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## Economists in the PITS?

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## **Economists in the PITS?**

Bruno S. Frey

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# ***Economists in the PITS?***

by

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# ***Economists in the PITS?***

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<sup>1</sup> The author predicts that this paper will be rejected by the journals to which it will be submitted. There may be two reasons: (1) The paper is “bad” and is therefore rightly rejected (*causa finita*); or (2) the paper goes so much against the conventional grain of thinking in economics that it is rejected for ideological reasons (“it just does not fit”). The author obviously believes in reason (2) but such judgment must, of course, be left to the readers.

In order to shed some light on the publishing process, journal rejections will be explicitly listed in this first footnote. At the same time, the number of downloads on RePec and SSRN will be documented. The latter may serve as rough evidence for the interest sparked among scholars. The author is not aware having seen such a listing of these facts and figures in scholarly papers (it is only known that some subsequently famous papers were rejected by many journals before they were finally published – or perhaps not published; see Gans and Shepherd 1994). Papers are invariably presented as if they were in their virginal state. Many changes made voluntarily or involuntarily (the Publishing-as-Prostitution-effect, Frey 2003), are never revealed. As most papers are rejected several times before acceptance, the actual contribution by the respective author remains unclear.



***Abstract:*** Academic economists today are caught in a “Publication Impossibility Theorem System” or PITS. To further their careers, they are required to publish in A-journals, but this is impossible for the vast majority because there are few slots open in such journals. Such academic competition is held to provide the right incentives for hard work, but there may be serious negative consequences: the wrong output may be produced in an inefficient way, the wrong people may be selected, and the losers may react in a harmful way. The paper suggests several ways for improvement.

***JEL Classification:*** A1, D02, I23.

***Keywords:*** Academia, economists, publication, journals, incentives, economic methodology



## *An Impossibility*

Many economists feel that they work in the PITS. They are subjected to a publication system, which induces them to work extremely hard, but with only a minute chance of success. This applies in particular today to young scholars who, in many countries, know that they can only get a permanent position at a good university if they publish in an “A-journal”. A conventional definition of A-journals<sup>i</sup> includes *The American Economic Review*, *Econometrica*, *Journal of Political Economy*, *Quarterly Journal of Economics*, and *The Review of Economic Studies*. Only when a young scholar has had at least one article, or preferably two or three, published in these journals, can he or she hope to get tenure or promotion to a full professorship. A full professor is expected to regularly have papers accepted in these A-journals or, otherwise, is considered to not be up to the task. These “publish in A-journals or perish” requirements are rarely explicitly written down<sup>ii</sup>. That they do, in fact, exist is based on the author's recent conversations with both junior and senior scholars in Austria, Germany, the Netherlands, Portugal, Spain, Sweden, Switzerland, and the United Kingdom<sup>iii</sup>.

This paper argues that it is strictly impossible to meet this requirement because the number of scholars trying to achieve publication in A-journals is far larger than the number of slots



open for publication. To borrow from a famous theory, one can (very loosely) speak of an “Impossibility Theorem” with respect to publishing requirements: For the population of aspiring academic economists, it is *in general* impossible to meet publishing requirements. Scholars can thus be taken to work in the PITS, i.e. in a “Publication Impossibility Theorem System”.

Table 1 shows the number of slots, or the supply, available in A-journals per year.

*Table 1. Slots in A-journals, 2007*

| Journal                                       | Total<br>number of<br>articles | Articles by                           |  |
|---|--------------------------------|---------------------------------------|--|
|   |                                | scholars in<br>top US<br>universities | Articles by<br>economists<br>in the US |
| <i>American Economic Review</i> <sup>a)</sup> | 102                            | 44 (43%)                              | 84 (82%)                               |
| <i>Econometrica</i>                           | 51                             | 18 (35%)                              | 38 (75%)                               |
| <i>Journal of Political Economy</i>           | 31                             | 19 (61%)                              | 25 (81%)                               |
| <i>Quarterly Journal of Economics</i>         | 44                             | 25 (57%)                              | 37 (84%)                               |
| <i>Review of Economic Studies</i>             | 47                             | 13 (28%)                              | 40 (85%)                               |
|   | 275                            | 119 (43%)                             | 224 (81%)                              |

<sup>a)</sup> *Papers and Proceedings* are excluded.



