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THE ECONOMIC HISTORY OF THE <I>AMERICAN ECONOMIC REVIEW</I>:
A CENTURY'S EXPLOSION OF ECONOMICS RESEARCH

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The Economic History of the *American Economic Review*: A Century's Explosion of Economics Research

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ABSTRACT

Written in celebration of the upcoming 100th anniversary of the *American Economic Review* (February 2011), this paper recounts the history of the journal. The recounting has an analytic core that sees the American Economic Association as an organization supplying goods and services to its members, one of which is the AER. Early in its history the AER was a multi-purpose publication with highly disparate content. Over time the economics profession expanded and more economics research was produced, primarily in the form of journal articles. The AER accommodated this shift by allocating more resources to the refereeing and editing process and more space, absolutely and relatively, in the AER to research papers. Historically, the latter was accomplished mostly by moving other content (for example, book reviews) out most of which the AEA continued to supply elsewhere. Despite these shifts, the ratio of papers published in the AER to those submitted – a proxy for the acceptance rate – has declined precipitously over the past half-century.

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I. Introduction

The February 2011 issue of the *American Economic Review* (AER) will mark the journal's centennial. As the flagship publication of the American Economic Association (AEA) and one of the leading economics journals worldwide it is appropriate to mark this special anniversary by pausing to take stock. The AER is a mirror of the AEA, so taking stock allows us to see where the AEA has been and may go in the future.

My main goal is to outline certain features of the history of the AER. I do so in straightforward factual terms but my description has an analytic core. This core views the AEA as an economic organization that provides goods and services, one of which is the AER. Exactly what and how much of it appears between the covers of the AER is an economic decision. At any time space allocation is the province of the editor subject to a set of constraints. Over time, the decision reflects the collective wisdom of the editor and other AEA decision-makers -- and, ultimately, the demands of subscribers.¹

Throughout its history the core activities of the AEA have been many and varied (Coats 1985). For example, the AEA has long held an annual convention from which proceedings are issued; it is a clearinghouse for professional news, such as notices of new books, dissertations, promotions, job changes, job openings and much else (for example, obituaries); it is a publisher of economic research. Broadly speaking, the range of activities that the AEA engages in has not

¹ I focus on demand throughout because, as documented in the paper, absolutely and relatively more space in the AER was devoted to economics research over time. In real terms, the average cost per page of the AER rose substantially from the early twentieth century to the present. In 1915, the average cost was \$168.50 in 2009 dollars (computed from figures in Dewey 1917, p. 289); the corresponding figure in 2005 (also in 2009 dollars) was \$663.00 (computed from Siegfried 2007, p. 539; and Table 2 of this article). Labor compensation is a significant component of the total cost of producing the AER. According to Table 1 in Siegfried (2007, p. 539), labor compensation accounts for 43.5 percent of the total publication expense of the AER; excluding replication and distribution costs, labor compensation accounts for 85.3 percent of so-called "first copy" costs. The evaluation and editing of journal articles, if nothing else, is very time intensive. Yet despite rising costs over time more AER pages were allocated to economics research, which therefore must reflect shifts in demand.

changed much over time. What changed markedly was the range of content represented in the AER and the space devoted to each type.

In the long run AER editors devoted more space, relatively and absolutely, to content reporting on original economics research conducted by the author(s) – that is, articles and shorter papers. I say “reporting on original economics research conducted by the author(s)” because the AER once published other types of papers that today appear in other AEA outlets – in particular, review articles in the *Journal of Economic Perspectives* (JEP) or the *Journal of Economic Literature* (JEL). Specialization in output was accompanied by division of labor in the production process – a larger editorial board; use of outside referees; and, more recently, co-editors. Historically the increase in the number of pages devoted to full length research articles occurred at the intensive margin – more pages per issue – rather than the extensive margin – more issues per volume. Prior to the late 1980s expansion on the intensive margin was facilitated mostly by moving material out. For example, the AER once devoted considerable space to publication of book reviews. In the late 1960s, the AEA created the JEL which took over the book review function among other tasks. Once these various activities were shed more space was available for research papers in the AER. After 1980 more pages were added per volume, but the number of issues per volume remained fixed at four. In this 100th anniversary volume, the AER will, for the first time, publish six issues per year instead of four.

Why go down this path? In its early history the AER was a general purpose publication because the economics profession itself was small in number and not specialized. Only a portion of the AER could be allocated to economics research *per se* because the supply of and demand for anything more was not there. At the time the AER competed with a handful of similar outlets – for example, the *Journal of Political Economy* (JPE) and *Quarterly Journal of*

Economics (QJE) – for research papers of sufficient quality. Packaging disparate material in one publication made economic sense given the overall quantity and quality of economics research being conducted and the overall demand for membership in the AEA.

The economics profession expanded rapidly after World War Two, fueled by growth in demand for economists in higher education, government, and the private sector. This expansion was accompanied by division of labor within the profession and by changes in time allocation. PhD economists became highly specialized, devoting a significant share of work time to the production of economics research in the form of journal articles. Simply put, as economists produced more research articles the AER allocated more space to them as well as more resources to evaluating manuscript quality. Growth in the number of research articles written also spawned numerous economics journals, the overwhelming majority of which are specialized. Today's AER, along with its long-standing competitors, sits at the top of an ever-expanding pyramid of publication outlets in economics, one scarcely imaginable a century ago. Five to nine years post-publication the average AER paper published in 2000 is more likely to be cited – not just by a little but a lot -- than its 1960 counterpart. This increased likelihood of citation is not due to a greater tendency of AER (or JPE or QJE or *Econometrica*) articles to cite other AER articles – rather, it is due to the growth in the number of economics articles published anywhere, each of which may cite articles published in the AER.

In documenting various features of the historical evolution of the AER I have relied heavily on the raw material of the journal itself as well as the annual reports of the managing editor and those of various related AEA committees that were (and are) published in the *AER Papers and Proceedings*. Quantitative analyses of this material are more feasible than two or

three decades ago because of digital archives like JSTOR and the electronic Social Science Citation Index.

Historians of economic thought study the evolution of economic ideas. One cannot do full justice to this evolution without reference to the institutions through which economists communicate -- including, obviously, scholarly journals. Readers of this paper familiar with the institutional evolution will recognize the influence of A. W. Coats (1960, 1964, 1969, 1971, and 1985) who pioneered what might be called the quantitative history of economic thought, as well as the influence of the small but important literature on the publication process in economics.² That said, I am not an historian of economic thought and this is not a history-of-thought paper -- rather, it is an economic history paper about a central institution of the economics profession, hence its title.³

II. Early History through World War Two

The AEA was founded in 1885 at Saratoga Springs, New York. The Association was the brainchild of Richard T. Ely. Ely and other fellow travelers had been attending the second annual meeting of the American Historical Association (AHA), and used the occasion to found a new professional society dedicated to economics. At the time economics did not exist as a full-fledged academic discipline. Rather, “political economy” was a mixture of law, moral philosophy, politics, history, religion, and, in some quarters, reformist zeal.⁴ But interest in

² For an introduction to this literature, I highly recommend a recent anthology by Gans (2000). Among other papers, the Gans anthology includes key articles by David Laband and various co-authors (for example, Laband and Piette 1994; Laband and Wells 1998). Professor Laband kindly supplied me with several electronic data files for which I am most grateful.

³ In particular, I have very little to say about trends in the substantive content of AER articles; on this issue, see, for example, Coats (1971) and Laband and Wells (1998).

⁴ As Fogel (2000, pp. 3-4) points out Ely and other founders of the AEA were heavily involved in what historians today call the “Social Gospel” movement, a loose coalition with strong religious overtones (ordained ministers or their lay counterparts made up approximately 40 percent of the founders of the AEA). Social Gospel adherents

“economic thought” was growing, and Ely and his compatriots evidently felt that the time was ripe for a new Association with “American” and “Economic” in the title. In his youthful enthusiasm Ely was inspired by a senior colleague in the history department at Johns Hopkins, Henry Baxter Adams, one of the founders of the AHA.⁵

During its first quarter century the nascent AEA struggled to establish itself as a viable organization. This struggle was philosophical and practical – philosophical, in the sense of defining an identity; practical, in the sense that bills had to be paid. The two goals were closely related. Paying the bills required dues-paying members (or generous donors). To expand the membership the Association had to create an organizational identity that made membership worthwhile.⁶ Early records are somewhat incomplete, but strongly suggest that building up the membership was a slow, costly process subject to occasional setbacks (Coats 1964). The conventional wisdom is that only in the 1920s was the AEA on a secure financial footing, more than three decades after founding (Coats 1964, p. 283; 1985, p. 443).

Right from the very beginning the AEA published economics research but the organization struggled to find an attractive mix of publications during its first quarter century.⁷

The primary format that Ely proposed, and the one largely followed prior to the appearance of

advocated many positions that were controversial at the time, such as restrictions on the employment of female workers in manufacturing, increased taxes to fund welfare and other entitlements, and restricts on immigration (presumably to increase wages). The Social Gospel influence in the AEA gradually declined over time, replaced by orthodox economics and an empirical tradition that had its origins in the US Department of Census and various state bureaus of labor and industry that pioneered the measurement of social and economic change.

⁵ My account of the formation of the AEA draws heavily on Coats (1960, 1985); see also Ely (1910) and Fogel (2000).

⁶ Coats (1960, pp. 557-563) recounts the conflict in the early AEA between Ely and his followers in the Social Gospel movement versus orthodox economists who were interested in using the AEA as a tool to solidify economics as a separate, “scientific” discipline in the academy. Ely was forced to resign his position as the AEA’s first secretary in 1892 after his decision to hold the annual meetings at Methodist summer camp was heavily criticized. Eventually Ely returned to the fold as president of AEA in the early 1900s and put the organization on a firm administrative track (Coats 1960, p. 571). One of Ely’s first acts as president was to begin a membership campaign (Coats 1964, p. 264).

⁷ Ely (1886, p. 6) specified four “Objects of This Association”, the second of which was “[t]he publication of economic monographs”.

the AER, was the scholarly monograph to be supplemented by a report of activities occurring at a yearly meeting of the Association.⁸ Monographs were issued in the series entitled *Publications of the American Economic Association* (PAEA). In theory, there were to be six numbers (issues) per year but in practice numbers were grouped together – for example, numbers 2 and 3 of volume 7 appeared in a single issue devoted to a monograph by Edwin R. A. Seligman (1892) on tax incidence.

