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# The slowdown in first-response times of economics journals: Can it be beneficial?

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The first response time (henceforth FRT) of economics journals has increased over the last four decades from 1-2 months to 3-6 months. The optimal FRT, however, is not zero, because the FRT deters submission of mediocre papers to good journals and consequently saves valuable time of referees and editors. The change in the actual FRT is in the same direction as the change in the optimal FRT, which has increased because of the availability of research on the Internet prior to publication and because the costs of refereeing a paper have increased.

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### 1. Introduction

Academic publishing has been the subject of several studies recently. Some studies considered the pricing of academic journals (e.g. McCabe, 2002 and Bergstrom, 2001), while others focused on various aspects of the review process: the use of single-blind versus double-blind review (Blank, 1991), payment to referees (Engers and Gans, 1998; Chang and Lai, 2001), and the value-added from the review process (Laband, 1990) are a few examples. Indeed, research on the academic review process is not only interesting for most academics, but is also very important because of the insights it might suggest about how the review process can be improved, enhancing the productivity of economists and scholars in other disciplines.

Two of the main criticisms about the review process are the long time that it takes overall, and the long time it takes to get a first response on a submitted manuscript (first response time, henceforth FRT). The overall review time is often measured by the submit-accept time, the time from first submission of the article to the journal that eventually publishes it until its acceptance. The overall review time has received some attention recently: Ellison (2002a) documents a slowdown in submit-accept times in economics over the last three decades, and Ellison (2002b) suggests that several additional disciplines also experienced a similar slowdown. The major cause of this slowdown is that authors are required to revise their papers more times and more extensively than in the past. Earlier studies of the publication delay include Yohe (1980) and Trivedi (1993).

As opposed to the submit-accept time, however, the FRT has not received any systematic analysis recently. The FRT is particularly important because it often delays the publication of an article more than once (as opposed to other parts of the submit-accept time) when the paper is rejected from one or more journals prior to being accepted in a different journal. Azar (2004a), for example, estimates that papers are submitted on average 3-6 times prior to publication. In what follows I discuss the FRT in economics and in particular I address three questions: what is the FRT in economics today, how has it changed over the last few decades, and can the change be beneficial?

## 2. The Slowdown in First Response Times of Economics Journals

#### 2.1 First Response Times Today

While many economics journals publish with each article its acceptance date or the dates in which the initial and final versions were received, no economics journal I encountered publishes information about the FRT of each article published. Going over dozens of journals, however, I found several journals that publish aggregate FRT statistics; Ellison (2002a) and websites of various journals provided me some more data. Table I presents the FRT in various journals. The table includes also FRT in journals in accounting and finance; the difference in the FRT between these fields and economics is puzzling and explaining why it exists is an intriguing topic for future research.

A few interesting outliers in the table are the journals of the Berkeley Electronic Press. Those are electronic journals that were established in recent years with the purpose "to address the inefficiencies that characterize the current scholarly publishing model."<sup>2</sup> If we look at the more established print journals in the table, however, we can see that the FRT in economics journals is generally between three and six months. From the author's perspective the FRT is a

<sup>&</sup>lt;sup>2</sup> Quoted from the mission statement of the Berkeley Electronic Press, available on-line at http://www.bepress.com/aboutbepress.html.

little longer (for snail mail submissions) because the FRT reported by the journal does not include the mailing time from the author to the journal and back.

Additional evidence for the FRT in economics is provided by Seidl, Schmidt and Grosche (2002), who sent economists questionnaires about their experience with the refereeing process in economics journals. They report the responses to the question "After submission of your paper, how long did it take on average to get a reply other than just a confirmation that your paper had been received?" In 110 journals for which they had at least five answers, the median journal's FRT is 20.2 weeks, the 10<sup>th</sup> percentile is 12.6 weeks, and the 90<sup>th</sup> percentile is 29 weeks. This FRT is based on the authors' perspective, so it already includes the mailing time in both directions.

