

The Rise of Adam Smith: Articles and Citations, 1970–1997

Jonathan B. Wight

In 1971, Kenneth Boulding posed a brazen question: “After Samuelson, who needs Adam Smith?” This was an apt query, coming a year after a scant two journal articles had focused on Smith or his work. Indeed, why should scholars bother to read or write about an eighteenth-century economist? An efficient market model of scientific progress suggested by George Stigler (1969) would hypothesize a linear flow of advancement such that new knowledge embodies all old knowledge worth keeping.¹ If true, then “there is as little to be gained scientifically from reading old texts as there is from prowling old bookstores for undervalued rarities” (Anderson, Levy, and Tollison 1989, 174). As Stigler (1969, 218) concluded, “The economics of 1800, like the weather forecasts of 1800, is mostly out of date.”

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1. According to Stigler (1969, 217–18), a present-day economist “will assume, just as the mathematician or chemist assumes, that all that is useful and valid in earlier work is present—in purer and more elegant form—in the modern theory.”

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Despite the theoretical attraction of the efficient market hypothesis, the marketplace itself did not seem to agree. Boulding's tongue-in-cheek query was answered by a flood of scholarship on Smith, numbering more than six hundred articles and thirty books over the subsequent twenty-seven years. Reviews of this burgeoning literature are undertaken elsewhere (Brown 1997; West 1988, 1978; Recktenwald 1978), as are assessments of Smith's stature (Tribe 1999; Samuelson 1992; Stigler 1977; Black [1976] 1995). These surveys provide ample qualitative discussion of Smith's reascendance.

The present article adds a complementary quantitative analysis and classification of this literature. A number of questions arise. First, amid all the "noise" in the data, how would one measure whether attention to a long-dead figure has actually risen or fallen? For example, is the rise in interest "real" after controlling for scholarship inflation? Second, even if scholarship is found to have risen in real terms, how have the sources of this scholarship changed? If the rise over time is limited to history of thought journals, then this could indicate little mainstream interest, and the efficient market model could be vindicated on that account. Third, to what extent can a test of the efficient market model shed light on the process by which new discoveries take place in economics?

Accordingly, this article develops a methodology for analyzing the "resurrection" of scholarship on Adam Smith in several measurable ways. Journal articles and citation counts are the primary sources of data, and both require careful screening and adjustments. The results reveal aspects of the progression and perhaps even progress in the discipline, with Adam Smith being the catalyst for a spirited, interdisciplinary conversation. Further, the study provides evidence for rejecting the efficient market model in the case of Smith over the time period studied, suggesting that progress in the social sciences may to some degree benefit from a recursive, rather than purely linear, method.

Historical Overview

Smith's reputation has risen and fallen several times since his death, reaching a peak in the mid- to late nineteenth century, concomitant with the rise of laissez-faire trade policies in Britain (Black [1976] 1995, 63). By the mid-twentieth century Smith's prestige was at a nadir for a variety of reasons (Peil 1999, 8). The technological success of the Soviet Sputnik program had led many postwar economists to become enamored of

development planning (Todaro 2000, 621). Meanwhile, the ascendance of Keynesian macroeconomics and its rejection of laissez-faire doctrines contributed to the perception that Smith's views were obsolete. Graduate education shifted toward formal mathematical techniques, and the history of thought as a core field in both graduate and undergraduate programs went into decline (Barber 1997, 90–93). Ever greater specialization within the discipline produced practitioners with less patience to unravel grand theories of classical economics and more likely to take away from Smith's work "caricatures," "clichés," "prejudices," "distortions," and "silly criticisms" (Recktenwald 1978, 66, 66 n). Joseph Schumpeter's appraisal was oft repeated, that Smith lacked originality.²

The bicentennial of *The Wealth of Nations* in 1976 provided an opportunity to reappraise the status of Adam Smith. Amid the outpouring of reflection in journals and books came the near universal feeling that a Smithian renaissance was overdue. Horst Recktenwald (1978, 56–57) identified four main lines of inquiry in the bicentenary renaissance: (1) the holistic integration of Smith's writings, especially the reconciliation of alleged contradictions between *The Wealth of Nations* and *The Theory of Moral Sentiments*; (2) the search for neoclassical roots in Smithian economics; (3) the elaboration of Smith's social and historical system as a framework for understanding markets; and (4) the examination of the role of the state in a "mixed economy."