The first volume of the PAEA to report on the annual meetings – and hence, the first true *Papers and Proceedings* -- was volume 3 (1888) in the July issue (number 3) which contained two of the papers read at the second annual meeting. The issue also contained a full report of the meeting, including abstracts of three other papers presented, two of which were published elsewhere, one in the *Political Science Quarterly* and the other in the *QJE*.

The PAEA continued for several years with monographs and reporting on the activities of the annual meeting. Although some of the monographs were of book length, others look to the modern eye more like articles. From 1896 to 1899 the PAEA ostensibly became a bi-monthly (the *Economic Studies* series) supplemented with a “new series” of monographs that were issued occasionally. In 1900 the PAEA established its “Third Series” of monographs; occasional essays, the *Papers and Proceedings*, and the *Handbook* were also issued. The third series then morphed into the *American Economic Association Quarterly* (AEAQ), which was published from 1908 to 1910. Two of the four annual issues of the AEAQ were monographs; the other two were the *Handbook* and the *Papers and Proceedings*.

⁸ Until his resignation in 1892 Ely himself selected the monographs; after his resignation choices were made by a Publications Committee; see Coats (1969, p. 57).

Put politely the PAEA was a mixed bag. A few monographs sold well, others poorly. One year after the AEA was founded the QJE commenced publication, with the JPE following suit in the 1890s. Both were formidable competitors for the best economics scholarship at the time. Prestigious university presses directly competed with the PAEA for full-length monographs. According to Coats (1969, p. 57) “it soon appeared that the Association was becoming dependent on studies in economic history and the history of economic thought, not to mention highly specialized doctoral theses from universities lacking publication outlets - or, even worse, theses rejected by other publishers”. Annoyed librarians found the motley collection of publications difficult to assess and catalog properly (Coats 1969, p. 58).

The idea of publishing an association journal was first broached in the early 1890s. It continued to percolate up to and just after the turn of the century, culminating in a favorable report in 1902 by Jacob Hollander, the chair of the Publications Committee. Worried about the financial implications the AEA Executive Committee dragged its feet but eventually gave in partway to pressure from Hollander and the membership (Coats 1969, p. 58). Thus was born the *Economic Bulletin* (EB), published from 1908 to 1910. The EB contained book reviews; notices of doctoral dissertations published; and a section of “Recent Publications” whose purpose it was to notify the membership of “all current literature of scientific importance in the field of economics” and those of other social sciences “whenever they have an important economic bearing”; and a separate “Notes” section (American Economic Association 1908, p. 160).⁹

⁹ The “Notes” section covered “recent appointments to academic, governmental and other scientific positions in the field of economics, announcements of scientific investigations being made, of meetings of learned societies, and notices of other events of interest to economists”. EB did not canvass this information but rather relied on individuals to mail it in “wherever practicable ... on the ordinary 3 x 5 index card” (American Economic Association, 1908, p. 107).

Although the EB fulfilled some of what the membership wanted in a journal, it clearly was not a journal because there were no articles. During 1908 another AEA committee was convened resulting in the recommendation and subsequent approval of a new association journal – the *American Economic Review* (Coats 1969, p. 58).¹⁰ Publication of the AER commenced in March 1911. In essence, the AER sandwiched elements of the AEAQ and the EB between two covers instead of four. Instead of monographs, the new *Review* contained essays of moderate length (typically, 15-20 pages) dubbed “leading articles” along with book reviews and much else. As originally conceived the AER would be a true quarterly – four numbers per yearly volume with each volume approximately 800 pages in total (200 pages per number).

Volume 1, number 1 began with five leading articles, four of which were of sufficient content that they could be called full-length by modern standards.¹¹ The first article, “Some Unsettled Questions of Irrigation,” was written by Katharine Coman (1911a) of Wellesley College. Her article discusses various economic, legal, and historical aspects of water rights and private versus public investment in irrigation in the western United States.¹² It would be eight years before the AER published another leading article by a woman.¹³

¹⁰ Late in the game an attempt was made to draft Frank Taussig as the first editor, the idea being that the QJE would become the AEA’s official journal but Taussig declined (Coats 1969, p. 59). One contemplates with interest the counterfactual history of American economics Taussig accepted.

¹¹ The fifth paper, 5 pages in length, was a polemic by its author (H. A. Millis (1911) of Leland Stanford Junior University) calling for legislation restricting the immigration of “East Indians” (the eastern part of British India) to the western United States. It is classified as a communication in Table 1.

¹² Although her only leading article appeared in the very first issue Coman was a participant in AEA activities from the start. She presented a paper at the 4th annual meeting which was abstracted in the *Papers and Proceedings* (Coman 1891); published an AEA monograph in the AEA’s 3rd series (Coman 1903); participated in a roundtable discussion with Ernest L. Bogart, Richard T. Ely, and Edwin F. Gay that appeared in the 1907 *Papers and Proceedings* (Bogart, Coman, Ely, and Gay 1907); and published a 21 page article in the 1911 *Papers and Proceedings* (Coman 1911b). She also published articles in the JPE and QJE, along with four book reviews in the AER. Coman, who died of breast cancer in 1915, lived for many years in a Boston marriage with another distinguished member of the Wellesley faculty, Katharine Lee Bates, professor of English literature and author of the poem “America the Beautiful” set to its familiar music by the organist Charles Ward in 1910. Coman’s memory lives on at Wellesley in a named professorship currently held by Karl Case. For a recent article on Coman’s career,

The next three articles were written by prominent economists of the era. After reviewing how the House and Senate were subjected to special-interest lobbying and other political pressures, Frank Taussig (1911) called for an independent body to recommend changes to tariff policy in “How Tariffs Should Not Be Made”. Building on a well-known paper by Jevons, Edwin Walter Kemmerer’s (1911) “Seasonal Variations in the New York Money Market” looks more like a modern economics research article than the others in the first number – there are citations to the literature, tables with data, index numbers, and elaborate charts.¹⁴ David Kinley (1911), whose name adorns the building occupied by the Department of Economics at the University of Illinois, sought to uncover factors that limited trade between the United States and South America in his “The Promotion of Trade with South America”. “The opening of the Panama Canal,” Kinley (1911, p. 69) mused, “will put us in a position of peculiar advantage with reference especially to the trade of the countries on the west coast of South America.”

Following the leading articles were 77 pages of book reviews and listings of new books. These were grouped by general subject matter – for example, “Economic History and Geography”, “Capital and Capitalist Organizations”, and “Money, Prices, Credit, and Banking”. Books in English and foreign languages (German, in this case) were reviewed. Many of the reviewers were as prominent or more than the authors of books under scrutiny – for example,

see Vaughn (2004). As it happens the first full-length AEA publication by a woman was not by Coman’s but rather Emily Greene Balch’s (1893) monograph on poverty in France.

¹³ The inaugural number included a book review by Edith Abbott. The next leading article identifiably by a woman was Gladys C. Blakey’s paper on “The Revenue Act of 1918” co-authored with her spouse, Roy G. Blakey (Blakey and Blakey 1919). The Blakey paper like Coman’s, appeared first in its number (June). I say “identifiably by a woman” because some early AER authors did not sign their full names but rather only their initials (Laband and Wells 1998). Use of initials diminishes over time and largely vanished by the 1930s. Blakey and Blakey published several more articles in the AER on subsequent revenue acts during Dewey’s tenure as managing editor, becoming in the process two of the most prolific AER authors in history; see Heck (1993, p. 165).

¹⁴ Kemmerer was also a member of the inaugural Board of Editors, six in number. Two other members of the inaugural board – Jacob Hollander and Allan Young -- published leading articles during their time on the board. All but one member of the original board contributed something (for example, book reviews).

Wesley Clair Mitchell, Richard T. Ely, and Frank Fetter served as reviewers in the inaugural issue. All told, 41 book reviews appeared in the first issue.

After the book reviews came 8 pages of “Notes on Workmen’s Compensation” which described legislative developments in various states. Going on in the same vein the “Documents and Reports” section gave brief annotated reviews of the contents of government documents including, for example, the *1910 Report of the Department of Labour of Canada*. Next came 25 pages of periodical “abstracts” written not, as today, by the authors but by others seeking to keep readers abreast of developments in the field. An article appearing in a German periodical in November 1910 is described as “[a]n instructive account of the economic subordination of the native races in South Africa”. Thirteen pages of “Notes” chatted amiably about conferences, job openings in the US Department of Labor, the imminent appearance of a new principles text by Frank Taussig, the hiring away of Michigan’s Harrison Smaley by Leland Stanford Junior University at the rank of associate professor, and other sundry matters. The inaugural issue closed with 8 pages listing the details – author, educational background, title, graduate institution, and date – of dissertations in “political economy” that had recently been completed in the United States.

Relatively little of what was published in numbers 1-4 of volume 1 remains of scholarly interest today. One exception consists of papers by famous economists of the era – for example, Irving Fisher or Wesley Clair Mitchell -- whose work merits attention from historians of

thought.¹⁵ Another is articles that contain information about institutions of the period that remain substantively useful to social and economic historians.¹⁶

The frequency that leading economists published in the early AER would make young scholars today green with envy.¹⁷ Irving Fisher, for example, published six leading articles in the initial nine volumes of the AER (1911-1919). Fisher contributed another 11 items – papers or roundtable discussions -- to the *Papers and Proceedings* during the same years. Edwin Walter Kemmerer, who had a paper in the first number, published four leading articles in total between 1911 and 1919, 7 papers or roundtable discussions in the *Papers and Proceedings*, 10 book reviews, and was also a co-author of the AEA’s “Report of the Committee on War Finance” published as an AER supplement (see below) in 1919. Richard T. Ely contributed 18 items – 2 leading articles, 7 papers or roundtable discussions in the *Papers and Proceedings*, and 9 book reviews. Frank Fetter, president of the AEA in 1912, published 16 items, including 2 leading articles, one communication (a rejoinder), his presidential address, and 6 book reviews.