Table 1 shows that, in 2007 overall, 275 articles were published in A-journals. More than 40% of that space was taken up by scholars from the top US universities (Harvard, MIT, Princeton, Yale, Berkeley, and Stanford), and more than 80% by scholars working in the United States. If this distribution holds in the future (and there is little reason to expect any drastic changes), an academic from any other country (of the more than 190) in the world can expect to compete for inclusion among the roughly 50 remaining slots.

It is extremely difficult to estimate how large the demand is to publish in top economics journals. A rough estimate is that there are around 10,000 academics actively aspiring to publish in A-journals. The true figure is probably even larger as one single outlet, *RePec*, lists no less than 20,000 scholars presently involved in publishing. Even if two-thirds of them are from the United States, there are around 7,000 scholars from all other countries. However, it may safely be assumed that a considerable number are not listed in *RePec*, precisely because they have not yet been successful in publishing in one of the journals or other publication outlets included in *RePec*. What matters is that, by necessity, an *extremely low* share of aspiring scholars will be able to publish in an A-journal. Publication in these journals is characterized by extreme excess demand.



### *This is Just a Tournament*

The need to publish in A-journals can be interpreted as a tournament in which only one person or, in our case, a few people rise to the top, while the great majority of contenders fail to do so. Such a tournament (Rosen and Lazear 1981) is held to create the right incentives to put in lots of effort and do better than the other contenders. These are the beneficial effects of “publish or perish” which conventional economics has in mind.

### *But There May Be Problems...*

In order for the tournament system reflected in the PITS to produce positive overall effects, four important requirements have to be fulfilled:

- 1. The tournament leads to the “right” kind of output or scholarly production.*

The papers accepted in the A-journals must be exactly those desired according to some criterion. This criterion is defined *within* academia, in our case by the peer group of academic economists. Sociologists refer to such a criterion as “self-referential”, as it is independent of any outside evaluation. A self-defined criterion could well be criticized by arguing that



any discipline should cater to the interests of the wider public. This is particularly true of economics. Many people take it for granted that academic economists should help other people in society, in particular political and administrative decision-makers, to better understand how the economy works and to improve its performance. While it is difficult to define exactly what this means, it is clear that such a goal is determined from *outside* the discipline.

Even if the internal criterion by the academic economics profession was consistent with the external criterion described above – which can well be doubted<sup>iv</sup> – it is still open to debate whether the members of the discipline are good at selecting the respective papers. The selection of papers relies on an elaborate system of peer reviews, which is taken to be the only reliable ex ante evaluation method. However, there is substantial empirical evidence that the peer-review process does not perform very well (see, extensively, Daniel 1993, Weingart 2005, Osterloh and Frey 2008, Gillies 2008). The inter-rater reliability is rather low (see e.g. Starbuck 2006); the evaluation of a paper by the various referees, on average, correlates only by 0.2 to 0.3, which is also rather low. Moreover, Oswald (2007) recently demonstrated that many papers published in B-journals get far more subsequent citations than many papers published in A-



journals. As citations are considered the ultimate ex post evaluation in the profession, this evidence suggests that the present refereeing process is open to doubt.

## *2. Publishing activity is efficient*

Even if the selection of articles for A-journals was perfect (which it never is nor will be), there is the question whether the social benefits produced by such a publication is worth the input of labor required. This is not necessarily the case, as the man-hours needed to write an acceptable paper can be huge (some young scholars are said to have worked for one year or more to get a single paper into an A-journal), while the median number of citations is zero, or close to zero. According to Laband and Tollison (2003), for a sample of 73 journals in 1974 and 91 journals in 1996, 26% of papers were never cited. One has to consider 70% of papers before the average per paper has been cited more than once. This can hardly be considered high productivity, as the “dry holes” are dominant by far. It may nevertheless be claimed that even if a large majority of publications in A-journals (and elsewhere) were indeed of little or no value, this production is necessary in order for a few gems to be produced. These gems only reveal themselves after some time, often a lengthy period. But this argument should be



supported by empirical evidence and not just claimed.