#### 2.2 First Response Times Circa 1960

Forty years ago journals did not publish FRT data on a regular basis, but nevertheless there is some evidence for the FRT at that time. Marshall (1959), for example, sent questionnaires to editors of 30 economics journals, and received usable answers from 26 journals. Out of these 26 journals, Marshall reports that "Twenty-three editors reported that they gave notification one way or the other within 1 to 2 months, and only 2 editors reported a time-lag of as much as 4 months or more." Coe and Weinstock (1967) report the results of a survey in which the mean review time is 76 days for domestic journals (US + Canadian) and 70 days for foreign journals.<sup>3</sup> It seems that the review time they report refers to the time from submission to acceptance, which is longer than the FRT (although in the 1960's the difference between the

<sup>&</sup>lt;sup>3</sup> Coe and Weinstock report 75 and 73 days in Table 3, but direct computation based on the detailed data they provide in Table 1 suggests that the correct numbers are 76 and 70 days for domestic and foreign journals.

FRT and the submit-accept time was much smaller than it is today because revise-and-resubmit was not common in that period, see Ellison, 2002a).

While editors' reports did not include turnaround statistics on a regular basis, occasionally these reports include some indication for the FRT in that period. In the first issue of *The Bell Journal of Economics and Management Science* (which changed its name to *Bell Journal of Economics* in 1974 and to *RAND Journal of Economics* in 1984), the editor states "The Editorial Board undertakes to furnish the author of a submitted article with a decision on publication within a month of receiving the manuscript" (MacAvoy, 1970).

The editors of *The Economic Journal* describe the review process in the journal in the early 1970s (Champernowne, Deane and Reddaway, 1973):

The article is then considered by one of the two editors dealing with articles, who normally sends it to a referee with a stock letter which expresses the hope that he will report within three weeks if at all possible. We have a good system for "chasing" referees with reminders, but in the main they give us remarkably good service. As a check on this general impression, we analyzed our records for the period from 1 January 1971 to 13 June 1972, and reported the following result to the 1972 meeting of the Editorial Board:

Time to Receive Report	Number of Reports
Under 3 weeks	158
3 weeks – 2 months	101
Over 2 months	<u>27</u>
	286

The people in the third category were dropped from our list of referees, unless there was a good reason for the delay.

The editor of *Econometrica*, in his report dated June 30, 1975, states "The time between submission and editorial decision continues to remain roughly stable with the median time for papers in process about two months" (Fisher, 1976). Finally, Table II presents data about the FRT in the *QJE* in the years 1940 – 1980 for accepted and rejected manuscripts.<sup>4</sup> The FRT for all manuscripts is obviously closer to the number for rejected papers than that for accepted papers due to the small acceptance rate in the *QJE*. In 1960, the FRT was around two months.

## 3. Can the Slowdown in the FRT be Beneficial?

The discussion above suggests that the FRT grew from about 1-2 months circa 1960 to about 3-6 months today. At first the change seems as a bad outcome. Slower FRT means that new research is disseminated to the academic community less promptly, which is a bad thing. Nevertheless, I argue that this slowdown is in fact in the same direction as the change in the optimal FRT. To understand why, I explain below first why the optimal FRT is not zero, and then why the optimal FRT has increased over the last forty years.

#### 3.1 Why is the Optimal FRT Positive?

What is the optimal FRT? At first, it seems that as long as we do not reduce the quality of the review process, we would like the delay it causes to be minimal. This will allow research to be disseminated as fast as possible, which is particularly important since new research often uses previous results. We would like the referee to read the paper and write a report about it the same

<sup>&</sup>lt;sup>4</sup> I thank Glenn Ellison for the raw data used to compute the numbers in the table and for helpful advice. The procedure he used to collect the sample ensures that this is a random sample with respect to the FRT.

day he receives the paper, not four months later. Nevertheless, I claim that the optimal FRT is not zero.