By the 1990s, the scope of interest in Adam Smith had widened considerably. Vivienne Brown (1997) describes the additional avenues by which scholars sought to understand Smith and his place at the modern table: the allocation mechanism and a rational reconstruction of public choice theory; the role of institutions; classical and Marxian theories of value and distribution; the process of economic growth; cultural dynamics in commercial society; the role of aesthetics and rhetoric; politics, civic leadership, and justice; moral philosophy in commercial society; and the role of imagination in intellectual constructions. Not all of this scholarship was flattering. Salim Rashid (1992, 150), for example, argues that Smith's legacy is overrated and that "it is high time that the modern revision, which views Adam Smith as also being an analytical economist, be questioned." Smith continues to attract notice, however, exemplified by Keith Tribe's (1999) recent assessment in the *Journal of*

2. About *The Wealth of Nations*, Schumpeter wrote, "[It] does not contain a single *analytic* idea, principle, or method that was entirely new in 1776" (quoted in Recktenwald 1978, 57).

Economic Literature. The size and scope of this notice are what interest us here.

Ideology may explain some of the rise in demand for Smith's ideas during the buildup to the fall of communism in the 1980s and the aftermath of that fall in the 1990s. Keynesian economics also came under heavy attack from the Austrian school, and political changes favored a smaller role for government. At the same time, there were positive supply shocks: The University of Glasgow published new editions of Smith's works, beginning with *The Wealth of Nations* and *The Theory of Moral Sentiments* in 1976, followed by Smith's *Correspondence* (1977), *Lectures on Jurisprudence* (1978), *Essays on Philosophical Subjects* (1980), and *Lectures on Rhetoric and Belles Lettres* (1983). The outpouring of this definitive editorial work—consisting of new introductions, extensive cross-referencing within and among editions, and preparation of historical notes—accommodated the integrative and interdisciplinary study of Smith's works as never before. Finally, Ian Ross (1995) released a modern biography taking advantage of these new materials.

Measuring Scholarship: Journal Articles

The *Journal of Economic Literature* (*JEL*) maintains a database, *EconLit*, that can be searched by document type, year, and other qualifiers. *EconLit* source items on Adam Smith number more than twelve hundred for the period 1970–97, including 376 journal articles, 203 collective volume articles, thirty-three books, and six dissertations. However, the number of document types, total source items, and source items with abstracts in *EconLit* have changed over the years, making simple subject searches by year gravely misleading.³ Journal articles are the only documents that can be identified by a consistent search algorithm going back to 1970.

Focusing on *EconLit* journal articles assuredly understates Smith's absolute significance because of the omission of other types of scholarship (e.g., books and collective volumes). It may be the case that these publications play a larger role in research dissemination in some fields (such as the history of thought) than in others. Furthermore, scholarship on Smith extends into areas (philosophy, sociology, political science,

3. Working papers and articles in collected volumes were added to *EconLit* in 1984, books, dissertations, and abstracts in 1987, and book reviews in 1994.

law) not fully covered by the *EconLit* database. Despite these limitations, a constrained search has important uses. Since the late nineteenth century, journal articles increasingly have become the primary medium of communication of new ideas in economics (Stigler and Friedland 1979, 3–7); limiting the search to journal articles provides a measure of Smith's influence in the production of new knowledge and allows numbers to be compared across years with some consistency.

Starting the search in 1970 has conceptual merit in that it sufficiently predates the bicentenary celebration of *The Wealth of Nations* so as to allow for a baseline measurement. Bicentenary articles could be considered obituary tributes, and Jeff Biddle (1996, 145) argues that such items exaggerate an author's influence on current scholarship. Special care is needed in their interpretation.

The protocol employed in this study was to search *EconLit* journal articles for "Smith," "Smith's," or "Smithian" as title keywords and "Smith" as a "named person."⁴ Items meeting any of these criteria counted only once. Out of 376 journal articles identified, a review of individual items led to the dropping of 26 items that contained a title reference to a Smith other than Adam Smith or contained only rhetorical reference to Adam Smith.⁵ This left 350 journal articles (recorded by year in appendix 1).

