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Double-blind in light of the internet: A note on author anonymity

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ABSTRACT

This paper analyses the credibility of author anonymity that is provided by a double-blind review process. It is argued that authors have strong incentives to disseminate information about their papers before publication. A sample from two economics journals, both using double-blind review processes, provides evidence that author-revealing information of most accepted papers is available on the Internet before the review process is finished. The difficulty and cost of identifying authors of unpublished manuscripts from which author identity has been stripped, were examined in an experiment where subjects were paid according to their identification performance. The vast majority of authors could be identified within 60 s.

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"You know, the one with all the well meaning rules that don't work out in real life"

Homer Simpson (Matt Groening).

1. Introduction

The purpose of this paper is to investigate whether the author anonymity shield provided by double-blind peer-review-processes (PRP) can be credibly enforced today.¹ The effects of double-blind compared to single-blind were studied empirically in an impressive natural field experiment by Blank (1991), where papers submitted to the American Economic Review were randomly assigned to either a single-blind or a double-blind PRP. In that study, "only"

45.6% of the reviewers were able to correctly identify the author in the double-blind process. Hence, based on that result, it is reasonable to claim that author anonymity is at least partially maintained and therefore has some credibility. However, the study by Blank was based on data from 1987 to 1989, which was before the breakthrough of the Internet. Our thesis in this paper is that author anonymity can no longer be credibly enforced, due to the authors' dissemination of information on the Internet. To understand the thesis, it is necessary to look at the incentive and cost structure of both the author and the reviewer.

2. Authors: incentives and behavior

The establishment of priority of original intellectual achievements is one of the main driving forces of science, and there are strong norms and incentives related to it in the scientific community (see Merton, 1957). The author therefore has strong incentives to inform others about a paper before it is published, since new findings give credit to the author (by e.g., citations) and publicly announcing a

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¹ While the majority of the most influential economics journals apply single-blind PRP, top journals like the American Economic Review and the Journal of Finance use double-blind. Many medium-ranked journals also apply double-blind PRP (e.g., Journal of Economic Behavior and Organization and Economic Inquiry).

finding prevents others from claiming originality of it.² There are also more subtle reasons. For instance, knowing that the paper is written by a highly recognized author may make the reviewer confident that it is a good one.³ If a well-published author realizes this, he can increase the probability of getting the paper accepted by signalling his authorship of the paper at an early stage.

To investigate whether authors actually disseminate information about their papers before publication, we studied a sample of 87 recently published articles from two issues (June and December 2008) of two economics journals that use a double-blind review process.⁴ The journals are the American Economic Review (AER) and the Journal of Economic Behavior and Organization (JEBO), ranked number one and 32, respectively, by Kalaitzidakis et al. (2003). An Internet search was made to determine if information about papers was available before publication. Most of the papers in our sample were available as working papers before they were published, but other more fragmented pieces of information about papers that identify authors were also publicly available (in first drafts or memos, on conference and seminar homepages, in references by other papers, in newsletters etc). When these more fragmented pieces of information were added to the working paper data, all 44 AER papers and all but one of the 43 JEBO papers were mentioned on the web before publication.⁵ Information about the average AER and JEBO paper was available 39 and 48 months before its publication, respectively. The substantially earlier availability of JEBO papers have many explanations, one being that some of them may have been rejected by other higher ranked journals before.⁶

The question of credibility of the review process crucially hinges upon whether information is available for reviewers, which in turn depends on the timing of the review process. Data on when reviewers start and finish the review process is not publicly available. Still, the process obviously cannot start before the manuscript is received by the journal and it has to be completed before the paper is accepted. JEBO, but not AER, provides information about dates when a paper has been received and accepted. For AER, though, more aggregate information on reception and acceptance dates is available. According to the AER editor's report (see Moffitt, 2009, p. 3), the average

time it takes between receipt to acceptance and between acceptance to publication is 62 and 38 weeks, respectively. By combining this information with the intervals above, it may be concluded that information about the AER papers was available for 39 of the 44 papers by the average month of reception. This is probably an underestimation of the proportion of papers available during the review process, since these processes take a long time and the author should remain unknown to the reviewers throughout the whole period of consultation. Information was available for all 44 papers before the average acceptance date. Actually, all the papers were identifiable at least five months before the average acceptance time. The analysis for JEBO was more straightforward due to the availability of receipt and acceptance dates for each paper. Receipt dates were available for all but one paper, making a total of 41 observations. Information on the month of receipt and the month of acceptance was available for 38 and 41 papers, respectively. Such information was available no later than 11 months before the acceptance date.

