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Returns to articles versus pages in academic publishing: Do salary-setters show 'article illusion'?

John Gibson *

Department of Economics, Private Bag 3105, University of Waikato, Hamilton 3240, New Zealand

HIGHLIGHTS

- Academic labor market rewards publishing articles and pages.
- Salary of University of California economists used to test articles versus pages.
- More articles raises salary, conditional on the number of quality-adjusted pages.
- Controlling for citations and diversity of research portfolio does not change this relationship.
- 3 Economics Letters worth $13,700 more than full-length article in equal rank journal.

ARTICLE INFO

ABSTRACT

The academic labor market rewards idea splitting, where researchers publish several short articles rather than one long one. There is a significant positive effect on salary from publishing more articles, conditional on the total number of quality-adjusted pages ever published.

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1. Introduction

Some research ideas are easily divisible, letting a researcher publish two or three short articles rather than one longer one. How does the market reward such behavior? Is there *Article Illusion*, where a researcher is rewarded for the longer curriculum vitae (CV) from splitting ideas? Or are salary-setters able to see through such strategies; showing that they can add (pages) as well as count (articles). Consider a researcher who can submit a single, standard-length article to a second-tier general interest journal like the *Journal of the European Economic Association* (*JEEA*), or instead submit three articles to *Economics Letters* of combined length equal to the *JEEA* article. Both journals rank almost equal in the recent study by Kalaitzidakis et al. (2011), and the total quantum of pages would

be the same, so an efficient labor market should not differentially reward the strategy of cutting a standard-length article into three short articles even though such a strategy gives a longer CV.[1]

Other forms of inefficiency in the evaluation of economic research are studied but this question of article illusion is ignored.[2] Instead, productivity measures used to explain salaries are either the number of size-, quality- and coauthor-adjusted pages (e.g. Sauer, 1988) or counts of articles (e.g. Barbezat, 2004). Some studies use article counts – often broken down by journal tiers – and citations to measure returns to quality (citations) and quantity (articles) but do not consider article length (e.g. Hamermesh

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* Tel.: +64 7 838 4289; fax: +64 7 838 4331.
E-mail address: jkgibson@waikato.ac.nz.

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[1] *Economics Letters* ranks 22nd and *JEEA* 19th and their quality weights are 0.1036 and 0.1215 (where *AER* = 1). *JEEA* is the nearest general interest journal to *Economics Letters* in these rankings.

[2] For example, Liebowitz (2014) argues the failure of the economics profession to use full proration (a $1/n$ rule) for evaluating co-authored papers leads to overly large research teams and encourages false authorship.

and Pfann, 2012; Hilmer et al., 2012). The closest study is of Bratsberg et al. (2010) who predict salary by the number of articles and include the number of *AER*-sized pages (in three tiers for about 50 top journals) in the same regressions. But these authors do not use their model to study possible returns to idea splitting and they only crudely account for journal quality.[3]

In this article I relate salaries of 223 economists in the University of California system to their lifetime research; 5620 articles in 700 different journals adding up to 87,700 *AER*-sized pages. While the mean is 15.6 pages, articles range from two page contributions to over 100 pages, so aggregating lifetime output into the number of size-, quality- and coauthor-adjusted pages yields a measure that varies independently from a simple count of articles. I use these data to establish two results: first, non-nested testing shows that if a single productivity measure is to be used, a model with total pages ever published is closer to the truth than just counting articles. Second, when using some journal rankings (specifically, those that greatly down-weight lower ranked journals) there is a significant positive effect on salary from more articles, conditional on the number of quality-adjusted pages ever published. Thus, salary-setting research evaluators may show article illusion.

Of course, other desirable aspects of a research record may correlate with the number of articles, conditional on the total quality-adjusted pages ever published. Conciseness of reporting and diversity of topics may be valued in the academic labor market and article counts may proxy for these. Using *Journal of Economic Literature* (JEL) subject codes for each article to form a diversity index, and citation counts to measure impact, it seems that cutting output into more articles gives more citations but not more variety. Moreover, if citations and the diversity index are included in the salary equation, there is no weakening of the finding that salary is higher with more articles, conditional on the total number of quality-adjusted pages.