The overriding impression one gets from the first decade or so of the AER is that of a high-brow quarterly whose contents were chosen to appeal to a diverse audience and, hopefully as a result, grow the membership without alienating any particular constituency.¹⁸ There were

¹⁵Including, as it happens, Coman (1911a); see the current issue, which reprints Coman’s article with commentaries by leading scholars. For examples of studies of early AER articles of interest to historians of thought, see Breslau (2003) or May and Dimand (2009).

¹⁶See, for example, Bowman (2009) or Bogart (2009).

¹⁷Heck (1993, p. 164) studies patterns of authorship in the AER from 1911 to 1990. His sample includes all leading articles and all shorter articles, except for comments, replies and rejoinders. Of the 676 authors in the sample who published such items in the AER from 1911 to 1950, 63 percent appeared exactly once. The corresponding figure for the 1951 to 1990 period is 74 percent. Heck’s figures on the number of times individual authors appeared in the AER are unadjusted for co-authorship, the incidence of which increased over time.

¹⁸See Coats (1964) for a discussion of the debate within the AEA between those who wanted to attract business members versus others who wanted the AEA to be a scholarship organization. As a matter of formal policy membership in the AEA, and thus a subscription to the AER, has always been open to anyone willing to pay the membership fee. As Coats (1964, pp. 268-270) recounts the debate spilled over into the editorial board of the AER; some early members were more comfortable than others with diversity of article types and topics.

topical articles aimed at business subscribers; scholarly articles, book reviews, and periodical abstracts aimed at professors and their students; review articles and digests of legislation aimed at readers who wanted to keep abreast of the latest government activity; “notes” for networking and gossiping. The important point is that, compared with today’s AER, much less space, absolutely and relatively, was allocated to content that constituted original economics research. As such the early issues set the tone well past the first decade. Consider, for example, Volume 20, published in 1930. All of the various types of items appearing in Volume 1 appeared in Volume 30: “leading articles”; book reviews; annotated discussions of “Documents, Reports, and Legislation”; the “Notes” section with news and information relevant to members; the annual listing of doctoral dissertations. Unlike Volume 1, volume 30 had a separate “Communications” section intended for communications of various types -- short papers, comments, replies, and rejoinders. This section first appeared in volume 8 (1918).

Although the early AER included many types of content other content was supplied separately from the very beginning. The AEA created a “Supplement” series that included the *Papers and Proceedings*; the *Handbook of the American Economic Association*, which provided information about the membership; indices listing AEA publications with price and availability; and reports of various special committees. The *Papers and Proceedings* appeared every year, but the others appeared sporadically. The supplement series also included a few monographs, the last of which was issued in 1925.

To produce one of the early volumes of the AER the managing editor coordinated the efforts of a small in-house staff and a large number of outside contributors. Some leading

articles were commissioned while others were selected from unsolicited submissions.¹⁹ The Board of Editors, six of number, assisted with the selection process – outside referees apparently were rarely if ever used.²⁰ Like today, unsolicited articles could be accepted or rejected, or revisions requested. Unlike today, there appears to have been little or no lag in the publication process. The managing editor also appears to have been responsible for overseeing book review section, a task that required a small army of reviewers. The annotating process, which the managing editor delegated and which was necessary for new books, documents, and periodicals, was the most arduous, and annotator turnover appears to have been high. Selection of contributors to the book review and other non-article sections was designed to draw in as many members as possible while maintaining an appropriate degree of quality control. Contributors were paid an honorarium for their efforts; then, as now, the managing editor was compensated.²¹

The first managing editor of the AER was Davis Rich Dewey. A graduate student of Ely's, Dewey was not a founding member of the AEA but he did attend the inaugural annual meeting. Dewey was managing editor of the AER for 30 years, a time span that prospective editors today no doubt find incomprehensible.²² At the time he became managing editor Dewey

¹⁹ See Coats (1969, p. 60) for an example of Dewey's correspondence with a prospective author. Articles are still commissioned by editors of AEA journals (the JEL and JEP, in particular) -- just not by the AER editor except for very special circumstances (such as the present article).

²⁰ I cannot rule out the possibility that outside referees were never used by Dewey; however, the first time that referees were thanked in public for their service was in the managing editor's report for 1953 (Haley 1954, p. 730). Editorial board members at this time did far more than assist the managing editor with article selection; they were also called upon to contribute book reviews and abstracts of government documents, among other items. For example, Clive Day, a member of the editorial board from 1912-1917, wrote 17 book reviews during his tenure on the board. Coats (1969, p. 60) argues that, *de facto*, most of the editorial decisions were made by Dewey and that the editorial board was less involved than Dewey wished.

²¹ The practice of paying AER contributors seems to have been routine up to the late 1950s and then was phased out more or less completely in the late 1960s except for rare events such as AEA anniversaries; see Borts (1972, p. 500). Computed from figures reported in Dewey (1917, p. 289). The managing editor's salary in 1915 was \$1,500 (see Dewey 1917, p. 289), or \$33,000 in 2009 dollars using the CPI as the deflator. Dewey's salary in 1940, the year of his retirement, was \$2,500, or \$38,200 in 2009 dollars. The salary had been increased to \$2,500 in 1929.

²² According to Coats (1969, p. 62) Dewey's lengthy tenure was less his own idea than that of the AEA Executive Committee; evidently he made indirect and direct overtures to resign in the 1920s and early 1930s on which the Committee did not act.

considered himself somewhat past his intellectual prime, having “settled down to the routine of teaching undergraduate students” (Dewey 1941, p. vii). His personal tastes favored the empirical rather than the theoretical, and the growing tendencies in the field towards use of mathematics and statistics and increased popularity of Keynesian economics towards the end of his editorship bothered him (Dewey 1941, p. x; Coats 1969, p. 59).

When Dewey became managing editor it was unclear (to him) whether the market would even bear another economics journal or what it should look like. He settled on two broad goals – to make the AER useful to “graduate students who were on their way to becoming teachers of economics” and, second, that “the *Review* should be the organ of the members ... rather than the organ of the editors” (Dewey 1941, p. ix). His vision made the AER a middle-brow publication, broadly reflective of and responsive to the interests and abilities of the average professional member of the AEA but distant from the cutting edge.

The cutting-edge point is demonstrated by contrasting the pre-WW2 AER with the journal upstart of the era, *Econometrica*.²³ The Econometric Society was founded in the early 1930s to provide networking and a publication outlet for the small but growing ranks of economists who were bent on making economic theory mathematically rigorous but also empirically useful for econometric analysis (Christ 1983). The late 1930s and early 1940s issues of *Econometrica* contain papers that simply put, could never have appeared in the AER of the same era.²⁴ Examples are easy to find – Samuelson (1938) on utility theory or Louis Court’s (1941a, b) lengthy and complex exposition of economies with an infinite dimensional

²³ The *Review of Economic Studies* was also founded with a similar purpose. Analysis of the contents of early volumes of the *RES* would provide results similar to *Econometrica* compared with the AER of the same period.

²⁴ Indeed (see Coats 1969, p. 61) Dewey would reject articles that he deemed too theoretical or technical for the AER, encouraging authors to submit instead to the QJE or *Econometrica*. That said, the proportion of theoretical articles did increase during Dewey’s tenure and differences in the substantive content of articles in the AER versus the QJE or JPE were not particularly great, according to Coats (1969, p. 61).

commodity space. The mathematical sophistication of Court's paper, in particular, was so high by the standards of time that it is difficult to believe it was understood by the majority of *Econometrica's* subscribers let alone the economics graduate students that Dewey fantasized were pouring over the AER in the hopes of finding useful material for a teaching career.²⁵

Table 1 shows data on AEA membership and various statistics covering the allocation of space in the regular issues of the AER from 1911 to 1940. Individual membership in the AEA grew at a moderate long-run pace of approximately 1.2 percent per year from 1911 to 1940. Individual membership appears to have sensitive to the business cycle as evidenced by more growth during the 1920s followed by sharp decline in the early years of the Great Depression. Moderate long-run growth in individual membership was compensated to some extent by more rapid growth in institutional subscribers.²⁶

The content data reveal that some changes in the allocation of space occurred before World War Two, arguably in response to short run events in the economy and to underlying trends in the profession. During World War I pages devoted to leading articles and abstracts of government documents increased which seems unsurprising in light of the events of the day. To accommodate the increase pages devoted to book reviews and notices of new books declined. In the aftermath of World War I total pages fell 15-18 percent below 1,000 pages until late in the 1930s. The post-WWI decline in total pages occurred partly because the "Documents" section more or less disappeared in the 1920s although the section itself limped on until 1939.

²⁵ Anticipating the reaction that Court's paper might get in certain quarters, *Econometrica's* editor, Ragnar Frisch, attached a defensive explanatory footnote to page 1 of the initial installment (Court 1941a, p. 135). "The present paper," Frisch explained, "is published ... not because of the novelty of its proposition from the purely mathematical viewpoint," but because the mathematics in the paper "shaped especially with the econometric problems in view is highly useful". According to Frisch "[e]conomic theory is now growing into a stage where much of the work will consist in a combination of mathematical and economic analyses so intimate that it is difficult to say where one begins and the other ends."

²⁶ From 1920 to 1940 individual AER members increased by 36 percent whereas the total subscriber base, which includes institutional (for example, university library) subscribers, rose by 56 percent; see Table 1.

Periodical abstracts were temporarily phased out in 1929 but returned in the early 1930s as a simple list of periodical contents. In the 1940 volume, the last volume under Dewey's control, total pages overall were about the same as in 1911 as were total pages devoted to book reviews and new book listings. However, pages devoted to leading articles and communications had increased to 467, just about half of the total pages in the volume, up considerably from the fraction of pages so devoted in the pre-WWI period or, for that matter, the late 1920s.²⁷ The trend towards devoting a larger share of AER pages to economics research *per se* continued after World War Two, as did the practice of siphoning off content to meet changes in demand.²⁸

Paul T. Homan was Dewey's replacement as managing editor.²⁹ In 1941 and 1942 there was little change worthy of mention in the *Review* but in his report for 1943 Homan expressed concern. "During the past few months," Homan (1944, p. 411) noted "the flow of acceptable manuscripts [has] diminished alarmingly. The December [1943] number was the smallest for several years past ... it included all the publishable material at hand". Six months later, Homan found himself in London on assignment as an officer with the European Regional Office of the United Nations Relief and Rehabilitation Administration.³⁰ Fritz Machlup became acting

²⁷Note that the ratio of pages devoted to leading articles and communications to the number of AEA individual members was roughly constant during the 1920s and 1930s, at about 13-14 pages per 100 members. Similarly, pages devoted to book reviews and listings of new books relative to the AEA individual membership remained approximately constant in the 1930s and 1940s. Compared with earlier decades, the AEA membership in the 1930s clearly "demanded" relatively more academic content – articles and book reviews -- and less practical content (abstracts of government documents).

