The use of working papers by Top Economists: A Bibliometric Analysis.

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Introduction
The procedure of academic publishing goes through different stages. Before a paper is sent to an academic journal or scientific monograph, results are presented at conferences and published as proceedings- or working papers (WP). This scientific literature is sometimes referred to as “grey literature” (Mili, 2000), a definition also linked to words like manuscripts, preprints and unrefered articles. Kling (2004) disentangles this terminology, stating that a manuscript points to a writing that circulates prior to acceptance for publication and a preprint to an article accepted for a specific venue. However, working paper series and conference proceedings still hold a somewhat intermediate position. They are published items, either in a book of proceedings, a special issue of a journal or, in case of working papers, an official ISSN registered series. They undergo a—be it minimal—degree of peer review by a scientific committee and are therefore considered a first step in the certification process of scientific work.

The status of such publication types differs strongly from field to field. In some fields such as engineering and computer sciences, proceedings papers are sometimes considered the final product (Goodrum & al., 2001). Montesi & Owen (2008) established, for the field of software engineering, that the journal article (JA) is mainly an extension of the proceedings paper, not bearing much innovation. In such fields, an argument can be made in favor of taking proceedings into account for research assessment exercises. The role of working papers is even more closely tied to field. They are unknown in most of the exact sciences, are well known in social sciences disciplines and play a essential role in the publication process of economics in particular. Based on the evolution of reference items, Frandsen and Wouters (2009) study the process of transformation in contents from the WP to the JA for a set of economics papers represented in REPEC.

Not much attention has gone to studying the use and impact of working papers. Zang (2007) performs a citation analysis, based on 650 references from two journals in agricultural economics and attributes 3.2% of the citations to working papers. Because working papers are more easily accessible through open access repositories, they serve as cases to estimate the effects of open access publishing (Frandsen, 2009). The author calculates the impact factors of working papers series compared to those of journals in economics over a ten years time span.

Aim of the study
This paper provides a micro analysis of the use and citations of working papers authored by 50 top economists. The questions are threefold:

1. To what extent are working papers used in this upper segment of scientists
2. What working papers are preceding the JA
3. To what extent is the working paper cited even after the publication of the paper

The analysis is done using REPEC source data. The aim of REPEC is to enhance the dissemination of research in economics by organizing a decentralized database containing working papers, journal articles, book chapters and other publication types. They identify the links between the final journal article and the preceding working paper(s). This particular link is the foundation to study the publications of 50 top economists. The definition of top economist follows the ranking of authors by REPEC. The citation analysis was narrowed down to a set of journal articles linked to both a paper by the National Bureau of Economic Research (NBER), which are subscription based, and a working paper from an academic institution. That way also the open access effect could be separated. A citation indexing system, CITEC, is part of REPEC and distinguishes citations attributed to either the working paper or to the succeeding journal article. However, the citation indexing is not yet sufficiently purified to use them for citation analysis or evaluation purposes. Therefore, the citing journal articles such as indicated by REPEC were extracted and their references were analyzed manually to see to what extent either the final JA or the WP was cited. This citation analysis only studies the citation of WP or JA by JA not by WP.
Results
Sample
A sample of 884 journal articles is considered, published by the top 50 classified authors by REPEC. The articles have been published during the period 2000-2005. Proceedings papers are excluded from the sample. Table 1 represents the 5 most important journals, headed by American Economic Review representing 11.2% of the article publications. Generally however, the JA contributions are quite evenly spread over 173 source titles.

Table 1. Journal use by TOP 50 REPEC Economists.

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<th>Journal</th>
<th>Use (%)</th>
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<tr>
<td>American Economic Review</td>
<td>11.20%</td>
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<tr>
<td>The Quarterly Journal of Economics</td>
<td>5.09%</td>
</tr>
<tr>
<td>Journal of Economic Perspectives</td>
<td>3.28%</td>
</tr>
<tr>
<td>Journal of Monetary Economics</td>
<td>3.17%</td>
</tr>
<tr>
<td>Journal of Public Economics</td>
<td>2.94%</td>
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Working paper use
Figure 1 shows the amount of working papers published prior to the corresponding journal article. These are working papers by the same author carrying exactly the same title. About 43% of the REPEC JA’s have at least one matching WP, some titles are represented by up to 6 WP. It shows that, even in this segment of top authors, it is custom to communicate results through that medium first. Table 2 indicates that the NBER-papers are the dominant category.

Figure 1. Number of WP preceding JA.

Table 2. Preceding WP titles.

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<th>WP type</th>
<th>Use (%)</th>
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<tbody>
<tr>
<td>NBER working papers</td>
<td>38.36%</td>
</tr>
<tr>
<td>CEPR Discussion Papers</td>
<td>7.17%</td>
</tr>
<tr>
<td>Harvard Institute of Economic Research WP</td>
<td>6.88%</td>
</tr>
<tr>
<td>Cowles Foundation Discussion Papers</td>
<td>3.51%</td>
</tr>
<tr>
<td>MPRA Paper</td>
<td>2.05%</td>
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Citation analysis
Only a small set of 132 citing publications was analyzed, coming from 7 titles. This set is to be extended, therefore results of Figure 2 must be interpreted with caution. Preliminary conclusions are that in less than 10% of the cases, the WP is cited if the JA is available. If the WP is cited, it is almost exclusively the NBER paper, despite the fact that an academic, often open access, alternative exists. The NBER paper is cited, years sometimes after the publication of the article in the journal.

Figure 2. Cited work by type.

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References