As expected, Smith articles spiked during the *Wealth of Nations* bicentenary, with 60 journal articles over the period 1976–77. This corroborates the obituary effect concern and supports the choice of starting year. Excluding these bicentenary years, Smith journal articles averaged 6 per year during the 1970s (table 1). This average rose to almost 10 per year in the 1980s, and increased to 18 per year in the 1990s. These raw

4. *EconLit* is available in different formats from several commercial suppliers (e.g., Silverplatter, Ovid, and the On-Line Catalog System [OCLC]). This research used the Silverplatter CD version, August 1998 release. Researchers should be aware of idiosyncrasies in each supplier's search engine. For example, journals with multiple-year publication dates (e.g., 1996–97) will be listed by Silverplatter in the first year specified (1996). Other search engines will list by the second year, or will not list at all unless multiple years are specified in the search criteria. Consequently, simple searches may produce slightly different results among these suppliers.

5. "Adam Smith" serves as a metaphor for laissez-faire (e.g., "Adam Smith Goes to Moscow"). There is the unlikely possibility that this search ever so slightly exaggerated the count of journal articles on Adam Smith, the eighteenth-century Scotsman, if some references to "Adam Smith" had really been references to George J. W. ("Jerry") Goodman—the Rhodes scholar, investment analyst, author, and PBS television host—who assumed the nom de plume "Adam Smith" in the 1960s.

Table 1 Average Annual Journal Articles on Adam Smith

| | Smith Journal Articles ¹ | Total <i>EconLit</i> Journal Articles ² | Smith Journal Articles Per 1,000 <i>EconLit</i> Journal Articles | |
|-----------------------------------|---|---|--|--------------------|
| | | | Number | Index ⁴ |
| Yearly average 1976–77 | 30 | 6,740 | 4.45 | 455.2 |
| Yearly average 1970s ³ | 6 | 6,137 | 0.98 | 100.0 |
| Yearly average 1980s | 10 | 9,485 | 1.02 | 104.6 |
| Yearly average 1990s ⁵ | 18 | 13,977 | 1.30 | 132.6 |

Source: *EconLit* (Silverplatter CD, August 1998 release).

1. Search for “Smith,” “Smith’s,” or “Smithian” in article title or “Smith” as named person. Items were individually checked and some items excluded for lack of relevance.
2. Journal articles are the only indexed *EconLit* items that are directly comparable for all years.
3. Excludes bicentenary years 1976–77.
4. Uses nonbicentenary years in the 1970s as the base.
5. 1990–97.

numbers suggest that the brief renaissance of Smith in the mid-1970s became a renewed and sustained renaissance in the 1990s.

Controlling for Scholarship Inflation

To what extent has the growth in Smith journal articles resulted simply from a rise in the overall volume of scholarship? The number of journal articles indexed in *EconLit* increased from about 5,000 in the early 1970s to about 17,000 by 1996 (appendix 1). Deflating annually by indexed articles provides a measure of Smith’s “real” performance (table 1). Excluding bicentenary years, articles on Adam Smith appeared about once every 1,000 articles in the 1970s. Using this as a base, articles on Smith were higher by about 5 percent in the 1980s and by about 33 percent in the 1990s. The simple trend line slope (figure 1) is positive;⁶ the saw-toothed appearance of the annual numbers is in some cases the result of journals devoting special editions to Smith (as happened, for example,

6. The linear trend line slope estimate provides a simple (and transparent) test of whether or not the real number of Smith articles has changed over time. These results are hardly “robust”: changing the time period of analysis and omitting outlier years could certainly alter the findings. More elaborate specifications (modeling serial correlation, for example) are also possible, but the expected results hardly justify the complexity.

