk and Insurance</i>	0.170	A2*	
<i>Real Estate Economics</i>	0.169	A2	B2
<b><i>Review of African Political Economy</i></b>	<b>0.168</b>	<b>C</b>	
<b><i>Revista de Economia Política/Brazilian Journal of Political Economy</i></b>	<b>0.167</b>	<b>C</b>	<b>B2</b>
<i>Quantitative Marketing and Economics</i>	0.166	B	
<i>IMF Staff Papers</i>	0.165	C	B1
<i>Journal of Regional Science</i>	0.165	A2	B3
<i>Bulletin of Indonesian Economic Studies</i>	0.164	A2	B4
<i>Journal of Housing Economics</i>	0.163	B	B2
<b><i>Forum for Social Economics</i></b>	<b>0.163</b>	<b>C</b>	
<i>Economica</i>	0.162	A2	B1
<b><i>Econ Journal Watch</i></b>	<b>0.160</b>	<b>C</b>	
<i>Journal of Transport Economics and Policy</i>	0.160	A2	B2
<i>Futures</i>	0.158	B*	
<b><i>Economic Systems Research</i></b>	<b>0.158</b>	<b>C</b>	
<i>Journal of Population Economics</i>	0.155	A2	B1
<i>Quantitative Finance</i>	0.154	B*	B1
<i>Post-Soviet Affairs</i>	0.153	B*	
<i>Economics of Education Review</i>	0.151	A2	B1
<b><i>Journal of Australian Political Economy</i></b>	<b>0.150</b>	<b>B</b>	
<i>Journal of Productivity Analysis</i>	0.149	A2	B2
<i>Economic Inquiry</i>	0.148	A2	A2
<b><i>Quarterly Journal of Austrian Economics</i></b>	<b>0.146</b>	<b>C</b>	
<i>Kyklos</i>	0.146	A2	

Table 3 Continued

JOURNAL	JQES	ARE	BRE
<b>Critical Sociology</b>	<b>0.144</b>	<b>B*</b>	
<i>Journal of Regulatory Economics</i>	0.144	A2	B1
<i>Studies in Nonlinear Dynamics and Econometrics</i>	0.143	A2	
<i>Canadian Journal of Economics</i>	0.141	A2	A2
<i>Review of Agricultural Economics</i>	0.138	B	B1
<b>Research in the History of Economic Thought and Methodology</b>	<b>0.136</b>	<b>B</b>	
<i>Information Economics and Policy</i>	0.136	B*	B4
<b>Organization and Environment</b>	<b>0.135</b>	<b>C*</b>	
<i>International Tax and Public Finance</i>	0.134	B	
<i>Agricultural Economics</i>	0.134	A2	B2
<i>ASTIN Bulletin</i>	0.132	B*	
<b>Work, Employment and Society</b>	<b>0.132</b>	<b>A2*</b>	
<b>Advances in Austrian Economics</b>	<b>0.132</b>	—	
<i>Economic History Review</i>	0.130	A1	B2
<i>Economic Record</i>	0.130	A2	B3
<i>Public Choice</i>	0.129	A2	B1
<b>Journal of Interdisciplinary Economics</b>	<b>0.129</b>	<b>C</b>	<b>B5</b>
<i>Journal of Economic History</i>	0.126	A2	B1
<i>Tijdschrift voor Economisch en Sociale Geografie</i>	0.123	B	
<b>International Journal of Green Economics</b>	<b>0.123</b>	<b>C</b>	
<i>Economic Theory</i>	0.123	A1	A1
<i>Journal of Real Estate Finance and Economics</i>	0.120	B	
<i>Review of World Economics</i>	0.120	B	B1
<i>Journal of Policy Modeling</i>	0.120	B*	B3
<i>Review of Industrial Organization</i>	0.118	A2	
<b>Intervention: European Journal of Economics and Economic Policy</b>	<b>0.117</b>	<b>C</b>	
<i>Applied Economics</i>	0.114	A2	B1
<i>Journal of Forest Economics</i>	0.114	C	
<i>Review of Income and Wealth</i>	0.113	A2	B1
<i>Econometrics Journal</i>	0.110	A2	
<b>Review of Black Political Economy</b>	<b>0.109</b>	<b>A2</b>	<b>B3</b>
<i>Explorations in Economic History</i>	0.108	A2	B1
<i>Fiscal Studies</i>	0.108	A2	
<i>Contemporary Economic Policy</i>	0.107	B*	B2
<i>Economic Development Quarterly</i>	0.107	B	B4
<i>Journal of Economics</i>	0.106	B	
<i>Macroeconomic Dynamics</i>	0.106	A2	A2
<i>Southern Economic Journal</i>	0.105	A2	B1