²⁸ As noted in Table 1, the share of pages devoted to leading articles increased from 34.5% in 1911 to 45.1 percent in 1940. This arguably understates the true growth in the share of pages devoted to economics research *per se* because relatively more of the 1940 articles constituted academic economics research than their 1911 counterparts.

²⁹ Like his predecessor Homan has been described (see Coats 1969, p. 63) as a "middle of the road" economist. Homan was successful in persuading younger economists, many of whom had been trained in mathematical and econometric techniques to join the editorial board; see Coats (1969, p. 63).

³⁰ The move to London was one of several that Homan undertook during the 1940s; according to Coats (1969, p. 62) there was concern in the AEA that his frequent moves might cause Homan to neglect the AER which Homan himself acknowledged; in private correspondence he lamented that he had sometime treated the editorship as "approximately a quarter-time job added on to a full-time job" (quoted in Coats 1969, p. 64). As Coats (1969, p. 64) notes there were numerous complaints lodged with the AEA about Homan's editorship, particularly regarding book

managing editor in Homan's absence. In his report for 1944, Machlup (1945, p. 469) also bemoaned the "seriously reduced flow of acceptable manuscripts" but asserted that the "net product" of the AER was unaffected. "The reduction of the 'spontaneous' supply," Machlup (p. 469) explained, "was offset through the compensatory device of increasing the 'induced' supply: selected members were commissioned to write articles on selected topics".

III. The Post-War Expansion of Economics and the AER, 1945 to 1970

Upon completion of his service with the United Nations Homan returned to the United States and resumed his AER editorship in September 1945. Homan continued as editor through 1951. His successor was Bernard F. Haley, who served for 11 years. Haley was replaced by John G. Gurley in 1963. Gurley was replaced by George Borts who served from 1969 to 1980; Borts, by Robert Clower (1981-1985); Clower, by Orley Ashenfelter (1985-2000); Ashenfelter, by Ben Bernanke (2001-2004); and Bernanke, by Robert Moffitt, who is the current editor.³¹

In his first report after returning to the United States Homan expected that the wartime shortage of submissions would abate quickly but this was not to be until the early 1950s.³² Homan's style as editor was entrepreneurial -- he was not hesitant at "inducing" articles if he felt some topic area was being slighted in "spontaneous" submissions (Homan 1946, p. 900). The fraction of the 1945 volume devoted to leading articles was about the same as in 1940, but space

reviews. The complaints raised against Homan were hardly the first (or last) against editorial policies; see Coats (1985, p. 1711).

³¹ A full list of AEA officers can be found at http://www.vanderbilt.edu/AEA/honors_awards/officerspast.htm. The AEA website lists Arthur Smithies as an AER editor from 1963 to 1968 but this is incorrect (Smithies was editor of the *Journal of Economic Abstracts*). Excluding the current editor Robert Moffitt, the average length of an AER editorship is 11 years and the median is 10 years.

³² In his report for 1947 Homan (1948, p. 555) noted that "while a sufficient number [of submissions] have been received to maintain a reasonably high level ... there has been no excess of good manuscripts and, therefore, not very much competition for entry into its pages". Although most "manuscripts published have been unsolicited" Homan (p. 555) felt compelled to point out that "as usual a number have been prepared and submitted ... through editorial initiative".

devoted to shorter articles of various types increased sharply at the short-run expense of book reviews.³³

In the late 1940s and early 1950s the postwar expansion of economics began in earnest. Returning veterans filled slots at colleges courtesy of the G.I. Bill. Many took courses in economics, receiving their first dose in the form of Samuelson's classic 1948 textbook which quickly became a best-seller. The demand for college teachers in economics in turn fueled demand for graduate level training in economics and with it, for economics research, including that printed in the AER.³⁴ Although in evidence well before World War Two, the style of research in economics began to change, with emphasis on formal models, either graphical or mathematical and, somewhat later, the routine use of econometrics in empirical analysis.³⁵ Economists continued to write books – indeed, the number of books submitted for review to the AER rose dramatically in the 1950s – but, increasingly, the preferred method of conveying research results was in article rather than book form.

Bernard Haley was the first AER editor to provide information on the number of articles submitted, a practice continued by his successors to the present. One can combine this with data on papers published to form a long-run series that approximates the acceptance rate. Although

³³The 1945 volume was 1,058 pages in length, 43 percent of which consisted of leading articles compared with 45 percent in 1940. However, 16 percent of the 1945 volume was devoted to shorter articles, compared with just 4.6 percent in 1940. Pages devoted to book reviews and notices of new books declined from 343 to 318.

³⁴ See Barzel (1971, p. 669) who estimates a “demand” equation for the AER, concluding that growth in the number of college graduates increased demand for the AER.

³⁵ The role of theory was clearly on the minds of the AEA Executive Committee when they were seeking Homan's successor. As one member of the Committee commented at the time, it was not necessary that Homan's replacement be a theorist but that competence in evaluating theoretical papers was important because otherwise “the journal may gravitate to the level of a nonprofessional magazine on current economic topics” (quoted in Coats 1969, p. 65).

imperfect, the series are sufficient to demonstrate that acceptance rates fell as submissions increased.³⁶

Figure 1 displays the number of papers submitted, number published, and the ratio of published-to-submitted from 1948, the earliest year for which data on articles submitted are available, to 1968, one year before the founding of the *Journal of Economic Literature*. Annual submissions begin to increase around 1953, slowly at first but then accelerating after 1958. In 1968, one year before the JEL appeared, 637 papers were submitted to the AER editorial office. The average number of papers published, however, remained more or less constant at about 47 per year. The average number published rose by about a third (to 62 per year) during 1964 to 1966 and then by 50 percent (to 94 per year) in the two years before the JEL.

In the late 1940s Homan evidently did not feel that “good” articles were being rejected. In 1948 the ratio of papers published to those submitted was about 0.234, or 23.4 published for every 100 submitted.³⁷ As the number of submissions began to increase the ratio fell before stabilizing at approximately 15 percent through the 1960s. At slightly more than 1,500 total pages, the 1968 AER was fifty percent heftier than its counterpart two decades earlier.

³⁶ The ratio of papers published to those submitted would measure the acceptance rate perfectly if all articles were disposed of within a year’s time and if the acceptance rate was stationary (or equivalently, if submissions and acceptances were co-integrated), assumptions that are clearly violated over time. To deal with this one can allow the denominator to be a weighted average of papers submitted in the current year and those submitted in previous years. Similar patterns to those shown in Figure 1 are obtained, for example, if the weights are set at 0.5 for current submissions, 0.4 for submissions lagged one year, and 0.1 for submissions lagged two years (this assumes that all papers are disposed of in three years). The ideal measure of the acceptance rate would follow a paper from birth (submission) to death (rejection or publication). The current AER comes closest to this ideal. In his reports Haley did include figures on the “percentage of articles accepted” but did not explain how he calculated this percentage.

³⁷ This figure that accords very closely with what Haley (1953, p. 587) claims was the “percentage of articles accepted” -- 24 percent -- in 1948.

Speaking from personal experience a journal editor faces certain tradeoffs.³⁸ The editor has to meet regular deadlines subject to a per-volume page length constraint agreed upon with the publisher. Deadlines can be met trivially by randomly choosing which papers to publish from those submitted – a policy that would get the editor fired in a hurry and dry up submissions. Instead, editors seek to keep type 1 and type 2 errors at tolerable minimums. An editor cringes at the thought of publishing papers that have errors that should have been spotted especially if the errors are weighty enough that rejection would have been the right decision. Rejecting articles that, in retrospect, should have been accepted seems the lesser of two evils but the history of economics is replete with humiliating examples of iconic papers that were rejected, sometimes repeatedly, before finding a home (Gans and Shepherd 1994).

A sensible initial response to an increase in submissions would be to allocate more variable resources to evaluating manuscript quality. The salary of the managing editor, which had deteriorated in real terms due to wartime inflation, was increased from \$2,500 to \$3,500 in 1952 but this raise still left editorial compensation in real terms at (well) below the 1940 level.³⁹ However, the AEA started to make regular revisions to the editor's salary after this particular adjustment. In 1963, the first year of Gurley's editorship, the editor's salary stood at \$8,000, or \$56,100 in 2009 dollars.⁴⁰

³⁸ The author was co-editor of the *Southern Economic Journal* in 2001-2003 and editor-in-chief of *Explorations in Economic History* from 2003 to 2008. The trade-offs mentioned in the text hardly exhaust the stresses that an editor faces. For example, editors must develop procedures for evaluating articles that seem fair to prospective authors; if authors feel, in particular, that prominent individuals (or prominent departments) are over-represented among acceptances, this may adversely affect the submission rate from younger members of the profession who are less famous. On the other hand, editors like to attract good papers from famous authors because this suggests that the journal is important – hence, the tradeoff. I am grateful to George Borts for this point.

³⁹ Adjusted for inflation the 1952 salary was \$28,300 in 2009 dollars, or 74 percent of Dewey's salary in 1940 measured in 2009 dollars (\$38,200).

⁴⁰ 1969 is the last year that I have been able to find published information on the editor's salary. In 1969, the budgeted salary (which I assume was paid) was \$9,000, or \$52,700 in 2009 dollars using the CPI; see Gurley (1969, p. 596).