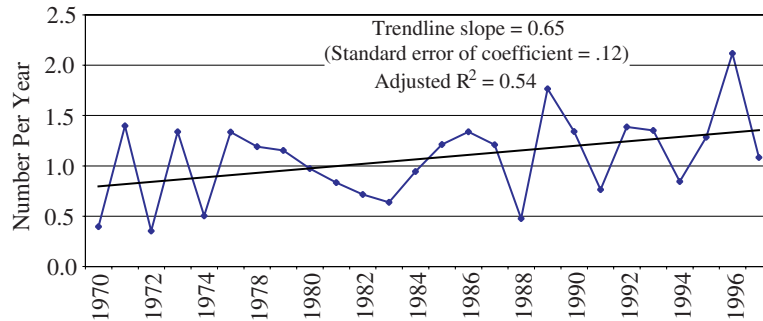


Figure 1 Smith journal articles per 1,000 *EconLit* articles. Excludes bicentenary years (1976–77). For source, see appendix 1.

in 1996 with the *History of Economic Ideas* and *Cahiers d'économie politique*).

Articles by Type of Journal

Which journals published articles on Smith, and how has this changed over the last three decades? An a priori hypothesis would be that the rise of specialized journals and/or a fall in the willingness of general journals to publish history of thought articles has changed the source of journal articles on Smith. Table 2 shows a breakdown of Smith articles by type of journal (appendix 3 has a list by journal). Not all journals existed or were indexed by *EconLit* for the entire period, making strict comparisons impossible. Even so, the data suggest that Smith's intellectual appeal has been, and remains, broad. Articles on Smith appear in about ninety different journals over the period of this study, with only slightly more than a fourth of the articles (26 percent) found in history of thought journals and slightly more than four in ten appearing in general economics journals. These averages mask important trends over time, however.

Table 2 shows the data broken into three periods: the bicentenary years (1976–77), the “normal” years surrounding the bicentenary (1970–75 and 1978–83), and the growth years (1984–97). During the normal years before and after the *Wealth of Nations* bicentenary, slightly more than half of the journal articles on Adam Smith appeared in general economics journals. Almost a fourth of these articles were in history of thought journals and 15 percent in interdisciplinary journals (primarily

Table 2 Adam Smith Journal Articles, by Type of Journal

| Journal Type | Number of Smith Articles | | | | Percent of Smith Articles | | | |
|----------------------|--------------------------|----------------------|---------|-------|---------------------------|----------------------|---------|-------|
| | 1976–77 | 1971–83 ¹ | 1984–97 | Total | 1976–77 | 1971–83 ¹ | 1984–97 | Total |
| General economics | 28 | 42 | 77 | 147 | 47% | 56% | 36% | 42% |
| History of thought | 5 | 17 | 70 | 92 | 8% | 23% | 33% | 26% |
| Economic history | 1 | 1 | 6 | 8 | 2% | 1% | 3% | 2% |
| Other applied fields | 6 | 4 | 9 | 19 | 10% | 5% | 4% | 5% |
| Interdisciplinary | 17 | 11 | 52 | 80 | 28% | 15% | 24% | 23% |
| Sociology | 11 | 9 | 28 | 48 | 18% | 12% | 13% | 14% |
| Business | 2 | 1 | 12 | 15 | 3% | 1% | 6% | 4% |
| Philosophy | 0 | 0 | 10 | 10 | 0% | 0% | 5% | 3% |
| Psychology | 0 | 0 | 1 | 1 | 0% | 0% | 0% | 0% |
| Law | 4 | 0 | 0 | 4 | 7% | 0% | 0% | 1% |
| Political science | 0 | 1 | 1 | 2 | 0% | 1% | 0% | 1% |
| Other | 3 | 0 | 1 | 4 | 5% | 0% | 0% | 1% |
| Total | 60 | 75 | 215 | 350 | 100% | 100% | 100% | 100% |

1. Excluding the bicentenary years 1976–77.

sociology). These shares changed noticeably during the bicentenary years. While general economics journals continued to have the largest share (47 percent), the relative interest in publishing articles on Smith shifted to interdisciplinary journals (28 percent of articles). The largest share of these was again in sociology (18 percent), but 7 percent of the total came from law. Journals in other applied economic fields accounted for 10 percent of articles during the bicentenary, while history of thought journals accounted for only 8 percent.

During the growth period (1984–97), the total number of articles on Smith published in general economics journals rose to seventy-seven. However, given the growth of specialized journals and the inflation of scholarship in general, this represents a fall in the share of Smith articles in general journals to only 36 percent from 56 percent, and a rise in the share of articles in history of thought journals to 33 percent from 23 percent. The share of interdisciplinary journals publishing articles on Smith grew to 24 percent of the total from 15 percent. This latter number indicates a confluence of probably two interrelated factors—a rising interest in Adam Smith in interdisciplinary work and greater coverage of interdisciplinary journals by the *EconLit* index.

