Article

The Fiction of Double-Blind Reviewing: Evidence From the Social Science Research Network

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Abstract

Scholars have heatedly debated the benefits and limitations of the double-blind peer review. Scholars recently suggest that maintaining anonymity (i.e., the major advantage of a double-blind reviewing system) has become unfeasible in the age of Google because reviewers can easily find authors' information through Internet searching and text citations. In this research, we examine the issue from another perspective: the extent to which authors initially post their working papers through social network platforms before or during the review process so that their names and institutions are visible to reviewers even if the submitted journals practice double-blind reviewing. The results from an empirical study using a large-size panel data set showed that authors at top-ranked universities prefer to disseminate their working papers before or during the double-blind review process, in which case their identities will be visible for reviewers.

Keywords

peer review, social network, SSRN, Social Science Research Network, double-blind, single-blind

Introduction

In general, the extent to which researchers raise an issue is a subtle indicator of its importance. The benefits and limitations of practicing a double-blind peer reviewing policy is one such issue that scholars have debated heatedly over the past three decades

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(Blank, 1991; DeCoursey, 2015; Ferber & Teiman, 1980; Mainguy, Motamedi, & Mietchen, 2005; *Nature*, 2015; Stensrud & Brooks, 2005). In contrast to a single-blind peer review policy, a so-called "double-blind" peer review policy means that reviewers of a paper cannot get to know the identity of the author(s), and the author(s) cannot get to know the identity of the reviewer so that quality factors, such as gender, familiarity, and country of origin, do not influence the assessment of reviewers. According to signaling theory (Connelly, Certo, Ireland, & Reutzel, 2011; Spence, 1974), information cues serve as a useful signal that helps both parties make a decision. The purpose of double-blind peer review is to hide non–paper-related signals (e.g., authors' affiliations) from an online manuscript system so that reviewers can make accept/reject decision only based on the quality of submitted manuscripts. We believe that these information cues (e.g., author names, affiliations, or familiarity) can send strong positive or negative signals to receivers who are reviewers. For example, an author who comes from a top-tier university can likely signal his/her working papers with high quality and thus influence reviewers' unbiased assessment. Obviously, double-blind reviewing incurs more administrative costs than single-blind reviewing in that the former requires more careful procedures during the review process (Rowland, 2002). Most scholars against double-blind reviewing typically question the degree of anonymity of the double-blind reviewing, because reviewers are always able to identity the author of a paper from the text or the citations if they want. Supporters of single-blind argue that practicing a double-blind reviewing associated with high increased workload is worthless particularly in the age of Google. Many medical journals currently implement a single-blind reviewing policy; however, the medical research community has recently noted that bias with single-blind peer review may be greatest when authors come from lesser known institutions (Okike, Hug, Kocher, & Leopold, 2016). On the contrary, some prestigious journals in other disciplines have ended double-blind peer review. The *American Economic Review* (*AER*) announced an end to "double-blind" peer review in 2011, particularly because its editorial board members believed that double-blind reviewing had become an ineffective technique to maintain anonymity in the review process. In the age of Google, reviewers are able to identify the authors of a paper from its text or citations with approximately 50% identification accuracy (Cressey, 2014; Hill & Provost, 2003). Other top journals that have made a similar shift include the following: *Political Analysis*, a key journal in political science; the *Journal of Finance*, a leading journal in finance; the *Journal of Development Economics* and *Journal of Public Economics*, two key journals in economics; and *Information and Management*, a leading journal in information systems. Thus, whether double-blind peer review presents a better alternative depends predominantly on the extent to which authors and referees are anonymous. Prior debates have mainly focused on the question of whether or not reviewers can identity authors' information easily through Internet searching and text citations. In this research, we further examine the issue from another perspective: the extent to which authors initially post their working papers through social network platforms before or during review process so that their names and institutions are visible to reviewers even if the submitted journals practice double-blind reviewing.