Aside from inducing greater editorial effort by paying more for the editor's time another response is to hire more employees. In 1963 an assistant editor was employed for the first time, at an annual salary of \$3,000. In subsequent years the AER would continue along this path, most notably in the appointment of co-editors in June 1985, the first number issued during Orley Ashenfelter's term as editor.⁴¹

The use of outside referees on a routine basis was another variable input that could be manipulated readily.⁴² Saying thanks by naming referees in public -- a practice that continues to this day -- seems if nothing else, a polite way to acknowledge their contribution and may actually have encouraged this type of public service which was relatively novel at the time.⁴³ Thirty-six referees were thanked in the 1954 managing editor's report, the first to contain such a list as previously noted (Haley 1954, p. 730). In 1962, the last year of Haley's editorship, 68 referees were thanked, or almost double the number eight years earlier. In his 1969 report, Gurley (1969, pp. 597-598) offered thanks to 220 economists who had provided refereeing services, a six-fold increase over the previous fifteen years.⁴⁴

A more permanent response is to expand the size of the editorial board. Expanding the board comes second to outside referees because editorial board members served for a period of

⁴¹ Initially there were three co-editors; currently there are five. When Ashenfelter assumed the editorship his title was still "managing editor". In the late 1980s a separate title was created for a "production editor"; this title was later changed to "managing editor" and the editor became simply the "editor".

⁴² Use of outside referees was also motivated by the fact that as the number of papers submitted increased, the topics became more diverse than those represented by the editorial board; see Haley (1954, p. 730).

⁴³ To the best of my knowledge regular referees were not paid at the time although (see footnote 44) George Borts evidently paid to have manuscripts pre-screened (which is not the same, obviously, as formal refereeing). See Engers and Gans (1998) for a model of why referees are normally paid less than the value of their time (or nothing at all). Currently AER referees are paid a modest fee if they complete the review within a specified time frame.

⁴⁴ Another variation on this theme was the use of "editorial consultants", which George Borts evidently innovated (1971, p. 499). As Borts (p. 499) explained in his editor's report for 1971, due to the increased flow of submissions, he decided to "use ... the services of younger members of the profession who act as editorial consultants. They read manuscripts and aid me in determining their suitability for detailed refereeing. This screening task is feasible because many submitted papers are either in the form of preliminary research reports or represent work which is already available in some printed medium. In no case, however, is a paper published without formal refereeing. Because each editorial consultant will screen from twenty to forty manuscripts at once, they are paid a stipend."

time, were expected to do more work than the typical referee, and because membership on the board was prestigious. Hence, one would expand the board only if it became clear that an upward trend in submissions was likely to continue and one would expand gradually. In 1951 which was Homan's last year as editor, the editorial board numbered six just as it had 40 years earlier. The board increased to 7 in 1956, and again to 8 in 1958. During the first five years of Gurley's editorship (1963-68) the board increased to 10 members. Expansion of the board has continued to the present; in 2010, the AER board numbers 37 economists.

The third level of response was the intensive margin – expand the number of pages per issue devoted to research papers which clearly happened from the late 1940s to the late 1960s (see the discussion of Table 2 below). However, such expansion had to come at the expense of some other type of content or else by expanding total pages per volume, or some combination of the two. Unless the AEA simply stopped publishing it, off-loading of content would not lower total publication costs.⁴⁵ Expanding total pages per volume was costly. And, as the profession grew in size and in research activity, there were increasing demands for certain types of content to keep current – periodical abstracts and review articles. Even if individual economists were writing more articles and fewer books, more books were being written in total and sent every year to the AER editorial offices in hopes of a review.

One source of funds, albeit temporary, turned out to be private foundations. In 1963 the AEA participated in a joint venture with the Ford Foundation and a large number of participating journals to create a new periodical called the *Journal of Economic Abstracts* (JEA). The JEA, strictly speaking, was not a new Association journal but the Association had played a key role in

⁴⁵ In 1958 the AEA published the results of a survey of members asking their opinion of the AER. It is clear from this survey that members valued highly the disparate content represented in the AER (that is, articles, book reviews, and so on). There was no call, in other words, to stop publishing certain types of content to make way for other types; see Haley (1958).

getting it off the ground by forming a committee for this purpose in the late 1950s. Headed by Arthur Smithies, the committee acknowledged that economists were writing more journal articles and needed a specialized publication that provided more detailed information on articles in order for the profession to keep abreast of the growing periodical literature. Edited by Smithies the JEA provided such content by collecting article abstracts, written by the authors, in a single publication.⁴⁶ Another source of funds was the Rockefeller Foundation, which provided money to subsidize the publication of review articles. Seven such articles were published in regular issues of the AER before the grant was terminated in October 1964 (Gurley 1965, p. 610). In terms of content that could be off-loaded, book reviews and listing of new books were by far the biggest categories. In 1964, 443 pages of the AER was devoted to reviews and listing new books, 76 pages more than space devoted to full-length research articles.

In 1969 publication of the JEA ceased and its content was incorporated into a new publication, the *Journal of Economic Literature*. The *Journal of Economic Literature* had three types of content: review articles, thereby continuing the tradition started under the Rockefeller grant; book reviews and listings of new books; and periodical listings and abstracts. The JEL, in other words, was the JEA with the addition of review articles, book reviews, and new book listings that were off-loaded from the AER.

The decision to offload material from one publication into another can be contemplated using the following simple framework. Imagine that a journal provides two types of content: research articles and something else (for example, book reviews). This content is currently

⁴⁶ Historically, periodical abstracts were a problematic activity for the AEA. As noted earlier, periodical abstracts were provided in the AER but were eliminated in 1929 when the journal *Social Science Abstracts* was created. However, SSA failed in 1932. After the failure the AER included a listing of periodical contents but no abstracts were provided. As Coats (1969) notes, there were other journals providing abstracts at the time and some in the AEA saw little need to duplicate this activity. In the end, however, abstracts were resumed in the JEA and later the JEL.

packaged in a single publication but could be provided separately in two publications, one specializing in research articles and the other in the alternative content. Later I will return to the “splitting” assumption as it is not innocuous.

Subscribers are willing to pay a certain amount for combined publication given its length and content but are also willing to pay amounts for the same content to be provided in separate publications. I also assume that, above a certain total page length, subscribers are willing to pay more if the content is supplied in separate publications rather than in a single combined publication. The principal at work here is that exemplified by the encyclopedia stored in the cabinet in my living room. The combined publication may be too bulky and heavy to make effective use of – better, perhaps, to split the combined journal into two thinner volumes. However, while demand might favor splitting, there are fixed costs associated with producing any given volume that do not vary with total pages.

With this setup the tradeoffs are easy to see. For total pages less than some critical level, the economics favor packaging the content in a single publication. As total pages increase beyond the critical page length, members are willing to pay more for two publications containing the same content. Whether this is economical depends on the level of fixed cost. If fixed costs are sufficiently low relative to the gains that readers perceive from having two thinner rather than one thick publication, offloading can happen even if total number of pages is small in some absolute sense.

Although this argument seems reasonable there is a significant catch. I have assumed that in splitting the new publications must be specialized. Specialization by assumption rules out

expanding on the extensive margin -- keeping the combined format intact but simply issuing the numbers at more frequent intervals.

In theory if not in practice, expanding on the extensive margin was clearly an option in 1969. The last volume of the AER to include book reviews was 1968. Shorn of book reviews the 1969 volume was 1,030 pages in length. By comparison, the 1968 volume, which still had book reviews, was 1,523 pages in length, or approximately 500 additional pages. Had the number of AER issues per volume been increased from four to six at the time, the total cost of producing the AER obviously would have risen but it is not obvious that total costs for all AEA journals would have increased.⁴⁷

Efficiency gains through specialization are another force for creating a new publication outlet. As the inaugural editor Mark Perlman noted in the first issue of the JEL, “there are published each year between 1,300 and 1,500 books of some significance to the discipline [and] more than 250 journals carrying ... more than 5,000 major articles.” The notion that a single AER editor was able to do justice to the task of choosing which books to review and find reviewers for them plus keep track of journal articles worthy of bringing to the attention of the profession was already a non-starter before 1969, as evidenced by the JEA. Some division of labor was clearly called for, and it is reasonable to assume that a specialized editor would be better provided that the new editor was properly incentivized. Appointing someone the chief

⁴⁷I say “in theory” because the JEL was the continuation of the JEA, and the JEA already had a separate editor, Arthur Smithies. As a practical matter, I doubt that, once the JEA existed with a separate editor, it would have been politically feasible for the AEA to fold the JEL back into a more frequently issued AER. The 1969 volume of the JEL contained 1,432 pages; adding to this AER pages gives a total of 2,462. The 1968 JEA was 994 pages; adding to this 1968 AER pages gives a total of 2,526, slightly more than the 1969 figure. Whether marginal costs would have risen along the extensive margin is unknown; however, from the managing editor’s point of view meeting six deadlines per year instead of four is surely more stressful unless some major tasks could be delegated, say, to co-editors. It is also worth noting that, to this day, *Econometrica* has included content other than regular journal articles, such as announcements of conferences, conference programs, lists of papers accepted, and review articles, among other items. In the early 1990s *Econometrica* increased the number of issues per year from four to six.

editor of a new journal rather than subordinate to the managing editor of an existing journal may have been an effective way to solve the principal-agent problem in an academic setting where there are limits to outside compensation and editorships well done carry professional status.

Once the JEL came into being there was a drastic and permanent expansion of space within the AER for articles and shorter papers (see the discussion of Table 2 below). The only remaining content that could be off-loaded to free up even more space was the listing of dissertations and the “Notes” section. Eventually both became incorporated in another new AEA publication (see below), the *Journal of Economic Perspectives* (JEP).

In 1969 the AEA’s journals were the AER and the JEL. Total pages for both publications equaled 2,462. Their combined content included full-length articles, communications and review articles, lists of new books, book reviews, listings of periodical contents and abstracts, a listing of dissertations, and professional news. This is the same basic content as appeared in the earliest issues of the AER. In other words, imagine a hypothetical 1969 AEA publication combining the AER and JEL between two covers, issued four times per year. So construed, the hypothetical 1969 volume would have had 2.5 ($= 2,462/978$) times as many pages as the 1911 volume, implying an average annual rate of growth of pages of 1.6 percent over the 58-year (1911-1969) period.

IV. The 1970s to the Present

When Davis Dewey stepped down as editor of the AER the number of English-language economics journals was small and most were non-specialized – that is, said journals published papers in all recognized branches of economics not just one sub-area. In 1940 there was, as yet, no *Journal of Labor Economics*, no *Journal of Public Economics*, and no *Journal of*

Econometrics. Indeed, in the “Periodicals” section of the March 1940 AER, most listings were for articles in non-economics outlets. Only two of the economics journals with articles mentioned were specialized in the modern sense.⁴⁸

As the economics profession expanded in size after World War Two the graduate training of economists changed. Much of the change reflects the growing use of mathematics and statistics in economic analysis and, as such, was already underway before the War. Increasingly, however, the training also involved instruction in a specialized branch such as labor economics. This could happen if the literature in an area was developed enough to constitute sufficient material for a separate course which, in turn, required enough economists writing enough specialized articles – a virtuous circle.