2. Data and econometric results

The sample is all economists in economics departments in the University of California system. The same sample is used by Gibson et al. (2014) to see how congruent labor market data are with various ranking schemes for economics journals. Full details on the construction of the variables are available from that paper. Briefly, the dependent variable is the (log of) base salary for the 2010 academic year, with a dummy for individuals not on a standard 9-month academic year and pay scale (a few Berkeley economists are on law school scales). The controls include quadratics in seniority and experience, and dummies for gender, whether holding a named chair, whether a Nobel Prize winner, and fixed effects for each UC campus.

A wide range of journal ranking and weighting schemes have been proposed by economists, with no consensus on which is best. To construct measures of lifetime research productivity I therefore use nine different schemes to ensure that results do not depend on the particular way that pages in published articles are added up. The full descriptions and citations for each scheme are in Gibson et al. (2014), with their brief details as follows:

- Mason, Steagall and Fabritius: [MSF] reputational weights for 142 journals from a survey of economics department chairs. This is the least aggressive in down-weighting lower ranked journals but excludes many economics journals.

- Coomes and Linnemer: [CLm, CLh] is the most comprehensive, covering 1168 journals by using a *Google Scholar h*-index to extrapolate from citations for *EconLit* journals to all journals. They use two different rates of down-weighting lower ranked journals, with their medium variant (CLm) the second least aggressive, and their high variant (CLh) the fifth most aggressive of the nine schemes used here.

- RePEc is an impact factor from unweighted citations, covering 984 journals (as of May 2012), and is the fourth least aggressive of the nine schemes.

- Coupé is an average of 2-year impact factors for 1994–2000 from the ISI Journal Citation Reports for 273 economics journals; this is the third least aggressive of the nine schemes.

- Kodrzycki and Yu: [K&Y_all, K&Y_econ] is an 'eigenfactor' approach where a journal is deemed influential if cited often by other influential journals. Sub-discipline citing intensity is adjusted for, with cites from all social science journals [K&Y_all] and just from economics [K&Y_econ]. These are the third and fourth most aggressive in down-weighting lower ranked journals.

- Kalaitzidakis, Mamuneas and Stengos: [KMS] is an eigenfactor approach, using the average of citations each year from 2003–2008 to articles published in the previous 10 years. This is the second most aggressive scheme, and ranks 209 economics journals.

- Laband and Piette: [LP] is an eigenfactor approach using citations to economics journals over 1985–1989 by articles published in 1990. This is the least permissive, covering just 130 journals, and most aggressively down-weights lower ranked journals.

The total pages for articles ever published by sample members are multiplied by each journal's assessment weight, adjusting for the number of authors and standardizing to the size of a typical page in the *AER*:

$$Article\ Pages \times Size\ Correction \times (1/number\ of\ authors)$$
$$\times Journal\ Assessment\ Weight.$$

The total pages published, from the year of first article until the end of 2010, ranges from an average of 34.0 using LP journal weights to 134.6 pages using MSF weights. The correlation between lifetime pages and the number of articles published is 0.54–0.66 for the most aggressive ranking schemes (LP, KMS, K&Y and CLh), and 0.73–0.84 for the least aggressive schemes.

The academic salary equations are reported in Table 1 and these explain almost 80% of variation in log salary. Six of the nine equations show a significant positive effect on salary from publishing more articles, conditional on the total number of quality-adjusted pages. The size of the effect is not trivial; on average, a standard deviation increase in the count of articles holding pages constant increases salary by 15 log points. While this is smaller than the effect of more pages conditional on articles (which averages 26 log points) it still represents a substantial pay rise from restructuring a publication portfolio. The three equations that show no statistically significant effect of the number of articles use the least aggressive journal weighting schemes (MSF, CLm and Coupé). Since these three schemes do not aggressively down-weight low ranked journals they give less independent variation between total pages and the number of articles. The other result reported in Table 1 is that if an econometric 'horse race' is run between total pages and counts of articles, Vuong non-nested tests favor the model using total pages as being closer to the truth, even in the regressions where counts and pages are both statistically significant.

Table 1 results are consistent with a return to splitting ideas, due to 'article illusion' by salary-setting research evaluators. But as

[3] For example, their top tier of ten journals includes one (*Economica*) whose quality weight averages just 17% of that for the top journal, across the nine journal weighting schemes used below.