Prepublication Through Social Networking

In the last decade, the proliferation of the Internet has fueled the rapid growth of sharing platforms around the world, particularly alongside the widespread diffusion of Web 2.0 technologies, such as those of YouTube, Facebook, Twitter, blogs, and Wikimedia. People can now share any form of content, including product comments, academic papers, tourism experiences, and interesting viral videos. For example, scientists are actively utilizing personal or professional Web 2.0 platforms (e.g., Facebook, LinkedIn, ResearchGate, and Academia.edu), personal websites and blogs to create profile pages, share papers, track views and downloads, and discuss research (Van Noorden, 2014). Top-tier journals usually have a very low acceptance rate, and only a few manuscripts can be accepted for publication. For example, the leading marketing journal, *Journal of Marketing*, only has an overall article acceptance rate of 8% (Kumar, 2016). The convenience brought by such social network platforms in obtaining valuable comments on papers from peers produces a shift in researchers' tendency to upload papers online for a prepublication peer review. Consequently, double-blind systems are actually rarely double-bind as working papers quickly spread in social networks and blogs prior to journal acceptance and publication. Referees can readily identify the author of a paper from the Internet and even have downloaded a previous version of this manuscript from the Social Science Research Network (SSRN), ResearchGate, and Academia.edu. For example, the submission guidelines of the *Journal of Marketing*, a premier journal in marketing, suggests that authors should not post their research online, such as on the SSRN, while a submitted paper is under review.

Method

To explore the extent and nature of such prepublication posting, we shift the emphasis from referees to authors and investigate how well-known authors or authors at top-tier universities actively share their working papers online prior to journal acceptance. This suggests that double-blind peer review processes have become a fiction. Using a panel data set constructed from eight journal archives—*AER, Journal of Finance, Management Science, Organization Science, Information System Research, Marketing Science, Operations Research*, and *Journal of Financial Economics*—we examine the relationship between papers published in these journals and earlier or similar versions of the papers (e.g., working papers) posted on SSRN from 2001 to 2016. Overall, 7,884 papers are included in this research.

  SSRN is a website featuring free paper download and dissemination. It was founded in 1994 by Michael Jensen and Wayne Marr, both financial economists. Authors can upload and circulate their working papers throughout the scholarly community. Thus, even if access to the published paper is restricted, scholars can download the original working paper through SSRN. Authors can also obtain valuable comments and improve their papers prior to journal submission. As the service has become more popular, the number of the unique visitors to SSRN has increased steadily, and SSRN

is now ranked the top open-access repository in the world by Ranking Web of Repositories. Subsequently, SSRN was bought by the leading social science electronic publisher, Elsevier, in 2016.

To explore the extent and nature of prepublication issues in the age of social networks, our empirical strategy uses one dependent variable, propensity to pre-publish. Specifically, we use a dichotomous measure equal to 1 if a paper has been posted on SSRN before journal acceptance, and 0 otherwise. The primary independent variable of interest is the institutional rank of affiliation. Authors' institutional rank was coded into five categories: 1 to 10, 11 to 20, 21 to 50, 51 to 100, and all other ranks. In cases of multiple authors, the highest institutional rank among them was used. These five categories are defined using the recent (2015-2016) World University Rankings developed by Times Higher Education. Additionally, we measure an author's established reputation, operationalized if the author is an editorial board member of at least one premier journal.[1] We also control for the authors' gender and co-authorship, since these may also affect prepublication incidence.

We model the probability that a paper is uploaded prior to journal acceptance as follows:

$$\log \frac{Pr\left(prepublication\right)}{1 - Pr\left(prepublication\right)} = \alpha_1 + \beta_1 \, Instutional \, Rank$$
$$+ \beta_2 \, Author \, Reputation + X'\delta_1 + \tau$$

where X is the vector of author characteristics. The terms α_1, β_2, β_2, and δ_1 are parameters to be estimated and τ represents the error term. The model is estimated via logistic regression with robust standard errors.

## Model Results Exploring Strategic-Coercion Hypotheses

Of the 7,884 papers published in the target journals during 2001 to 2016, 2,929 of them could be freely downloaded from SSRN, and thus 37.15% of authors chose to post their journal papers on the repository. Focusing on the 2,929 SSRN papers, we calculate that the prepublication rate is 83.41%, as shown in Figure 1 (i.e., 2,487 papers were posted on SSRN prior to final acceptance). As noted above, the American Economic Association (AEA) announced that from July 1, 2011, "double-blind reviewing" was dropped for the *AER* and the four other journals that the AEA publishes. We therefore further examine the percentage of prepublished *AER* published papers before and after 2011. As shown in Figure 2, the rate of prepublication for papers written by authors at highly ranked institutions falls significantly after 2011. A one-sample t test for differences in prepublication propensity between double-blind and single-blind review conditions is statistically significant in all cases (top 10: $t = 2.74$, $p < .01$; top 11-20: $t = 3.95$, $p < .001$; top 21-50: $t = 2.20$, $p < .05$; top 51-100: $t = 2.58$, $p < .05$; top 101 or more: $t = 3.43$, $p < .001$).