Table 3 *Continued*

JOURNAL	JQES	ARE	BRE
<i>Journal of Macroeconomics</i>	0.103	A2	B3
<i>Emerging Markets Financial and Trade</i>	0.103	C	
<i>Journal of Japanese and International Economics</i>	0.103	A2	B2
<i>CESifo Economic Studies</i>	0.098	C	
<i>Economics Letters</i>	0.095	A2	A2
<i>Canadian Journal of Agricultural Economics</i>	0.095	A2	
<i>Federal Reserve Bank St. Louis</i>	0.095	—	
<i>Europe-Asian Studies</i>	0.094	B*	
<i>Review of Development Economics</i>	0.093	B	
<i>Scottish Journal of Political Economy</i>	0.093	A2	B3
<i>Theory and Decision</i>	0.093	A2*	
<b>Critical Perspectives on International Business</b>	<b>0.093</b>	<b>C*</b>	
<i>Journal of Agricultural and Resource Economics</i>	0.092	B	
<i>Social Choice and Welfare</i>	0.091	A2	A2
<i>Economic Modelling</i>	0.088	A2	B3
<b>Debate</b>	<b>0.087</b>	<b>B*</b>	
<i>Defence and Peace Economics</i>	0.085	B	
<i>Journal of Mathematical Economics</i>	0.084	C	A2
<i>Journal of Media Economics</i>	0.084	B	B4
<i>National Tax Journal</i>	0.082	A1*	A2
<i>Journal of Institutional and Theoretical Economics</i>	0.080	A2	B3
<i>Journal of African Economics</i>	0.079	B	
<i>International Journal of Game Theory</i>	0.078	B	
<i>Manchester School</i>	0.076	B	B2
<i>International Review of Law and Economics</i>	0.072	A2	B3
<i>Geneva Risk Insurance Review</i>	0.068	B*	
<i>Japan Economic Review</i>	0.066	B	
<i>South African Journal of Economics</i>	0.065	B	
<i>Journal of Real Estate Research</i>	0.064	B*	
<i>Open Economies Review</i>	0.064	B	B4
<i>Australian Economic History Review</i>	0.062	A2	
<i>Empirical Economics</i>	0.062	B	B3
<i>China and World Economy</i>	0.061	C	
<i>Journal of Economic Policy Reform</i>	0.060	B	
<i>Applied Economics Letters</i>	0.058	B	B2
<i>Eastern European Economics</i>	0.057	B	B4
<i>Post-Communist Economies</i>	0.056	B	
<i>De Economist</i>	0.055	C	B4
<i>Finanzarchiv</i>	0.053	C*	

Table 3 Continued

JOURNAL	JQES	ARE	BRE
<i>Japan and the World Economy</i>	0.052	B	B2
<i>Portuguese Economic Journal</i>	0.049	C	
<i>Australian Economic Review</i>	0.048	B	
<i>Politicka Ekonomie</i>	0.048	B	
<i>Developing Economies</i>	0.047	B	B3
<i>Independent Review</i>	0.045	C	
<i>Journal of Economic Education</i>	0.043	B*	B2
<i>Spanish Economic Review</i>	0.037	B	
<i>Pacific Economic Review</i>	0.036	B	
<i>International Journal of Transport Economics</i>	0.034	C*	
<i>Journal of Applied Economics</i>	0.031	B	
<i>Revue d'Etudes Comparative Est-Quest</i>	0.028	B	
<i>Ekonom. CAS</i>	0.027	—	
<i>Desarrollo Economico</i>	0.026	B	
<i>Invest Econ-Spain</i>	0.025	—	
<i>Hitotsubashi Journal of Economics</i>	0.025	B	B4
<i>Trimestre Economico</i>	0.024	B	B3
<i>Jahrbuecher fuer Nationaloekonomie und Statistik</i>	0.021	B	
<i>South African Journal of Economics and Management Science</i>	0.017	C	
<i>Hacienda Publica Esp</i>	0.015	—	
<i>Invest Econ-Mex</i>	0.007	—	
<i>Ekonomiska Samfundets Tidskrift</i>	0.004	C	
<i>Revista de Economia Aplicada</i>	0.000	C	B2

JQES—journal quality-equality score—heterodox journals and their scores are in **bold**.