What good does a longer FRT yield if the quality of the review process is unchanged? The answer is that it reduces the costs of the refereeing process, because a longer FRT reduces the number of submissions of low-quality papers to good journals. With zero FRT, and given the low submission fees in economics, the cost for an author of submitting an existing paper to a top journal is so small compared to the potential benefits (if the paper is eventually accepted there) that it is worthwhile to do so even when acceptance chances are very low. By submitting the paper, however, the author creates a social cost: referees and editors have to dedicate their scarce time to evaluate the paper. The problem is that the author faces a private submission cost that is much lower than the social cost of submission. For example, the author may pay \$50 as a submission fee, but this is much lower than the value of several hours of work of two referees.<sup>5</sup>

Increasing the FRT can alleviate this problem, since higher FRT increases the submission cost for the author. The FRT delays the publication of the paper, and thus creates a cost for untenured authors who want to have publications before their tenure decision. The FRT also

<sup>&</sup>lt;sup>5</sup> Another way to cause the author to internalize the social costs of the refereeing process is to increase the submission fee significantly (say to a few hundred dollars). This will create other problems, however, such as discrimination between authors with different financial abilities. Moreover, for some authors the submission fees are paid by their institution, by a grant, or from a non-binding research budget; in those cases an increase in submission fees might be ineffective. Interestingly, submission fees in finance and accounting (where the FRT is much shorter than in economics) are higher than in economics. Another interesting point is that the Berkeley Electronic Press journals (that have the shortest FRT in economics) require that the author will referee two papers for each submitted manuscript (in addition to a submission fee), thus causing the author to internalize the social cost of refereeing that his submission creates.

creates a cost for tenured authors, because promotion and salary depend on publications.<sup>6</sup> The delay created by the FRT causes the author to think twice before submitting his paper to journals where he has very low acceptance chances, and thus decreases the number of submissions of low-quality papers to good journals and reduces the costs of the refereeing system by saving the scarce resources of editors and referees.

For concreteness, consider the case of a mediocre paper and the top journals. The *QJE* and *REStud* do not charge submission fees at all, *Econometrica* does not charge submission fees from society members, *JPE* charges \$75 for subscribers and *AER* charges \$100 for members of the American Economic Association. Since every paper has some merits, and referees occasionally make mistakes, even mediocre papers have positive acceptance chances even in the top journals.<sup>7</sup> Even if the paper in fact has zero chances to be accepted, the author may overestimate its chances (on biases of authors regarding the quality of their papers see also Ellison, 2002b). Given the enormous benefits of a publication in a top journal (better chances to get tenure, higher lifetime earnings, prestige, better chances that the research will be read etc.), with a zero FRT, the optimal submission strategy (even of mediocre papers) is to submit to each of the top journals (sequentially). Hundreds of mediocre papers that today are not submitted to top journals will be submitted, increasing significantly the costs of the refereeing process. The

 $<sup>^{6}</sup>$  Moore, Newman and Turnbull (2001), for example, found in a sample of US economics professors that a publication in the top 10 journals in economics increases salary by 2.9 percent on average, and a publication in journals ranked 11 – 55 increases salary by 1.7 percent. On the returns to publications see also Sauer (1988) and Price and Razzolini (2002).

<sup>&</sup>lt;sup>7</sup> Laband, Tollison and Karahan (2002), for example, show that even in the *AER* and the *JPE* some papers do not receive any citations in the five years following their publication, suggesting that these papers are not important and that their acceptance was a mistake.

same idea applies when we compare two positive values of FRT: higher FRT increases the submission cost (for the author) and therefore reduces the number of redundant submissions (those where even the author knows his acceptance chances are very low). It follows that the cost of the review process (which is mainly the time cost of referees and editors) is a decreasing function of the FRT. The trade-off between lower cost of the review process and slower dissemination of research determines the optimal FRT.<sup>8</sup>

#### 3.2 Why has the Optimal FRT Increased over the Years?

Two major changes in the environment caused the optimal FRT to increase over the last few decades. One change is that articles today are longer and more mathematical than in the past (see Ellison, 2002a; 2002b). Even though referees also became more familiar with mathematical techniques than in the past, it still takes more hours to read, understand, evaluate and write a referee report on a mathematical paper than on a qualitative paper. In addition, it takes more hours to referee papers today than in the past because the papers are longer. Consequently, the social costs of reviewing a submitted manuscript increased, and it became more important to deter submissions of mediocre papers to good journals. This increases the optimal FRT.