The preliminary evidence from the data indicates that the increasing prevalence of social networking may indeed affect authors' prepublication behavior through the
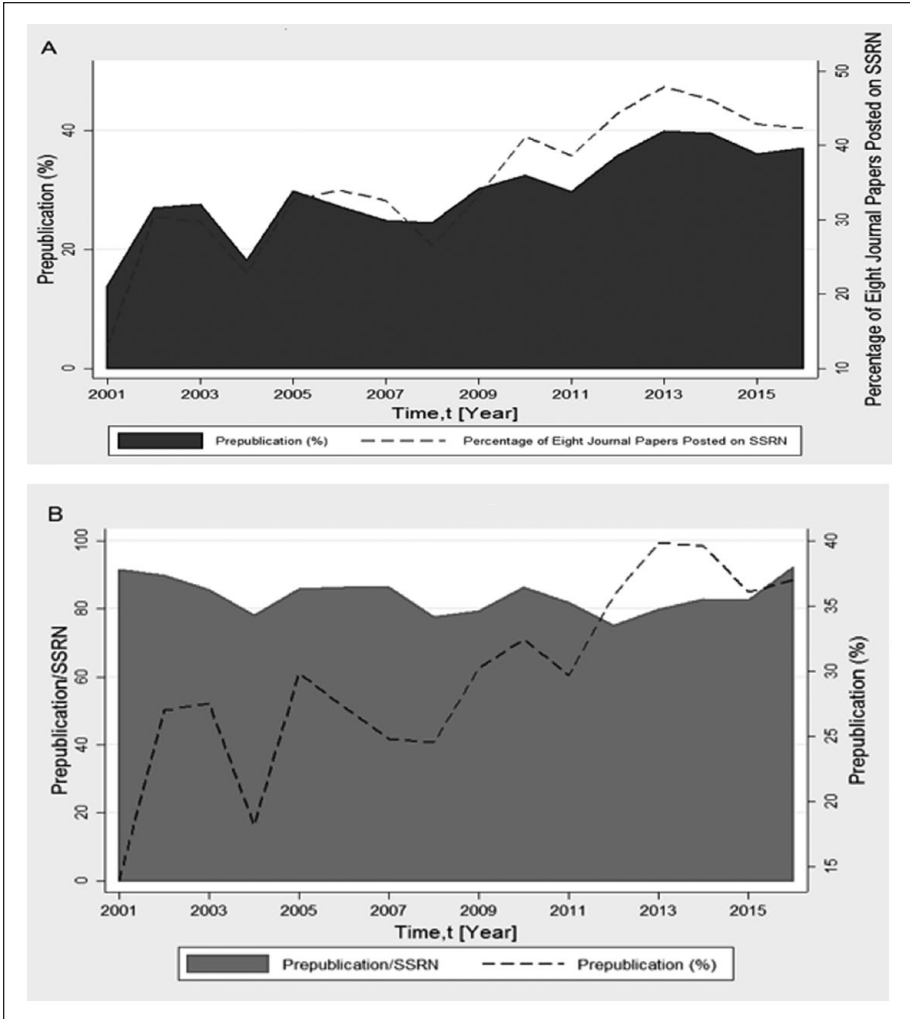
Figure 1. The trend of prepublication with SSRN. Panel A represents a sample based all the published papers in the eight journals. Percentage is calculated based on the ratio of prepublication to 7,884 journal papers. Panel B represents a small sample restricted to the papers posted on SSRN. Percentage is calculated based on the ratio of prepublication for the 2,929 working papers.