ARE—Australian Ranking Exercise—if denoted by an \* the journal does not have an economics classification.

BRE—Brazil Ranking Exercise.

Similarly, the research quality of the *JEI* is slightly above the *Economic Journal*, while the research quality of the *JPKE* is slightly below the *Journal of International Economics* and the *Journal of Monetary Economics* but above the *Journal of Econometrics*. Moreover, if the research quality of the top 25 mainstream journals is judged as excellent, then the research quality of the top four heterodox journals must prima facie also be judged as excellent. Finally, if the research quality of an individual mainstream journal is judged as excellent, then the research quality of a heterodox journal whose JQES is within, say,

5 percent of the mainstream journal's score can also be judged as excellent or nearly so, such as the *Journal of Law and Economics* and *AJES*, *Capital and Class*, and *Metroeconomica*. So it is not that the research quality of mainstream journals is intrinsically better than heterodox journals (or vice versa), but they are different. Some mainstream journals contribute more to mainstream economics than some heterodox journals contribute to heterodox economics and some do not. Thus, the JQES ranking is a *quality-equality* ranking of both mainstream and heterodox journals.

The implications of the JQES ranking on the perceptions of which are the high impact, top tier, excellent research quality journals are dramatic. For example, in 2007 the Australian Department of Education, Science and Training invited the Academy of Social Sciences of Australia to participate in the ranking of academic journals for the ongoing research assessment exercise. In turn, the Economic Society of Australia was asked to rank 602 journals, which it did by using peer evaluation obtained via a questionnaire. As a result of the survey, an additional 288 journals were subject to peer evaluation. The end result, after due deliberation, is the publication of a four-tier ranking of 20,712 journals, of which 628 are classified as economics, on 9 February 2010. In economics, the top tier contains 46 journals (but only 37 are in the economics SSCI), and only one is a heterodox journal, *History of Political Economy*—see Table 3. The dispersion of first-tier journals goes from the *Quarterly Journal of Economics* (ranked 1) to *Economic Theory* (ranked 175) and includes 58 of the 62 heterodox journals. If the bottom 25 percent of the first tier is eliminated, which reduces the dispersion to *European Economic Review* (ranked 69), 21 heterodox journals are included; and repeating the exercise but eliminating the bottom 50 percent, nine heterodox journals still remain. Thus, utilizing the JQES ranking, anywhere from the top nine to the top 21 heterodox journals should be included in the first tier; and if the first and second tiers are combined, then between 40 and 56 heterodox journals should be included. The analysis reveals quite clearly that however the high impact, top tier, excellent research quality mainstream journals are identified, there are a nonnegligible number of heterodox journals that are their equivalents. Moreover, the JQES quality-equality rankings reveal that the

Australian rankings systematically undervalue the heterodox journals that are included in that the first tier equivalent heterodox journals are ranked in the second tier or lower, while the second tier equivalent heterodox journals are generally ranked in the third tier or lower (Abelson 2009; Bloch 2010; [http://www.arc.gov.au/era/era\\_journal\\_list.htm](http://www.arc.gov.au/era/era_journal_list.htm)).

### **Conclusion**

Evaluating the research quality of heterodox journals and comparing it to the research quality of mainstream journals is an unexplored area in the economics ranking literature. By separating economics into two subdisciplines of mainstream and heterodox economics and then identifying a set of heterodox journals, it is possible to develop a bibliometric and peer evaluation measure of research quality specific to them. The measure produces a ranking of heterodox journals in their own terms; but it can also be used to compare the research quality of heterodox journals to mainstream journals, as delineated in the JQES quality-equality rankings. That is, following conventional bibliometric methods combined with peer evaluation, it is possible to construct a research quality-equality measure relative to a benchmark that shows the contribution a journal makes to a subdiscipline and that can be used in an unbiased manner to compare journals' research quality across subdisciplines relative to the quality benchmarks of the subdiscipline. What the quality-equality rankings illuminate is the systematic discrimination against heterodox journals by mainstream economists.