The second change is the increasing availability of working papers. Today working papers are far more available than they were forty years ago, because individuals and institutions post their working papers on the Internet. Consequently, people often know about research in their field before it is published in a journal. Forty years ago it was much harder to know about a

<sup>&</sup>lt;sup>8</sup> It is important to stress that the advantage of a longer FRT applies only to new manuscripts, and not to revisedand-resubmitted ones. The benefit of preventing excessive submissions is irrelevant for papers that were good enough that a revised version was requested, while the cost of delaying the dissemination of research still exists. Therefore, the delay of resubmissions should be as short as possible (given a constant review quality).

new article before its journal publication. As a result, the importance of quick publication of research in journals (from the society's perspective, not the author's) has been reduced. In the trade-off that determines the optimal FRT the cost of a longer FRT (slow publication) has been reduced, increasing the optimal FRT.

A possible objection to this conclusion is that the availability of working papers prior to publication is irrelevant, because people do not read working papers. There are so many working papers, the argument goes, that people cannot afford to spend time reading them all just to find some of high quality. They prefer to wait until the high-quality papers are accepted in good journals, and then read only them.

There are several reasons why this may not be true and people do read working papers. First, the quality of working papers is not completely unknown. The authors are known and often the identity of the author can give a good idea about the quality of the paper. Many papers are presented in seminars, so potential readers have an idea about the quality of these working papers. Researchers also talk about papers they read, so once one person obtains information about the quality of a working paper (from seeing it presented in a seminar, reading it, and so on), others may receive this information from him. Often a short overview of a paper suggests whether it is of high quality or not, especially to readers who are familiar with the topic (and usually potential readers are familiar with the topic), so it is possible to review quickly many working papers and read thoroughly just the high-quality ones.

Moreover, while the number of working papers in general is high, if one is interested in a particular topic, the number of working papers available need not be so high as to exclude the possibility to read them all. Thus, when one is researching a certain topic, he can often afford to read the working papers that are closely related even before they are published. Electronic

databases (e.g. Econlit, IDEAS, and SSRN) make the task of finding relevant working papers relatively easy.

To support the claim that working papers are being read and are more important today than in the past, I examined empirically whether working papers are being cited in published articles. I categorized each citation in the May 2002 issue of *Econometrica* and the March 2002 issue of the *AER* (1109 citations in total) as a working paper, journal article, book, chapter in an edited volume, forthcoming article, or other (including sources such as governmental published statistics, Ph.D. dissertations, and newspapers). For comparison, I did the same analysis for the first two 1960 issues of *Econometrica* (January and April) and *AER* (March and June), with 420 citations in total.

Table III presents the distribution of citations. First, it is easy to see that the importance of working papers increased significantly over the years. Working papers accounted for less than 3% of citations in 1960, but account for about 14% of citations today. Second, we can see that working papers are being read and therefore their increased availability today is important. A cited working paper indicates that the author who cited it was familiar with its contents. If no one reads working papers prior to publication, we should expect to see no citations of working papers. The results show that while journals account for the majority of citations today – more than a half of total citations – the importance of working papers is without doubt. Working papers are the second largest source of citations in both *Econometrica* and the *AER*. The high frequency of working-paper citations is especially astounding given that most working papers cited are from the last few years while citations of journals and books can date decades ago. Moreover, citations of working papers underestimate the importance of working papers, because authors update references as they go. A paper the author originally knew about and read when it

was a working paper might have become a journal article by the time the author submits the final version to publication. The citation is then to a journal article, but the true source was the previous working paper.

The conclusion is that working papers are read, at least by researchers for whom they are relevant. This implies that the role of journals in disseminating new research has been eroded, and therefore that quick publication of research in journals is less important today than it was in the past. Thus, the optimal FRT increased because of two separate reasons: the benefit of a longer FRT is higher today because it is more important to deter frivolous submissions (due to a higher cost of refereeing a paper); and the cost of a longer FRT is lower nowadays because the importance of quick publication (from social perspective) has been reduced. The increase in the FRT in practice is therefore in the same direction as the change in the optimal FRT.

#### 3.3 A Formal Model of the Changes in the Optimal FRT

To see more formally why an increased cost of handling manuscripts and the availability of working papers raise the optimal FRT, I introduce below a simple model of how the optimal FRT is determined. Denote the FRT by d (for "delay"), where  $d \ge 0$ , and the number of submissions by n(d). As was explained above, a longer FRT changes the optimal behavior of authors in a way that reduces the number of submissions, implying that n' < 0. The total cost of the refereeing process is equal to a cost per submission, c, times the number of submissions, n(d).