As the profession expanded and economists increasingly specialized in particular sub-fields, the number of specialized journals rose. A labor economist who came of age in 1960 could publish in the mainstream journals plus the *Industrial and Labor Relations Review*, founded in 1947. Her counterpart twenty years later could add *Industrial Relations*, *The Journal of Human Resources* and *Research in Labor Economics* to the list. Twenty years after that the list had grown to include *The Journal of Labor Economics* and *Labour Economics*, and others.

Eventually all of the sub-fields of economics could boast one and usually several outlets for journal articles, many of which were created by for-profit publishers like Academic Press or

⁴⁸ The non-specialized economics journals were the AER, JPE, QJE, *Econometrica*, the *Review of Economics and Statistics*, *Economica*, and the *Economic Record*. The two specialized journals were the *Journal of Farm Economics*, which later became the *American Journal of Agricultural Economics*; and the *Journal of Land and Public Utility Economics*, which later became *Land Economics*. Agricultural data were the grist for much fruitful early work in the development of econometric tools, and there were large projects underway before World War Two at the US Department of Agriculture to study, for example, the price elasticity of demand for various agricultural products. Economic history is another example of a special field with its own journal (*The Journal of Economic History*) founded before World War Two but at the time the field was dominated by historians, not economists as is the case today.

Elsevier.⁴⁹ In the largest sub-fields, such as economic theory and macroeconomics, the top field journals, such as the *Journal of Economic Theory* or the *Journal of Monetary Economics*, commanded large audiences and a concomitant level of prestige. As the number of journals increased – and, indeed, continues to grow to this day – keeping track of the players is a major undertaking. By one count, there were approximately 600 economics journals in print ca. 2000, about half of which were published in the United States (Ashenfelter 2001).⁵⁰ This is about one journal for roughly every 37 members of the AEA, a considerably larger number of journals per member than the equivalent figure in 1940 or, for that matter, the early 1960s.⁵¹ The proliferation of journals subsequently spawned various quantitative measures of journal quality (so-called “impact factors”) as a way of providing metrics to prospective authors and those who evaluate them as to which journals are most influential and others less so.⁵²

The combination of a hierarchy of field journals with a small, stable number of elite mainstream journals at the top of the heap was not preordained. An alternative equilibrium would have been more general-interest journals. The *Southern Economic Journal*, for example, existed long before the *Journal of Economic Theory* yet the former never developed the reputation for theoretical papers that the latter did. We might imagine other major economics

⁴⁹ For a detailed and revealing analysis of the growth of scholarly journals in economics after 1970, see Laband and Piette (1994).

⁵⁰ Whether the expansion of economics research was socially worthwhile is a separate matter. In particular, see Laband and Tollison (2003) who study citation rates in a large sample of economics journals from the mid-1970s to the mid-1990s, finding that the proportion of economics articles that went un-cited (so-called “dry holes”) remained constant over time, despite increased resources devoted to evaluating manuscript quality (for example, refereeing).

⁵¹ Laband and Piette (1994) also make the point that the number of scholarly journals grew much faster over time than the membership of the AEA.

⁵² The literature here is far too large to list here. For an early example, see Laband and Piette (1994). See also Oswald (2006) who argues strongly that journal impact factors or other rankings are unreliable predictors of individual article quality.

departments following in the footsteps of Harvard or the University of Chicago and establishing their own economics journals.⁵³

The equilibrium that did emerge, however, has certain useful properties. The performance of academic economists is evaluated by individuals whose comprehension of the research may be remote or non-existent (for example, university tenure and promotion committees) but also by individuals who are recognized experts. Generalist evaluators can look to the prestige of the journal to draw some inferences while recognized experts can make more nuanced assessments. Any academic journal worth its salt serves as a screening device, signaling to readers which papers the editor deems are worthy of their scarce time. A senior urban economist who wishes to keep abreast of the latest, best work in the field minimizes her search costs if such work gravitates to a particular outlet – the *Journal of Urban Economics*, say. The junior urban economist who wishes to grow his reputation has an incentive to publish in the JUE knowing that his work will be read by leading experts in the field.

Figure 2 continues the time series of papers submitted and published, and the ratio published-to-submitted, from 1969 through 2006. There was a slight decline in the number of papers submitted in the early 1970s which may be a reflection of emergence of several new field journals around this time, such as the *Journal of Economic Theory*. Otherwise the number submitted increased steadily. The published-to-submitted ratio was roughly constant in the 1970s but began declining in the 1980s and 1990s. Weighted by the number of papers submitted, the ratio averages 0.084 for 2000-2006, or approximately 8 papers published for every

⁵³ Of course, this did happen, as evidenced by the Berkeley electronic journals.

100 papers submitted, approximately one third of the average of 25 papers published for every 100 submitted in the late 1940s.⁵⁴

The creation of the JEL freed up substantial amounts of space in the AER for research papers. Still, there was some remaining content in the AER that could be off-loaded to create additional space. Thus, in 1987 the AEA established the *Journal of Economic Perspectives* (JEP). The JEP's primary purpose – one fully consonant with AEA principles dating back to its earliest days – was to publish survey articles that, while useful to professionals, were nevertheless accessible to a broader public, including students. The JEP was also a convenient place to include other material, such as the modern equivalent of the historical “Notes” section, along with listings of dissertations. With the creation of the JEP the process of off-loading of content from the AER was, for all practical purposes, complete.

Table 2 summarizes trends in the allocation of space within the AER from 1950 to 2005. In 1950, slightly more than half of the available space (56 percent) was allocated to articles and shorter papers. In 1970, one year after the JEL was born, the corresponding figures was 86 percent. By 1990, three years after the JEP, the transformation was essentially complete, at 96

⁵⁴ An 8 percent ratio of papers published to those submitted seems like daunting odds to assistant professors striving for tenure – and they are daunting. Furthermore, the decline in the ratio over time understates the difficulties of getting published in the AER because, over the same period, the review process was becoming more protracted, a more general phenomenon than just the AER (see Ellison 2002a). However, *ex ante*, papers submitted to the AER have always varied in “quality” – a characteristic that may be unobservable to the econometrician with access only to the statistics in Figures 1 and 2 but one that is obvious to the editor who is obliged to read (or at least skim) every submission. As Borts (1971) noted as early as the 1970s (if not earlier) an efficient and reliable mechanism was needed to screen out papers not ready for prime time – all the more so today, as submissions continue unabated. In 2006 the practice of summary rejections (a summary rejection is when the editor rejects without a referee's report) was established. I say “established” even though, as previously noted, George Borts instituted the pre-screening of some papers and pre-screening certainly continued after Borts (for example, by members of the editorial board). The summary rejection is different because, based on my understanding it can be done solely at the discretion of the co-editor or editor rather than relying on the opinion of a pre-screener. Of the 1,302 papers submitted during the 2006 calendar year, 160 or approximately 12 percent were summarily rejected; see Moffitt (2007, p. 543). Some, indeed most papers that would make it through any reasonable pre-screening process are of insufficient merit or generality to make it in the AER.

percent. Other than front and back matter and the rare AEA report, all of the AER is now given over to economics research.

Table 2 also reveals that the average page length of articles and shorter papers changed, as well as the distribution of pages between articles and shorter papers. In the 1960s the average length of articles fell and the share of pages devoted to shorter articles increased sharply, from 7 percent in 1960 to 30 percent in 1970. From the prospective author's point of view, this softened the blow of falling acceptance rates because more papers in total could fit between the front and back covers.⁵⁵ And, as previously noted, the published-to-submitted ratio did stabilize in the late 1960s.

From 1980 to 2005 the average length of articles rose by 68 percent.⁵⁶ The length of shorter papers also rose over the same period, approximately doubling such that, by 2000, the average shorter paper was 12.2 pages in length, just about the same page length of the average article in 1970. As a share of the total volume length, pages devoted to shorter articles settled at about one-third between 1970 and 2000, but have declined sharply since 2000. Total pages per volume rose modestly (about 10 percent) in the 1950s but did not change between 1960 and 1980. Like the average American, however, the typical AER put on pounds after 1980. At slightly more than 500 pages per issue, an AER in 2005 was twice as thick as its 1950 counterpart.⁵⁷

The upshot of these trends, as previously noted, is that unconditional acceptance rates at the AER reached historic lows despite substantial growth at the intensive margin within the AER

⁵⁵ These effects were offset slightly by the increase in the length of shorter articles but keep in mind that shorter articles at this time were really very short – 4 to 5 pages on average (see Table 2).

⁵⁶ See Ellison (2002b) for an attempt to model the growing length of research articles in economics.

⁵⁷ Even this understates the extent of growth (girth?) because the pages themselves were physically larger in 2005 than in 1950, allowing more text, figures, and so on to fit on a given page, holding average font size constant.

itself. When acceptance rates are absolutely low it becomes problematic for any selection process to separate the true wheat from the chaff. The existence of a large number of high quality field journals may create an incentive for referees to reject too often, knowing that excellent, even path-breaking papers will find homes – moral hazard that can be difficult for an editor to detect let alone correct. Editors, too, may reject too often, using rules of thumb in the process.⁵⁸ Journals live in a competitive environment – if publication becomes too difficult to navigate at one, some authors will gravitate to others.⁵⁹ In the AER’s case a key proximate cause of low acceptance rates was the post-1980 increase in the average length of articles and the post-2000 shift away from shorter articles.⁶⁰

Partly in response to the trends and concerns just discussed, the AEA recently established three new journals -- the *American Economic Journal* series. Like the other AEA journals the AEJs all have separate editors, editorial boards, and staffs. The various AEJs are specialized in the sense that topics in empirical microeconomics appear in one journal and so on but they are general interest in that multiple sub-fields are covered by each journal. This combines some of the search advantages noted earlier of specialized field journals with the prestige value of a general interest outlet. The selection process also makes use of referee reports that may have been generated if the article in question had been previously evaluated by the AER. Although

⁵⁸ For example, one simple rule of thumb is to require all referees to recommend publication before even considering whether a paper should be given a chance at revision.