Otherwise, all activities a human being could undertake could be claimed to be highly productive. As it stands, it should be legitimate to at least ask whether the overall productivity of economists, from the point of view of society, would not be higher if they could more freely choose what and where they want to publish (for instance, in books and in the popular media), and whether publishing is the main, or only, activity in which they are obliged to engage. It should not be dismissed out of hand that economists would contribute more to society if the activity of a very large share of them were not “wasted” in the useless effort of writing papers for A-journals. A more efficient policy than “publish in A-journals or perish” could possibly be to induce scholars to first establish their mastery of economics by writing a number of papers devoted to the solution of concrete issues that, due to their lower formal elegance, are difficult or impossible to publish in the A-journals.

### *3. The “right” people are selected*

A tournament among papers submitted to the A-journals only leads to a satisfactory selection of *people* in academia if writing top papers is the *only* relevant criterion. This is doubtful as academics have to fulfill various other important activities, i.e.



they should be engaged in multiple tasks. The most important among these are:

- Teaching;
- Supporting young scholars (PhDs and postdoctoral students);
- Informing and advising the public; and,
- Participating in university administration.

To excel in these tasks can, but does not necessarily, positively correlate with the ability to write A-journal papers, especially as performance in these other tasks is difficult and sometimes impossible to measure. As the need to publish in top journals is extremely arduous and time-consuming, due to the time-and-effort constraints scholars are subject to, it is likely that a negative correlation between publishing and the four other tasks is generally produced (this is the multiple-task effect applied to academia, see Holmström and Milgrom 1991, Prendergast 1999). Imposing strict requirements for publishing in A-journals also tends to lead to an undesirable selection effect among participants, as intrinsically motivated scholars are likely to be put off while extrinsically motivated scholars thrive (this is the crowding-out effect, see Frey 1997, Bénabou and Tirole 2003). The fact that there are always *some* extremely gifted and extrinsically motivated scholars who excel in several of these



tasks simultaneously is not a valid counterargument. One should also consider the less-gifted ones for whom the requirement to publish in A-journals takes away a very large amount of time and effort from other tasks. Moreover, it is difficult to imagine a well-functioning department composed of A-journal publishing scholars only. A balanced mixture of various capabilities is more likely to work successfully; in particular, it allows the most gifted scholars to have the room to flourish.

*4. The reaction of the losers is not harmful.*

The cost of the PITS depends much on how scholars unable to publish in A-journals react and what their options are. Some people who have lost in the tournament keep on trying to publish in A-journals. But it is unrealistic to assume that they will do so over an extended period. Most of them are realistic enough to realize sooner or later that they will not make it. They may resort to several different kinds of behavior:

- They can try to publish in lower ranked journals knowing that they will not attain any satisfactory position at a good university. The question is whether such lesser careers exist in a particular university system. If the strict “publish in A-journals or perish” requirement continues, such lesser careers



do not exist and these people will have to leave and work outside academia.

- The “losers” decide to give up their plan to stay in the university system and exit the profession. This selection effect is beneficial if the above conditions fully hold. Otherwise, the strict requirement to publish in A-journals leads to an unwanted adverse selection of scholars able to write the necessary A-papers, but who turn out to be of little use or even outright failures with respect to other university tasks. An exit to activities outside the university may also be socially beneficial if the effort to publish in A-journals helped them to be better trained in other occupations. This may be, but need not be, the case<sup>v</sup> because the writing of papers for A-journals is an extremely specialized activity: a necessary requirement is to follow the self-defined criterion the economics profession happens to have in a particular period, but which outsiders do not necessarily share. This refers to the specific way Americans write scientific works<sup>vi</sup>, to the language, and especially to the techniques of analysis used. An example is the current *extreme focus* on the “identification” problem in econometric analysis, i.e. the need to clearly establish often opposing causal relationships. In many cases, discussions in academic seminars, and the



decision to reject a paper in a journal, is reduced to this issue, essentially neglecting all other, possibly important, aspects. It sometimes seems that the *content* of a contribution has become more or less irrelevant, and the only thing that really counts is technical dexterity. To give a concrete case: “Does marriage make people happy or do happy people get married?” Whenever I discuss this question in my speeches to lay audiences, I am forced to note, to my surprise, that they are little interested in it. Lay people say: “Of course, both are true” (and this is, in fact, the outcome of the respective research in the economics of happiness, see Stutzer and Frey 2006, Frey 2008, chapter 8). An economist who shares this view with the public and wants to concentrate on issues of content, finds it nearly impossible in current conditions to publish in an A-journal. He or she will then be lost for the profession. But the public may well be right to some extent: the direction of causation is crucial if one wants to suggest a policy intervention, but possibly not otherwise. Explicit policy proposals, however, are not exactly the stuff normally published in A-journals.