Denote the social value of the benefits of peer-reviewed journals as V(d; s), where  $s \in [0, 1]$  is a measure of the spillover of information prior to publication in a journal. s = 0 corresponds to the case where no one knows about research done by others before the research is published in a journal. s = 1 corresponds to the case in which everyone knows about all the research that takes place and journal publication does not add any new information, including information about the

quality of the article. s is determined exogenously by the technology and the environment: working paper series, e-mail, and Internet, for example, increase the spillover of information prior to publication and increase the value of s. For simplicity, I assume that the functions V and n are continuously differentiable.

An increase in the FRT delays the dissemination of research, both to the general public and to other scholars who want to use the new knowledge as a basis for additional research, and therefore reduces V(d; s); formally,  $V_d < 0$ . The marginal cost of an increase in the FRT is smaller when the spillover of information is higher: when publication adds only little information, it is less crucial how quickly publication occurs. In the extreme case of s = 1, for example, since publication in a journal adds nothing, the marginal cost of an increased FRT is zero. This implies that  $V_d$  is smaller in absolute value when s is higher; since  $V_d < 0$ , it follows that  $V_d$  is higher when s is higher, implying  $V_{ds} > 0$ .

Welfare is equal to the benefits from peer-review journals minus the cost of the peer-review process:

$$W(d; s, c) = V(d; s) - cn(d).$$

The optimal FRT is obtained by maximizing W(d; s, c) with respect to d. Based on the empirical analysis in Azar (2004b), I also assume that  $d^*$  is strictly positive for all  $s \in [0, 1]$ . For simplicity, I also assume that for given values of s and c, there is a unique value of d that maximizes W, denoted by  $d^*$ . The following assumption summarizes the assumptions made so far:

**Assumption 1**:(i) n'(d) < 0 for all d.

- (ii)  $V_d < 0$  and  $V_{ds} > 0$ .
- (iii) W has a unique global maximizer, denoted by d<sup>\*</sup>, which is strictly positive.

(iv) V and n are continuously differentiable.

The first result is that an increase in the spillover of information raises the optimal FRT:

**Proposition 1**: d<sup>\*</sup> is strictly increasing in s.

**Proof**: Take any value of c, and any two values of s such that  $s_1 > s_0$ , and denote the corresponding optimal FRTs by  $d_0^*$  and  $d_1^*$ . We want to show that  $d_1^* > d_0^*$ .

(i) First, let us prove that it cannot be that  $d_1^* < d_0^*$ . Consider any value of d which is smaller than  $d_0^*$  and denote it by D. By the definition of  $d_0^*$  as the optimal FRT for  $s_0$ , it follows that

$$W(d_0^*; s_0, c) > W(D; s_0, c)$$
, which implies that  $\int_D^{d_0^*} V_d(d; s_0) - c \int_D^{d_0^*} n'(d) > 0$ . From  $V_{ds} > 0$  it

follows that  $V_d(d; s_1) > V_d(d; s_0)$  for all d. It then follows that

$$W(d_0^*;s_1,c) - W(D;s_1,c) = \int_D^{d_0^*} V_d(d;s_1) - c \int_D^{d_0^*} n'(d) > \int_D^{d_0^*} V_d(d;s_0) - c \int_D^{d_0^*} n'(d) > 0,$$

implying that any D cannot be optimal with  $s_1$  because  $d_0^*$  yields higher welfare.

(ii) Second, we can show that  $d_0^*$  is no longer optimal with  $s_1$ . Since  $d_0^*$  is the global maximizer with  $s_0$ , it is also a local maximizer, from which it follows that  $W_d(d_0^*; s_0, c) = V_d(d_0^*; s_0) - cn'(d_0^*) = 0$ . Because  $V_{ds} > 0$  we have  $V_d(d_0^*; s_1) > V_d(d_0^*; s_0)$ , and therefore  $W_d(d_0^*; s_1, c) = V_d(d_0^*; s_1) - cn'(d_0^*) > 0$ . This implies that values of d slightly above  $d_0^*$  achieve higher welfare than  $d_0^*$  does when  $s = s_1$ . Together with the result in part (i), this implies that the optimal FRT for  $s_1$  must be higher than  $d_0^*$ , i.e.  $d_1^* > d_0^*$ .