In 2009 the Brazilian Ministry of Education undertook a ranking of academic journals, including economic journals, which are to be used to rate graduate programs and assess Brazilian research output. The committee appointed to rank the journals was made up of mainstream and heterodox economists and its journal ranking reflected this—see Table 3. In particular, 15 heterodox journals are included in the tier rankings of A1, A2, and B1 (which are the equivalent of the first and second tier in the Australian rankings) and another 15 to 25 could have been included. Despite of the effort to arrive at a more quality-equality tier ranking of heterodox and mainstream journals, some

Brazilian mainstream economists find it unacceptable. In his evaluation of the rankings, Da Silva (2009) stated that the inclusion of *History of Political Economy*, *JPKE*, and *RRPE* in the first two tiers reveals a left-wing bias in the rankings; moreover, he argued that the *CJE* and virtually all other heterodox journals should be downgraded and their places taken by better mainstream journals. To buttress his position, Da Silva refers to the RePEc impact factors, which are just as biased and invalid for evaluating the research quality of heterodox journals as are the SSCI impact factors. But, if the above method applied to the SSCI impact factors for measuring the research quality of mainstream journals is applied to the RePEc impact factors, the resulting quality-equality ranking would be somewhat the same, except that all the heterodox journals would be included in the first two tiers. Thus, Da Silva's recommendations for changes in the Brazilian journal rankings is to substitute lower quality mainstream journals for higher quality heterodox journals so to eliminate the supposed left-wing bias and impose a neoliberal right-wing bias.

The quality-equality measure shows which mainstream and heterodox journals have the same research quality. As a result, many heterodox journals appear on par with highly rated mainstream journals. Mainstream economists, such as Da Silva, may find this unacceptable and hence refuse to accept the rankings. However, because the measure is an unbiased one, it is not possible to argue that, for example, the *CJE* is not quality comparable to the *American Economic Review* or the *JPKE* is not comparable to the *Journal of Monetary Economics*. Thus, the mainstream response must be to condemn heterodox economics as noneconomics and reject it entirely. But this is not one based on ranking journals according to their research quality; rather it is quite different. In this case, it is an issue of cross-paradigm engagement and political/social tolerance or intolerance of different ideas and arguments. And this is quite a far distance from the issue of research quality ranking of heterodox journals.

### Appendices

Appendix I and Appendix II are available online at <http://cas.umkc.edu/economics/people/facultyPages/lee/>.

### Notes

1. Bibliometric refers to the use of citation and other bibliographic data to carry out quantitative and statistical analysis of scholarly research.

2. In this article, citations are interpreted as quantitative proxies of intellectual influence (Moed 2005).

3. In economics, there are subdiscipline rankings of journals in the areas of applied economics and socioeconomics (Barrett, Olia, and von Bailey 2000; Azar 2007).

4. Similar arguments have been advanced with regard to the subdisciplines of econometrics, applied econometrics, and applied economics (Baltagi 1998, 1999; Barrett, Olia, and von Bailey 2000).

5. Combining bibliometric measures with peer-based evaluation of the research quality of journals is considered good research practice in part because it provides a “check and balance” on the two approaches that if left to themselves may generate clearly “wrong” outcomes (van Raan 1996; Moed 2005). For an example of journal ranking that combines bibliometric measures with peer-based evaluation, see DuBois and Reeb (2000).

6. The research dependency impact factor for a journal is defined as the number of 2008 citations to its articles, reviews, and notes published in 2003–2007 divided by the total number of 2008 citations received by the journal—see Appendix II, Table A2. It represents the degree to which the building of heterodox knowledge draws upon recent as well as older contributions. That is, the RDIF encapsulates one of the research values of heterodox economists that both current and past research make valuable contributions to the building of heterodox economics. RDIF is used in place of the traditional impact factor, in part, because the latter is lagged only two years whereas for economics the lag should be five years, but largely because the impact factor does not capture the issue of research dependency on current publications. The other usual criticisms directed at the impact factor, such as possible wide yearly swings in its value and that it measures the “average impact” of all the journal’s articles ignoring the skewed distribution of citations per article, do not apply to RDIF because its value is constrained and is embedded in an algorithm that takes other factors into account when scoring the research qualities of a journal (Adler, Ewing, and Taylor 2008; Nederhof 2008; Carmona, Garcia-Ferrer, and Poncela 2005; Seglen 1998; Glanzel and Moed 2002; Nisonger 2004; Moed 2005).