- The “losers” stay on as long as they can in their university job (which in some European countries means for many years, if not for life). They may well be psychically



depressed, even showing signs of mental disorder. Others will become aggressive and obstruct the work of those scholars who hope to meet the publication requirements (see Lazear 1995 on sabotage). A mild form of such behavior is to write negative or even devastating referee reports for professional journals. Circumstantial evidence suggests<sup>vii</sup> that such negative attitudes have become more common than they used to be in the past, reflecting the increasingly strict publication pressure.

It may be retorted that the view that losers of A-journal tournaments are psychologically depressed is too negative. Indeed, Stouffer et al. (1949, *Studies in Social Psychology in World War II: The American Soldier*. Vol. 1-4) found that such negative psychic reactions arise only when promotion is taken to be the rule. In that case, those not promoted feel unhappy because they realize that they are clearly worse than most of their colleagues. In contrast, when the promotion possibilities are limited, the “losers” do not judge that they are worse than most of their companions. The reaction thus depends much on the perception of the participants in the tournament. The more firmly the “publish in A-journals or perish” principle is taken to be the rule, the more depressed



the losers become and the more negatively they affect the academic system.

Depending on what type of reaction prevails, the A-journal publication tournament may lead to positive or negative consequences overall. The present system of focusing scholars on publishing in top journals only, and disqualifying all other publication outlets, may have negative consequences in various respects.

### *An Open Issue*

If the analysis above is correct, *it is undecided whether the PITS is socially beneficial or not*. At the minimum, it should not be taken for granted (as is generally done today) that the PITS is a good, or even the best, way to organize academia. Before such a conclusion is drawn, a serious discussion of the possible negative effects is in order, and much more empirical evidence is needed. The evaluation should not be confined to considering the effects on (internally defined) “scientific excellence”, but should also consider the possible negative aspects: imperfect and biased selection of papers and of scholars, effects on other economic activities and on those scholars not successful in the tournament. Moreover, the present system of the A-journal publication requirement should be compared to alternative ways of organizing science:



- One possibility would be to solve the multiple-tasking problem by making an effort to *measure all aspects important for an academic career*: teaching, supporting younger scholars, linking up to the public, and participating in academic administration. While this first option seems straightforward, it is not to be recommended. It would lead to an enormous amount of evaluation, and scholars would invariably find ways to “beat the system”.
- A quite different, and even contrary, option is to resort to an overall evaluation of young scholars based on the *intuitive knowledge of seasoned scholars*. Such a procedure seems to be “unscientific” because it is not based on a detailed measurement and analysis of the multiple tasks to be performed by an academic. However, such a view is too simple. According to recent psychological research, “gut feelings” are often superior to in-depth analyses (Gigerenzer 2007, 2002, popularized by Gladwell 2005). Indeed, many established scholars proceed in this way when they exchange their views about younger scholars. What matters to them is indeed the gut feeling, and not whether someone has published a paper in a particular A-journal. Publications are likely to follow because such intuitive judgments often prove to be correct.



Using the intuitive knowledge of seasoned scholars has, of course, its own disadvantages. While some consensus on who such scholars are seems to be possible, it cannot be predicted what persons they will choose. This introduces a measure of uncertainty for young scholars and gives them incentives to personally please the seasoned scholars.

Personality and friendship may matter more than research because gut feelings are likely to be influenced by such concerns. On the other hand, these claimed disadvantages should not be overrated. Seasoned scholars are well aware of them and, in order to maintain their reputation in the field, make an effort to be as objective as possible.