The second result is that an increase in the cost of handling a manuscript raises the optimal FRT:

**Proposition 2**: d<sup>\*</sup> is strictly increasing in c.

**Proof**: Take any value of s, and any two values of c such that  $c_1 > c_0$ , and denote the corresponding optimal FRTs by  $d_0^*$  and  $d_1^*$ . We want to show that  $d_1^* > d_0^*$ .

(i) First, let us prove that it cannot be that  $d_1^* < d_0^*$ . Consider any value of d which is smaller than  $d_0^*$  and denote it by D. Because  $D < d_0^*$  we know that  $n(D) > n(d_0^*)$ . By the definition of  $d_0^*$  as the optimal FRT for  $c_0$ , it follows that  $W(d_0^*; s, c_0) = V(d_0^*; s) - c_0n(d_0^*) > W(D; s, c_0) = V(D; s) - c_0n(D)$ . Rearranging it is easy to see that  $V(D; s) - V(d_0^*; s) < c_0[n(D) - n(d_0^*)] < c_1[n(D) - n(d_0^*)]$ , from which it follows that  $W(d_0^*; s, c_1) = V(d_0^*; s) - c_1n(d_0^*) > V(D; s) - c_1n(D) = W(D; s, c_1)$ . That is, welfare when  $c = c_1$  is higher with  $d_0^*$  than with any FRT smaller than  $d_0^*$ .

(ii) Second, we can show that  $d_0^*$  is no longer optimal with  $c_1$ . Since  $d_0^*$  is the global maximizer with  $c_0$ , it is also a local maximizer, from which it follows that  $W_d(d_0^*; s, c_0) = V_d(d_0^*; s) - c_0n'(d_0^*) = 0$ . Since n' < 0, we get  $W_d(d_0^*; s, c_1) = V_d(d_0^*; s) - c_1n'(d_0^*) > V_d(d_0^*; s) - c_0n'(d_0^*) = 0$ , implying that values of d slightly above  $d_0^*$  achieve higher welfare than  $d_0^*$  does when  $c = c_1$ . Together with the result in part (i), this implies that the optimal FRT for  $c_1$  must be higher than  $d_0^*$ , i.e.  $d_1^* > d_0^*$ .

Propositions 1 and 2 show formally that the higher spillover of information prior to publication today and the higher cost of handling manuscripts have increased the optimal FRT. Thus, the change in the actual FRT over the last 40 years, which was discussed above, is in the same direction as the change in the optimal FRT.

## 4. Conclusion

The academic review process is an important research topic since understanding it better and knowing more about it can help us improve the process and increase the productivity of economists and other scholars. Yet, this topic has received relatively little attention in the literature. One of the most criticized aspects of the review process is the long time it takes. The FRT is a particularly important topic, because it may delay the paper several times (if the paper is rejected from several journals prior to being accepted in another journal).

An examination of the FRT today and in the past shows a significant slowdown – the FRT increased from 1-2 months forty years ago to 3-6 months today. The optimal FRT, however, is not zero, and it increased over the years due to the increasing costs of refereeing a paper and the decreasing importance of quick publication in a journal (from a social perspective). The observation that the actual and optimal FRT both increased is intriguing; whether the increased optimal FRT is the reason for the actual increase in the FRT is an interesting question that is left for future research. It is possible that referees today, for example, feel less guilty when they delay the publication of an article, knowing that others who might be interested in it can read the working paper. Consequently, they handle papers less quickly than their past colleagues who felt more guilty when they delayed the publication process. Thus, indirectly, the same reasons that changed the optimal FRT could also change the behavior of referees and the actual FRT.