⁵⁹ On the hand, making the evaluation process quicker or otherwise easier to fend can increase the submissions of bad papers; see Azar (2005).

⁶⁰ If the average length of articles and shorter papers published in 2005 had been the same as in 1980, the total number published (articles plus shorter papers) would have been 209 instead of 98. This would have increased the published-to-submitted ratio from 7.3 percent to 15.6 percent, just slightly below the level of the ratio in the 1970s (see Figure 2). Of course, this assumes that in 2005 there were 111 more articles and shorter papers that could have appeared in the AER but, instead, were rejected due to lack of space. On the other hand, the creation of the AEJ series is *prima facie* evidence in support of the assumption.

the preliminary indications are promising the journals are obviously too new to reach a conclusion whether they are successful long-run hybrids.

V. Citation Analysis

The majority of leading articles in the early volumes of the AER contain relatively few citations to the scholarly literature that are part and parcel of every economics journal article today. For example, of the 17 leading articles appearing in the 1915 volume, only 6 cited scholarly works at all. Conditional on citing anything scholarly the number of citations was very low.⁶¹ As time passed the fraction of articles with some scholarly citations increased, but well in the 1930s, the AER published articles with no scholarly citations whatsoever. When such citations did occur most were to books not articles in economics journals.⁶² The relative dearth of scholarly citations to other economics journals in the pre-World War Two AER is not surprising.⁶³ The economics journal literature was growing relatively slowly (at least compared with later decades) and, unlike today, conveying primary research results in book form was common.

As economics research in journals began to expand in the 1950s and 1960s citations to economics journal articles increased in number. The March 1955 issue of the AER, for example, contained 7 full length articles. On average, each article cited 14.6 scholarly items; of the 102 citations in total, 35 were to articles published in economics journals. The last paper in this

⁶¹ By “scholarly literature” I refer to books and articles. Sprague (1915), 34 pages in length, had one reference to the scholarly literature. Wilcox (1915) had the most scholarly references, eight in total. References to government or other data sources were more common.

⁶² In the March 1935 issue of the AER, for example, the 7 leading articles contained 23 scholarly citations in total, only 6 of which were to economics journal articles.

⁶³ In its citation patterns the pre-war AER does not differ much from its competitors. For example, the four non-review articles in the 1935 January issue of *Econometrica* cite 22 scholarly items in total, 6 of which were articles in economics journals.

particular number, by Baumol and Preston (1955), appears to have the very first in the AER with an actual reference list.⁶⁴ Baumol and Preston cited 13 scholarly publications, 10 of which were articles in economics journals nine of which were articles in the AER, JPE, QJE, and *Econometrica*. The almost complete absence of citations to journals other than the AER's leading competitors appears to have been typical. As I discuss below, when citations to AER articles jumped dramatically in recent decades, growth has been concentrated in citations appearing outside the leading mainstream journals.

The rapid growth in economics publishing in recent decades created ever more opportunities to cite and be cited. Citations are one metric by which scholarly influence is assessed. The frequency by which a journal's articles are cited then becomes a way of measuring the journal's impact and status. As the leading organization of economists in the United States and arguably the world, it would hardly do if the AEA's flagship journal fared poorly in the citation sweepstakes. Fortunately for the AEA, the AER has fared quite well.

I use the electronic Social Science Citation Index to measure the 5 to 9 year total citation rate to articles published in the AER from 1960 to 2000, at five-year intervals.⁶⁵ "5 to 9 year total" citations are those appearing five to nine years after the year of publication in any publication indexed by the SSCI. A multi-year span is preferable to a single year (for example, the 6-year rate) to smooth out random fluctuations. I use the 5-9 year rate -- as opposed, say, to the 10-14 year rate -- in order to extend the series as close as possible to the present, which happens to be the 2000 publication cohort. Only articles appearing in regular numbers of the

⁶⁴ It appears that editorial policy at this time permitted either a reference list at the end or full references in the first relevant footnote. The editorial policy at *Econometrica* was the same.

⁶⁵ My analysis is similar to Laband and Piette (1994), who compute citation rates for a sample of journals as the basis for ranking changes over time. See also Stigler, Stigler, and Friedland (1995).

AER are included in the calculations.⁶⁶ As a way of standardizing for article length, I divide total citations by total pages at risk of citation which I assume to be the sum of regular article plus communications pages. I multiply the result by 20, so that the figures can be interpreted as the number of citations per standardized 20-page paper. The results are displayed in Figure 3.

For the 1960 publication cohort, a standardized 20 page article in the AER generated a total of 3 citations 5 to 9 years (1965-1969) after publication. Over time AER papers began to be cited more often, particularly in the 1970s. From the mid 1980s to mid 1990s the rate flattened out at approximately 25 citations, before increasing again. For the 2000 publication rate, a standardized 20 page article generated approximately 41 citations 5 to 9 years post-publication, about 14 times higher than the corresponding figure for the 1960 cohort.

The citation series in Figure 3 are subject to age, cohort, and period effects. Knowledge advances and thus scientific papers have a shelf life. Advances come in clumps, editors come and go, and other factors may make a particular year's papers unusually significant or unusually stale. Age is controlled for by focusing on the 5-9 year rate but, as is well known, I cannot separately identify cohort and period effects without additional restrictions.⁶⁷ That said, some insight into period versus cohort effects can be gleaned by restricting the calculation to citations appearing in other AER articles – that is, citations by AER authors to other AER authors – and, somewhat more inclusively, to citations to AER articles by authors in the “Top-6” leading

⁶⁶ The electronic SSCI does not provide a simple command to remove the *Papers and Proceedings* from the calculation; this must be done (laboriously) by hand. Errors in citations (for example, incorrect volume numbers) are common in the SSCI; I corrected as many of these as I could in the process of assembling the citation data but make no claim to have eliminated all sources of such error.

⁶⁷ Mehta, Rysman, and Simcoe (2008) specify an econometric model capable of identifying age, period, and cohort effects for patent citations, which are conceptually similar to citations to journal articles. In their model the cohort is defined by the date of application; in the case of patents, citations typically date from when the patent is granted. Random variation in the timing of the granting of the patent, conditional on date of application, allows the authors to identify age, period, and cohort effects separately.

economics journals.⁶⁸ I refer to such citations as “elite”. The idea here is that if cohort effects were truly important – if some AER publication cohorts were really “better” on average than others -- this should be reflected in a greater likelihood of citation in the top journals. The elite citation rates are standardized for page length in the same way as the overall citation rate. The results are also shown in Figure 3.

Elite citation rates did rise continuously from 1960 to 1970, which suggests that AER papers published in 1965 or 1970 were, in some sense, better than those published in 1960. The elite citation rates dip slightly in the 1970s and 1980s before recovering; as a result, there is essentially no trend from 1970 to the present.⁶⁹ A 20-page AER paper published in 1970 was generated about 3 citations in top-6 journals 5 to 9 years after publication. A 20 page AER paper published in 2000 was also likely to generate about 3 such citations 5 to 9 years after publication. The post-1970 rise in the AER citation rate is not due to a secular (post-1970) improvement in the inherent quality of AER articles, but rather a general increase in the likelihood of citation, largely because more (and more) economics articles are written and published somewhere.⁷⁰

VI. Concluding Remarks

The *American Economic Review* is one of the premier economics journals in the world. Judging by submissions space in the AER is desired very highly by prospective authors and,

⁶⁸ For the purposes of Figure 3 top-6 journals are the AER, JPE, QJE, the *Review of Economics and Statistics*, the *Review of Economic Studies*, and *Econometrica*.

⁶⁹ The dip in the 1970s and 1980s is consistent with Laband and Piette’s (1994, Table 1) journal rankings, which show a modest drop for the AER between 1970 and 1990.

⁷⁰ As another illustration of this phenomenon, I computed the 5-9 year total citation rate from 1970 to 2000 for the *Journal of Human Resources*, the well-respected labor economics journal that commenced publication in 1966. Articles published in the 1970 JHR received 2.1 citations 5 to 9 years after publication; the corresponding figure for the 2000 cohort is 11 citations.

judging by rejections, guarded very jealously by the editor and co-editors. A paper in today's AER will, on average, be highly cited, bringing glory (and coin) to its author(s).⁷¹ Front and back matter aside, virtually every page in the current AER is devoted to economics research.

It was not always thus. Early in its history the AER was a multi-purpose publication, sandwiching between its two covers highly diverse content. As the economics profession grew (and grew) and economists devoted more time to writing research papers, a larger share of the annual space in the AER was allocated to economics research *per se*. This was accomplished first by moving out content that was not economics research. The content that was off-shored was rarely lost – instead, the AEA created new ways to provide the same basic information.

Eventually the ability of the AER to expand pages devoted to economics research by shifting out other content came to an end. Since 1980 the number of pages per issue has risen and, in this 100th anniversary volume, there will be more issues per volume for the first time. As the expansion of economics enters into its next, global phase, I have no doubt that the demand-side pressures that produced the long-term trend in space allocations in the AER will continue. Will the AER in 2111 be fatter than today's AER or perhaps even a monthly (or weekly)? Obviously, one cannot say but in a digital universe, the relevant margin is less the cost of paper and printing than the abilities of the editor and co-editors to select from the vast number of papers submitted those that will have the greatest intellectual impact and are most representative of the state-of-the-art in economic analysis.⁷²

⁷¹ Numerous papers attest to the importance of citations for professional rewards in economics; see, for example, Sauer (1988).

⁷² My own view is that there are inherent limits to the size of the AER, intensive or extensive. Time being a highly scarce commodity for professional economists, an AER that is too "fat" or issued too often may be seen as failing at its core mission of adequately pre-screening quality.