- A third possibility is to *restrict* the PITS to the early phase of a scientific career. Scholars must learn the tools of the trade and must show that they are able to use them with profit. Thereafter, one should let scholars proceed as they see fit for themselves (see more fully Osterloh and Frey 2008)<sup>viii</sup>. This allows them to exhibit their intrinsic motivation in scientific research at least for the remaining part of the career. An obvious disadvantage is that scholars in later phases of their careers are not subjected to any external monitoring and may no longer engage themselves in research. This may well be



so but an academic system should be designed to enable the best rather than to prevent the worst<sup>ix</sup>.

- Yet another possibility would be to more openly shape *several levels of scientific careers*. In particular, there should be careers at universities and research institutes for which it is sufficient to have published in one or several of the hundreds of other general and specialized journals, but also in the form of books and internet publications, as well as participation in current public debates (i.e. acting as a “public intellectual”, see Posner 2002). To require each and every scholar to aspire to publish in A-journals is likely to be a flawed policy. Unfortunately, in several European countries (notably in Germany and Switzerland) professors in applied universities (formerly called Fachhochschulen) are now required to engage in advanced research and to publish at the same level and with the same intensity as their colleagues at scientific universities.

Each of these (and possibly other) options has its advantages and disadvantages. This paper has tried to call attention to the grave failures of the present system of “publish in A-journals or perish”, and to point out that there are viable alternatives to be openly discussed.



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<sup>i</sup> See e.g. Leek 2006 for various definitions and the corresponding literature.

<sup>ii</sup> Faculties of economics at numerous universities (e.g. the University of Linz in Austria), as well as economics associations (e.g. the Verein fuer Socialpolitik, the association of economists in Germany, Austria and Switzerland), have an official list in which they assign points for publishing in A-, B-, C- etc journals. Typically, a publication in one of the A-journals listed above gives three times as many points as a B-journal publication. There are also universities that explicitly offer a sum of money for journal publishing. The University of Economics and Business Administration in Vienna, for example, pays authors 3,000 Euros for publication in what they define as an A+-journal (which, in economics, include the five journals in the text above, as well as six more), and 1,000 Euros for publication in an A-journal, i.e. a top publication is defined to be worth three times as much as a second-rate one (<http://wu-wien.ac.at/forschung.praemie>). Other universities do not consider journal publications lower than A at all. Rumour has it that in some academic settings (I heard this in Stockholm), it has a negative effect if one publishes in B, C, or other lower ranked journals.

<sup>iii</sup> As always, it is difficult to state whether, and to what extent, this and the following arguments apply to the United States academic system because it is characterized by such a wide variety: The top universities are very different from minor institutions which also call themselves universities.

Another question is to what extent the observations and suggestions discussed here also apply to disciplines outside economics. While they can certainly not be directly transferred, there are indications that many aspects are also relevant elsewhere, see e.g. the discussion by Hewstone and Stroebe (2008) on social psychology.

<sup>iv</sup> See the charges of “autism” made against standard economics from many quarters. The movement, which started in the Grandes Ecoles in France and led to an on-line journal, *Post-Autistic Economics Review*, is well known.

<sup>v</sup> It can be argued that an economist who manages to publish one or two papers in an A-journal is often worse than somebody who engages in broader academic activities, and who has published papers in respectable, but not top, journals. The former has devoted all effort to writing papers acceptable to the referees of the top journals, but otherwise is not well trained for the other academic tasks. (I owe this point to Reiner Eichenberger)

<sup>vi</sup> French or German scholars traditionally developed their ideas in a way which differs fundamentally from the way, Americans do it today. But it should not be forgotten that this kind of writing was used by some of the most original and best scholars in the discipline.

<sup>vii</sup> This is a personal impression not shared by everyone. It is based on roughly 400 publications by the present author in professional journals (in economics, including A-journals, management, political science, sociology, psychology, and law) between 1965 and 2008, as well as, of course, on many hundreds of rejections.



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<sup>viii</sup> The academic system in some countries works in this way: full professors in particular are not required to show that they continue to publish (or not). To the extent this is the case, the second suggestion has already been realized.

<sup>ix</sup> It should be kept in mind that *no* system is able to exclude persons who do not perform well after having entered it. The relevant question is how large their share is, and how badly they affect the system. In the case of academia the damage is not so large because such people normally decide to engage more in teaching and in administrative tasks. This helps the more productive scholars to have time to do research.

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