The insight that quick publication is less important today than in the past also has implications for the question how many revisions (and how significant) should articles go prior to publication. The benefit of more revisions is better articles; one of the costs is the delayed publication of new ideas. If quick publication becomes less important because the research is now available as working papers prior to publication, the optimal number of revisions increases. Empirical evidence suggests that indeed the number of revisions and their extent required today are much higher than in the past in various economics journals (see Ellison, 2002a; 2002b). It is again possible that the behavior of referees and editors was affected by the reduced importance of quick publication and this caused the changes in the optimal and the actual number of revisions to be in the same direction; a more careful examination of this idea is left for future research.

# References

- Azar, Ofer H. (2004a): "Rejections and the Importance of First Response Times," *International Journal of Social Economics*, 31(3), 259–274.
- Azar, Ofer H. (2004b): "The Review Process in Economics: Is it Too Fast?" Working paper, Department of Economics, Northwestern University.
- Bergstrom, Theodore C. (2001): "Free Labor for Costly Journals?" Journal of Economic Perspectives, 15(3), 183–198.
- Blank, Rebecca (1991): "The Effects of Double-Blind versus Single-Blind Reviewing: Experimental Evidence from The American Economic Review," American Economic Review, 81(5), 1041–1067.
- Champernowne, D. G., P. M. Deane and W. B. Reddaway (1973): "*The Economic Journal*: Note by the Editors," *The Economic Journal*, 83(330), 495–504.
- Chang, Juin-Jen, and Ching-Chong Lai (2001): "Is it Worthwhile to Pay Referees?" *Southern Economic Journal*, 68(2), 457–463.
- Coe, Robert K., and Irwin Weinstock (1967): "Editorial Policies of Major Economic Journals," *Quarterly Review of Economics and Business*, 7(4), 37–43.

- Ellison, Glenn (2002a): "The Slowdown of the Economics Publishing Process," *Journal of Political Economy*, 110(5), 947–993.
- Ellison, Glenn (2002b): "Evolving Standards for Academic Publishing: A q-r Theory," *Journal of Political Economy*, 110(5), 994–1034.
- Engers, Maxim, and Joshua S. Gans (1998): "Why Referees are not Paid (Enough)," *American Economic Review*, 88(5), 1341–1349.

Fisher, Franklin M. (1976): "Report of the Editor," Econometrica, 44(1), 214–217.

- Laband, David N. (1990): "Is there Value-Added from the Review Process in Economics?: Preliminary Evidence from Authors," *Quarterly Journal of Economics*, 105(2), 341–352.
- Laband, David N., Robert D. Tollison, and Gokhan Karahan (2002): "Quality Control in Economics," *Kyklos*, 55(3), 315–334.
- Marshall, Howard D. (1959): "Publication Policies of the Economic Journals," *American Economic Review*, 49(1), 133–138.
- Macavoy, Paul W. (1970): "From the Editor," *The Bell Journal of Economics and Management Science*, 1(1), 5.
- Mccabe, Mark J. (2002): "Journal Pricing and Mergers: A Portfolio Approach," *American Economic Review*, 92(1), 259–269.
- Moore, William J., Robert J. Newman, and Geoffrey K. Turnbull (2001): "Reputational Capital and Academic Pay," *Economic Inquiry*, 39(4), 663–671.
- Price, Gregory N., and Laura Razzolini. 2002. "The Returns to Seniority in the Labor Market for Academic Economists," Working paper.
- Sauer, Raymond D. (1988): "Estimates of the Returns to Quality and Coauthorship in Economic Academia," *Journal of Political Economy*, 96(4), 855–866.

- Seidl, Christian, Ulrich Schmidt, and Peter Grosche (2002): "A Beauty Contest of Referee Processes of Economics Journals: Preliminary Results," Working paper, Department of Economics, University of Kiel.
- Trivedi, P. K. (1993): "An Analysis of Publication Lags in Econometrics," *Journal of Applied Econometrics*, 8(1), 93–100.
- Yohe, Gary W. (1980): "Current Publication Lags in Economics Journals," *Journal of Economic Literature*, 18(3), 1050–1055.