7. The value of the constraint can range from zero to one. However, 0.50 is selected to emphasize the relative importance of promoting research dependency of recently produced scientific knowledge while at the same time maintaining the research importance of older publications.

8. For example, for the period 2002–2008, the *Cambridge Journal of Economics (CJE)* imported 927 citations and exported 1541 citations, and its domestic production of citations was 437, resulting in a total of 2,905 citations.

In addition, it imported citations from 29 heterodox journals and exported citations to 43 heterodox journals. Finally, of its 211 citations for 2008, 86 were to heterodox publications in the previous five years. Therefore, the JBQS for the *CJE* is:

$$\text{JBQS} = 3[437/2905] + [1541/437] + [927/437] + [927/1541] + [43/61] + 29/61 + 2[86/211] \quad (1.1)$$

$$\text{JBQS} = 0.4512 + 3.526 + 2.121 + 0.6015 + 0.7049 + 0.4754 + 0.8151. \quad (1.2)$$

Because (E/DP) and (I/DP) cannot be greater than two, their scores are reduced to zero. Therefore, the final JBQS for the *CJE* is 3.4540 (see Appendix I, Table 2A).

9. Because this approach to scoring research quality utilizes a benchmark that includes a balance of trade citations and implies a given citation-interdependent collection of heterodox journals, the issue of size and field-dependent normalization is not relevant (Moed 2005).

10. The criteria for the selection were that the journal had to be in existence for at least three years and accessible in a manner that counting citations was possible. This latter criterion meant that nearly all non-English language heterodox journals were excluded.

11. Citation data for the entire period were collected for 46 journals. Of the remaining 16 journals, five were started after 2002 and for the remaining 11 journals, it was not possible to obtain copies of the journals to fill in the gaps—see Appendix I, Table 1A, column 3.

12. Thus citations to mainstream and other journals were not collected. For all the journals, citations to heterodox journals constituted a minority of all journal citations.

13. Of the 62 journals, the SSCI only covers 22 of them (and not all of them completely). Of the 22 journals, 17 are in the subject category of economics while the remaining five are found in the industrial relations and labor, planning and development, interdisciplinary social sciences, and geography categories. The remaining 40 journals are covered by Scopus or no index whatsoever—see Appendix I, Table 1A, column 4.

14. A response rate is difficult to calculate. However, each *Newsletter* sent out over the listserv gets around 1,000 hits. If this is used as a benchmark, then the response rate is 40 percent.

15. The rank correlation between total citation and bibliometric rankings is  $R_s = 0.786$ ; and the correlation between total citation and social network ranking is  $R_s = 0.772$ . Thus, together the bibliometric and social network scores produce a more accurate total citation score qua ranking than when separate.

16. In addition, the rank correlation between peer evaluation and bibliometric rankings is  $R_s = 0.244$  and between peer evaluation and social network

ranking is  $R_s = 0.563$ . Thus, as in other studies, the Spearman rank correlation of peer evaluation and citation-based rankings are positive but not perfect.

17. Such practices include emphasizing to potential authors that submissions should include citations to articles previously published in the journal and citing relevant articles in other heterodox journals.

18. If either or both limiting factors are reduced, the interdisciplinary journals would lose their distinctiveness and become more like generalist or specialist heterodox journals.

19. The rank correlation between total citation and final rankings is  $R_s = 0.893$ ; and the correlation between peer evaluation and final rankings is  $R_s = 0.837$ . In contrast, the rank correlation between total citation and peer evaluation rankings is  $R_s = 0.536$ . Thus, together the total citation and peer evaluation scores produce a better, more accurate final score and ranking than when separate.

20. The social network and peer-review ranking of these eight journals are mostly in the bottom third, suggesting that they are neither well integrated into heterodox economics nor very familiar to heterodox economists—see Table 1.

21. Traditionally, economists have used the two-year impact factor scores to measure the research quality of a journal. But the evidence shows that impact factor scores in economics (and in the other social sciences) generally reach their highest value after five years; thus it is a better metric for research quality (Moed 2005; Adler, Ewing, and Taylor 2008; Nederhof 2008; Engemann and Wall 2009).

22. In fact, given the near absence of mainstream citations of heterodox journals (see Lee 2010), it appears that heterodox journals contribute nothing at all to mainstream economics and that their positive MJQs are largely due to citations made by noneconomic journals in the SSCI.

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