3. Reviewers: incentives and costs

While the incentives for authors to disseminate information about their papers prior to publication appear obvious and strong, the incentives to identify the author in a PRP are probably weaker for the average reviewer. One motive pointed out in a recent editorial in *Nature* (2008) is that knowing the author's identity may stimulate the reviewer to ask appropriate questions about the manuscript. For instance, if the paper is written by a researcher recognized for his mathematical skills and rigour, the reviewer may decide to spend less time on checking mathematical proofs and more time on scrutinizing the motivation of the paper. More questionable reasons for a reviewer to identify the author also exist. If the reviewer is corrupt, he may need to identify the author to let the latter know that he is currently reviewing a paper and expects something in return for a positive review. Moreover, if the reviewer is highly networked, he may want to find out if the author belongs to his "friends" or "enemies". There may also be a disutility associated with violating the intended anonymity policy or the reviewer may simply prefer not to know the identity of the author. Thus, the reviewer may derive some benefits from identifying the author, but also a disutility from getting this information. Reviewers with a positive net benefit of identifying the author will be prepared to identify him if the cost of doing so is smaller than the benefit.

To get an indication of whether it is possible for reviewers to identify authors, and how costly it is, a small scale experiment was conducted.⁷ A sample of 32 information sets about unpublished articles was collected from the Internet. This sample consisted of titles and abstracts or only abstracts from 16 recently posted working papers and 16 conference papers. To ascertain if it was possible to identify the authors related to these information sets, and if so, how costly it was in terms of time, the sets were sent to four

² It is assumed here that the author presents final research results. For an analysis of the incentives to share intermediate research results, see Haessler et al. (2009).

³ Without going into the causality of the observation, Blank (1991) observed that papers from top universities have an overall acceptance rate that is more than four times higher than papers from lower ranked universities.

⁴ The purpose is not to analyze a representative sample of journal articles, but to get a coarse indication of the authors' dissemination of information about their papers. Details about the study can be found in Holm (2009).

⁵ Note that the figures concern papers that are eventually published and not rejected papers. However, since information was lacking for only one of all 87 published papers before they were published, it is safe to conclude that if information of a paper is not available on the Internet, it is not likely to be published soon in either of these two journals. Hence, author anonymity may exist, but only for rejected authors.

⁶ Azar (2004) estimates that a manuscript is normally submitted three to six times before it is accepted.

⁷ This experiment is described in detail in Holm (2009).

post-docs in Economics who were paid according to their performance in identifying the authors of the papers. The subjects (i.e., the post-docs) were sitting in front of a computer with access to the Internet. If the time it took the subject to identify the author was less than 60 (90), [150] s, the subject was paid SEK 15 (10), [5] per paper.⁸ If no identification was made within 150 s, the subject received zero.

The overall result (based on $4 * 32 = 128$ observations) shows that the subjects were indeed able to identify the author. Not a single working paper was missed when title and abstract were available. Papers found on conference pages had an identification rate between 80% and 90% depending on whether a title was added to the abstract or not. The cost, in terms of average time of identifying a working paper, varied between 24 and 33 s, depending on whether a title was provided and whether the department of the working paper was highly ranked or not. For papers obtained from conference pages, the average identification time varied between 34 and 62 s, depending on whether a title was combined with the abstract or not. The conclusion from this experiment has to be that the cost of identifying an author is very small; on average it is no more than a one-minute search.

4. Conclusion

In a sample from two journals that use double-blind review processes, information about nearly all accepted papers was available on the Internet before their respective review processes were expected to be finished. To get an indication of the difficulty and cost of identifying the author of an “anonymized” paper, an economic experiment was also conducted where the task was to identify the author of a given abstract of an unpublished manuscript. The results of the experiment strongly suggest that this task is neither difficult nor costly. Hence, author anonymity in a double-blind review process is no longer credible, because authors have strong incentives to disseminate

their research results before publication through non-costly on-line services and it is easy for reviewers to identify them through these services.

It should be stressed that the main purpose of this note is not to surprise, but to provide a systematic analysis of an issue that is often discussed informally in the research community. Hopefully, these observations will provide an input to the important decisions of how to design efficient, transparent and non-hypocritical review processes in the future.

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⁸ At the time the experiment was conducted, 1 USD was SEK 6.50.