# Table I

# First Response Times (FRT) in Various Journals (in Days)

	Median FRT	Mean FRT	Period	Source / journal issue	Comments
Economics Journals					
American Economic Review	132	154	7/01-6/02	May 2003.	Rejected papers only.
B.E. Journals in Economic	51	NA		Website.	
Analysis and Policy					
B.E. Journals in	66	NA		Website.	
Macroeconomics					
B.E. Journals in Theoretical	61	NA		Website.	
Economics					
Canadian Journal of	NA	109	12/02-11/03	Website.	
Economics					
Econometrica	118	107	2002	January 2004.	New submissions only.
	77	95			Revisions only.
	112	105			All papers.
Economic Inquiry	NA	149	2002	October 2003.	
Economic Journal	127	131	2001	Editor's report	All papers.
				2002 (on-line).	
	118	124			Rejected papers.
	214	174			Letters inviting revision.
European Economic Review	101	131	2001	on-line.	
Journal of Economic History	85	86	7/01-6/02	March 2003.	Including re-submissions.
	91	91			Excluding re-submissions.
Journal of Political Economy	NA	167	2000	Ellison (2002a).	
Quarterly Journal of	NA	82	1997	Ellison (2002a).	Papers sent to referees.
Economics					
	NA	47			All papers.
	NA	114			Accepted papers only.
RAND Journal of Economics	162	172	7/01-6/02	Autumn 2003.	
Review of Economic Studies		129	9/01-8/02	Website.	New submissions only.
		158			First revision.
		88			Second revision.
		48			Third revision.
Southern Economic Journal	76	90	2002	October 2003.	New submissions only.
Accounting Journals					
The Accounting Review	57	58	6/2002- 5/2003	October 2003.	Including re-submissions.
Journal of Accounting and Economics	46	50	6/02-5/03	August 2003.	
Finance Journals	1	1			
Journal of Financial	34	42	10/2002-	Website	
Economics			9/2003		
The Journal of Finance	40	44	3/1/00- 5/31/03	Website.	Including re-submissions.

Comments: In those journals in which I calculated the mean FRT based on a distribution provided by the journal, the mean FRT is probably a little higher than the figure in the table because I had to exclude papers that were still in the review process from the computation (since they do not have an FRT yet), and these papers have a higher FRT on average. In addition, I treated all papers in the highest category (e.g. 10+ months) as having an FRT of the lower bound of that category (10 months in this example; since the journals do not report the upper bound of the highest category, I had to make an arbitrary assumption such as this). This also leads to some under-estimation of the mean FRT. The median FRT might also be slightly underestimated because of the first issue, but is not affected by the second. The percentage of papers in the highest FRT category and those that were still in process was such that the bias is small. The only case in which the bias would have been large is that of the *Journal of Monetary Economics* in which out of 261 papers, 144 are "Papers in process" and 52 are "Over 16 weeks" (data about papers received during 10/01-9/02); to avoid presenting a misleading number I drop the FRT for this journal from the table. Additional details about the computations performed (in those cases that the journals publish the distribution rather than the mean or median) can be obtained from the author upon request.

# Table II

# First Response Times (FRT) in the QJE (in days)

	Accepted papers			Rejected papers			
	Number of	Average	Median	Number of	Average	Median	
	observations	FRT	FRT	observations	FRT	FRT	
1940	29	79	46	14	40	35	
1950	16	65	64	24	81	73	
1960	28	69	67	32	67	41	
1970	27	140	137	28	99	68	
1980				33	131	95	

## Table III

# Distribution of Current and Past Citations in the Leading Journals

	Working paper	Journal	Book	Chapter in an edited volume	Forth- coming in a journal	Other	Total
<i>Econometrica</i> 1-4/1960	10	99	78	16	2	16	221
In Percentage	4.5%	44.8%	35.3%	7.2%	0.9%	7.2%	99.9% <sup>a</sup>
AER 3-6/1960	2	77	68	11	1	40	199
In Percentage	1.0%	38.7%	34.2%	5.5%	0.5%	20.1%	100%
Econometrica 5/2002	64	248	60	24	3	13	412
In percentage	15.5%	60.2%	14.6%	5.8%	0.7%	3.2%	100%
AER 3/2002	91	397	78	55	4	72	697
In percentage	13.1%	57.0%	11.2%	7.9%	0.6%	10.3%	100.1% <sup>a</sup>

<sup>a</sup> The sum is greater than 100% because of rounding of the various percentages.