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Table 1: Pages Devoted to Leading Articles and Other Uses: Regular Numbers, American Economic Review, 1911-1940, By Volume

Year (Volume)	Leading Articles	Com.	Book Reviews and New Book Listings	Abstracts of Documents and Reports	Periodical Abstracts	Other	Total Pages	AEA Members
1911	337 {34.9%}	5	366	89	133	48	978	2,190
1915	314	0	347	142	144	56	1003	2,091
1920	390	5	264	98	122	57	936	2,301 [2,866]
1925	306	19	309	27	110	61	832	2,916
1930	319	29	364	12	0	87	811	2,797 [3,853]
1935	335	6	381	7	46	58	833	2,544
1940	424 {49.7%}	43	343	0	58	72	940	3,129 [4,475]

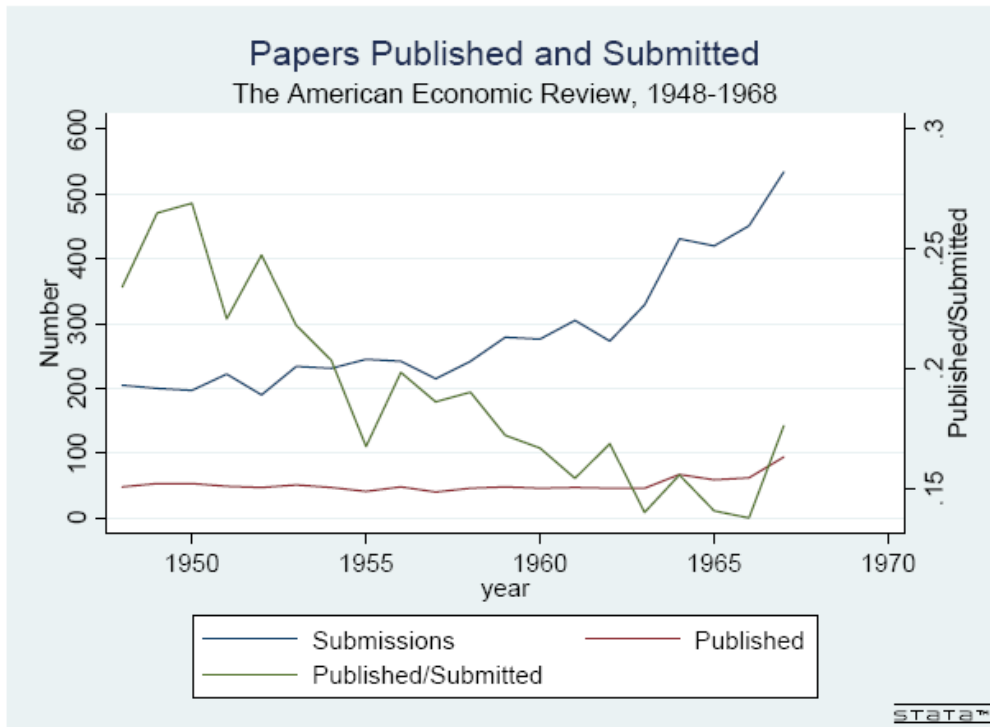
Source: Columns 2-8: computed by the author from the reports of the managing editor of the AER, various. Com.: shorter papers, comments, replies. Other: "Notes", listing of doctoral dissertations, obituaries. AEA Members: outside brackets, individual members; in brackets: individual members plus institutional subscribers to AEA publications. Membership figures for 1911 through 1935 are from American Economic Association (1938); 1940 membership figures are from Bell (1941, pp. 430-31). { } : percent of total pages devoted to leading articles and communications.

Table 2: Pages Devoted to Articles and Other Uses: Regular Numbers, American Economic Review, 1950-2005, By Volume

Year (Volume)	Articles	Average Page Length of Articles	Shorter Papers	Average Page Length of Shorter Papers	Book Reviews and New Book Listings	Periodical Abstracts	Other	Total Pages
1950	500	17.2	69	2.9	258	111	78	1,016
1960	478	21.7	85	3.7	342	123	137	1,165
1970	610	12.6	333	4.9	0	0	159	1,102
1980	680	13.1	392	5.2	0	0	65	1,137
1990	932	16.6	329	7.5	0	0	51	1,312
2000	993	20.7	535	12.2	0	0	34	1,562
2005	1,566	22.0	465	10.8	0	0	28	2,059

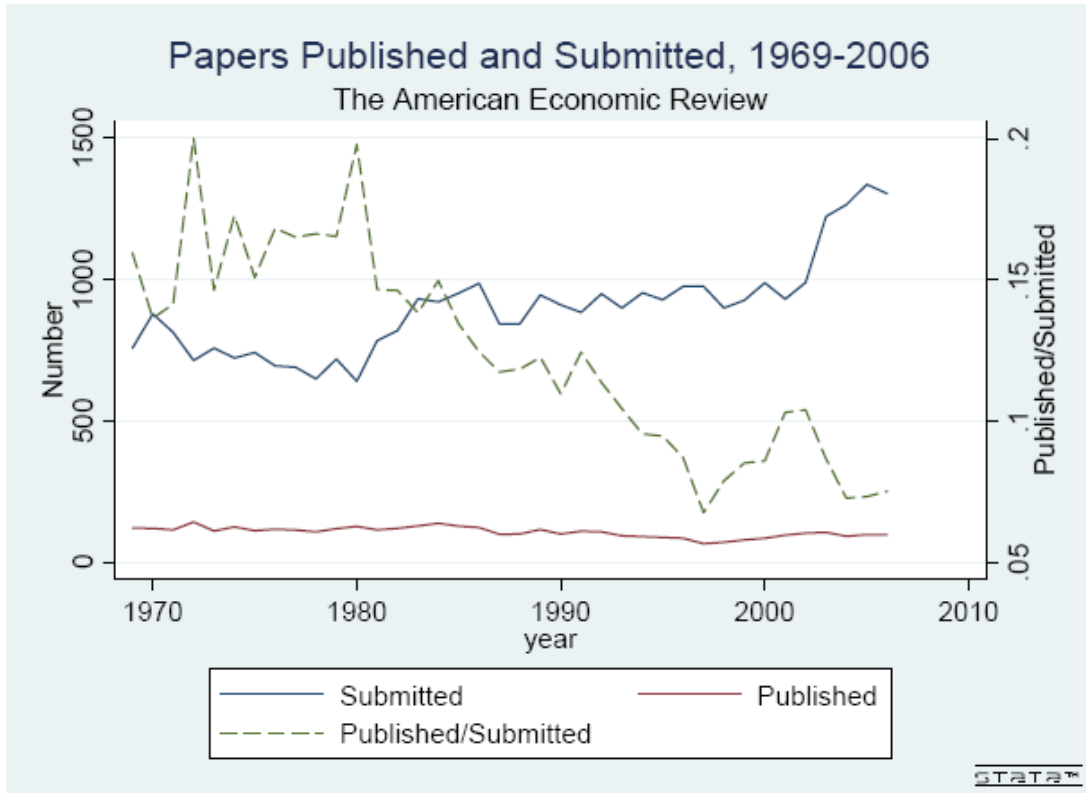
Source: Columns 2-9: computed by the author from the annual reports of the managing editor of the AER, various. Shorter papers: short articles, communications, comments, replies. Other: “Notes”, listing of doctoral dissertations, obituaries, photos, front and back matter.

Figure 1



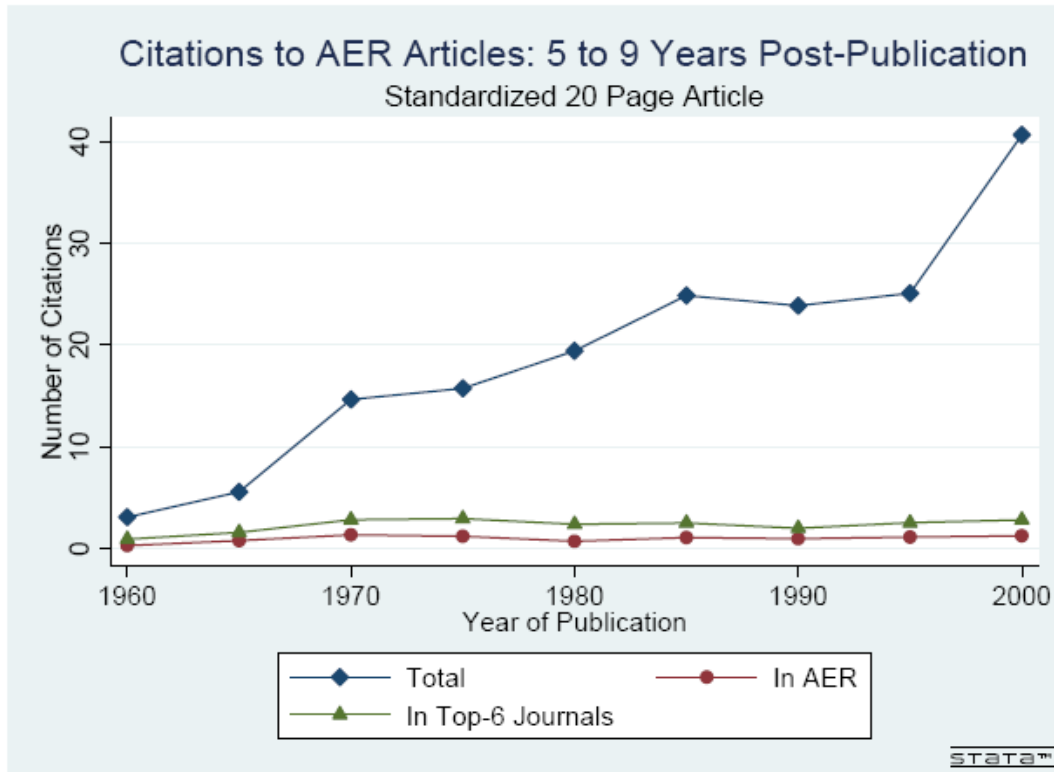
Source: see text.

Figure 2



Source: see text.

Figure 3



Source: computed by the author from the electronic Social Science Citation Index, see text. Figures are to a standardized 20-page article (= 20 x Citations/Total Pages at Risk of Citation). Total Pages at risk of citation is the sum of regular article pages plus communications pages. Total: citations to AER articles appearing in all outlets covered by the SSCI 5 to 9 years after year of publication of the original article. In AER: citations to AER articles by other AER authors 5-9 years after year of publication of the original article. In Top-6 Journals: citations to AER articles appearing in Top-6 journals 5 to 9 years after publication of the original article. Top 6 journals are AER, JPE, QJE, the *Review of Economics and Statistics*, the *Review of Economic Studies*, and *Econometrica*.