Comparisons with Other Classical Figures

Smith's performance could reflect simply a growth of interest in all classical writers. Table 3 compares Smith's results to those obtained by searching the "named person" index in *EconLit* for journal articles on Malthus, Ricardo, and Marx.⁷ The results show that the rise of interest in Smith in the second half of the study period coincided with a dramatic fall of absolute and relative interest in Marx, suggesting an inevitable interplay of politics and ideology in economic research agendas. Interest in both Ricardo and Malthus rose in absolute but not in real terms (i.e., after accounting for scholarship "inflation").

One of the clear trends that emerge from table 3 is the drop in history of thought articles in general journals. While these journals increased slightly the total number of articles published on Smith, overall they decreased publications on the four classical writers by about one-third. This decline was even more pronounced within the "core" journals of economics, whose numbers dropped by more than 50 percent.⁸ Growth of scholarship in history of thought articles on the classical authors shown moved proportionately out of general journals and into history of thought and other specialized journals. Whether these trends were caused by the growth of specialized journals in the history of thought or whether specialized journals arose in response to being denied space in general (and core) journals, is an important question for future investigation.

Nevertheless, these data support the hypothesis that interest in Smith rose in relative, as well as in absolute, terms, except in core journals. Smith's rising popularity is remarkable in that it goes against the trend of other prominent historical figures shown, and indeed against the decline

7. When comparing Smith to other historical economists, the "named person" category is a quick identifier; it does not capture all articles. Searching by title keyword would identify more articles but introduce a semantic bias. Marx's name is used to represent a school of thought and ideology, and this is reflected in article titles. By contrast, current economists who align themselves with Smith's ideas do not label themselves or their models "Smithian," even if they are. For purposes of comparing interest in Smith versus others economists, it seems preferable to limit the search to the "named person" criterion, accepting that this approach also introduces biases. Since we are interested in changes over time, our trend analysis will not be affected (unless the biases change).

8. The core journals are those identified by Stigler, Stigler, and Friedland (1995): *American Economic Review*, *Econometrica*, *Economic Journal*, *Journal of Economic Theory*, *Journal of Monetary Economics*, *Journal of Political Economy*, *Quarterly Journal of Economics*, *Review of Economic Studies*, and *Review of Economics and Statistics*.

Table 3 Journal Articles on Selected Classical Economists (number and percent)

| | Smith | Ricardo | Malthus | Marx | Total |
|--------------------|------------|-----------|-----------|------------|------------|
| 1970–83 | | | | | |
| General (all) | 70 (52%) | 67 (76%) | 25 (61%) | 146 (49%) | 308 (55%) |
| General (core) | 10 (7%) | 7 (8%) | 0 (0%) | 26 (9%) | 43 (8%) |
| History of thought | 22 (16%) | 13 (15%) | 9 (22%) | 24 (8%) | 68 (12%) |
| Other | 43 (32%) | 8 (9%) | 7 (17%) | 130 (43%) | 188 (33%) |
| Total | 135 (100%) | 88 (100%) | 41 (100%) | 300 (100%) | 564 (100%) |
| 1984–97 | | | | | |
| General (all) | 77 (36%) | 57 (63%) | 20 (39%) | 59 (28%) | 213 (38%) |
| General (core) | 7 (3%) | 8 (9%) | 4 (8%) | 2 (1%) | 21 (4%) |
| History of thought | 70 (33%) | 28 (31%) | 23 (45%) | 40 (19%) | 161 (28%) |
| Other | 68 (32%) | 5 (6%) | 8 (16%) | 113 (53%) | 194 (34%) |
| Total | 215 (100%) | 90 (100%) | 51 (100%) | 212 (100%) | 568 (100%) |

Source: *EconLit* (Silverplatter CD, August 1998 release), search for journal articles with “named persons” for Ricardo, Malthus, and Marx.