Internet. However, many confounding factors, such as author gender, the number of coauthors, and unobserved author heterogeneity, may contribute to the pre-publication phenomenon observed in Figure 1. Thus, we seek to more rigorously establish the social network effects through formal statistical analyses to build a predictive model for examining whether or not well-known researchers or researchers at top-tier
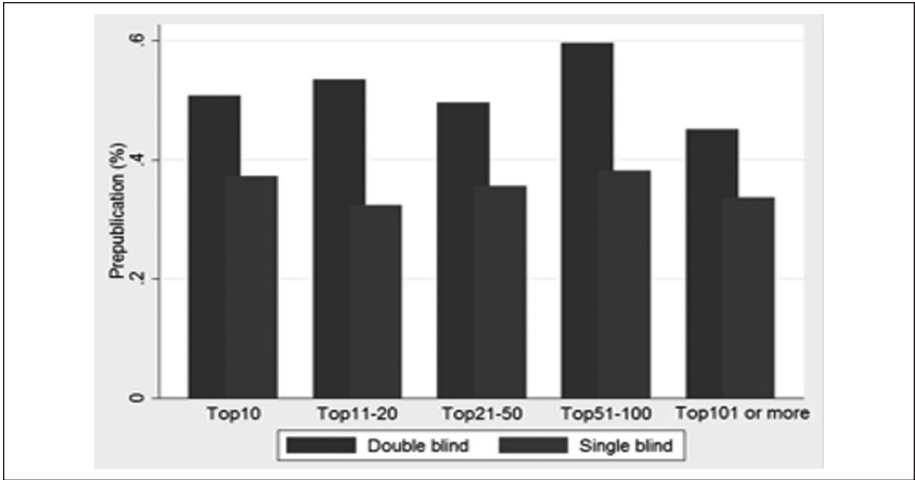
Figure 2. Prepublication of *AER* papers before and after 2011.

institutions are more likely to post their papers on SSRN before or during the review process, even if the journals adopt a double-blind peer review policy. As shown in Table 1, there is a strong, positive, and significant relationship between authors' institutional rank and their prepublication behavior if at least one author of a paper is affiliated with a top 20 university. For instance, in Model 1, we see that the institutional rank variable yields a positive and significant coefficient. This estimate represents a 24.7% increase in the probability of posting papers on SSRN before or during the review process if at least one author is affiliated with a top 10 university. In Model 5, our empirical evidence shows that authors with an established reputation (e.g., as editors of premier journals) are more likely to publish their manuscripts before or during the double-blind review process.

Conclusions

In summary, our results empirically confirm that double-blind peer review, in which both authors and referees are anonymous, is apparently unfeasible with the widespread diffusion of social network platforms. Using a panel data of SSRN working papers published from 2001 to 2016, we detect increased prepublication incidence associated with double-blind peer review. Our results suggest that well-known authors or authors at top-tier universities prefer to disseminate their working papers before or during the double-blind review process, in which case their identities will be visible for reviewers. In this work, we provide a quantification of the relationship between papers published in top journals and related working papers posted on academic generalist networks. We find that authors from the top 10 universities have the highest probability of posting papers on SSRN before or during the review process. We conclude that these results further illustrate that it is time to design new peer review mechanisms to avoid

Table 1. Logit Regression on the Incidences of Prepublication[a].

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Institutional ranks					
Top 1-10	0.247*** (5.46)	0.253*** (5.60)	0.246*** (5.42)	0.247*** (5.41)	0.265*** (4.47)
Top 11-20		0.165*** (4.23)	0.158*** (4.03)	0.159*** (4.02)	0.091* (1.82)
Top 21-50			−0.043 (−1.17)	−0.043 (−1.15)	−0.042 (−0.83)
Top 51-100				0.008 (0.19)	−0.043 (−0.80)
Authors' reputation					
Journal editor					0.234** (2.11)
Controls					
Authors' gender					0.219** (1.96)
Coauthor gender					−0.018 (−0.21)
Coauthors					1.074 (1.02)
Constant	−0.855*** (−32.36)	−0.907*** (−30.98)	−0.888*** (−26.67)	−0.890*** (−24.37)	−1.841* (−1.74)
Observations	7,884	7,884	7,884	7,884	4,272
Log pseudo-likelihood	−4865.5859	−4856.9937	−4856.3316	−4856.3153	−2701.8197

Note. Gender is a dummy variable and we code male as 0.
[a]The dependent variable is the probability that a paper is uploaded before or during the double-blind review process. Robust t values are reported in parentheses.
*$p < .10$. **$p < .05$. ***$p < .01$.

reviewers' biases about authors' previous work, their gender, their nationality, or years established in an area of research. For example, many premium journals have carried out plagiarism detection through reliable plagiarism detection software (e.g., Turnitin) for all new manuscripts. We suggest that one similar procedure could be implemented to examine if submitted manuscript have a significant repetition of earlier published work, including (but not limited to) material from SSRN, ResearchGate, or other online channels. As a consequence, editors have the right to ask authors to withdraw their manuscripts from online sharing platforms before considering peer review.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

Note

1. We use the *UT Dallas* 24 journals list, *Financial Times* 50 journals list, and Association of Business School 4-star journals in all disciplines to determine premier journals.

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