Notes: The nine core journals in economics are those identified by Stigler, Stigler, and Friedland (1995, 336): *American Economic Review*, *Econometrica*, *Economic Journal*, *Journal of Economic Theory*, *Journal of Monetary Economics*, *Journal of Political Economy*, *Quarterly Journal of Economics*, *Review of Economic Studies*, and *Review of Economics and Statistics*. Smith’s numbers were generated using a slightly broader search (see footnote 5 in the text for discussion). The total shows the number of articles listing the “named person.” This overstates the number of actual articles, since some articles list more than one named person.

of the history of thought in graduate education and in publishing trends in general economics journals.

Measuring Scholarship: Citations

The preceding analysis of journal articles provides useful, if tentative, insights into the changing volume and breadth of research interest on Adam Smith. A broader measure of Smith’s impact is how scholars use Smith’s specific writings to advance the host of research interests noted earlier. Citations are a concurrent, lagging, and even leading indicator of this use; they track research influence well beyond the tally of journal articles. Citation counts have been used widely to track schools of

thought (Stigler and Friedland 1975), assess the relative impact of economics journals (Stigler, Stigler, and Friedland 1995; Laband and Piette 1994; Archibald and Finifter 1990; Laband and Sophocleus 1985) and economics departments (Liebowitz and Palmer 1984), and to evaluate the influence or reputation of economists (Biddle 1996; Anderson, Levy, and Tollison 1989; Quandt 1976; Stigler and Friedland 1979).

Issues of “salesmanship” or “gratuitous” citations, self-citations, and other problems of interpretation cloud the issue (Johnson 1997, 45; Quandt 1976). When examining the citation of deceased authors outside the time period of their own writing, some of these problems dissolve but new ones emerge, most notably, the tendency for knowledge derived from a source to become “intrinsic” or “generic” to the discipline, and beyond some point the “brand name” is rarely cited formally (Anderson, Levy, and Tollison 1989). Articles published in journals that represent small fields within a discipline (such as the history of thought) would theoretically be disadvantaged in citation rankings, a point supported by the evidence (Archibald and Finifter 1990, 154). Moreover, citations in articles may differ substantially from citations in books (Stigler and Friedland 1979, 5–8), a fact that places limits on the interpretation of article citation counts alone. The cost of conducting citation counts for all relevant books is imponderably high, however; researchers must choose whether to sample selected books and journals, or alternatively, to examine a wider universe of indexed citations. This study adopts the latter approach.

The *Social Sciences Citation Index (SSCI)* is multidisciplinary, covering a larger base of source items than *EconLit* (but not covering as many economics journals). This study utilized both electronic and print media forms of the database going back to 1971.⁹ The citation search was restricted to English-language editions of Smith’s works.¹⁰ Following

9. The *SSCI* is available in individual compact disks for each of the years 1991–97. Five-year cumulative reports are available on CD for 1986–90 and 1981–85. Earlier years were obtained from printed five-year cumulative reports for 1971–75 and 1976–80. An on-line version of the *SSCI* going back to 1974 is being tested at some research facilities but was unavailable at the time of this research. Due to minor dating idiosyncrasies, an article’s stated publication date may be different than the *SSCI*’s indexed date (for example, if the journal appears later than its actual publication date). For consistency, the *SSCI*’s index date was used.

10. The margin of error rises in attempting to identify citations to foreign-language editions to Smith’s works, and since these are few in number, it seemed best to eliminate them. In a very small number of instances an undesignated “Glasgow edition” was cited without title name or volume number. These were added to Smith’s “other” works.

the practice of Biddle (1996), Stigler and Friedland (1979, 1975), and Richard Quandt (1976), citations to a work were counted only once per source item. The primary difficulty in carrying out this research was the large number of different editions of Adam Smith's works in circulation, spanning two-and-a-half centuries. The *SSCI* records each different edition and page reference as a separate bibliographic entry. For example, in 1997 the more than two hundred citations to *The Wealth of Nations* referenced sixty-one "variants" of *WN* covering twenty-nine publication years (the most cited being the 1996 Glasgow edition, followed by the 1937 Modern Library edition).¹¹

Figure 2 illustrates citations to Adam Smith's works during the period 1971–97 (with data in appendix 2).¹² In the early 1970s, citations to Smith averaged roughly 60 per year. Citations rose sharply in the mid-1970s during the *WN* bicentenary, falling afterwards. From the early 1980s, citations followed a seesaw pattern upward, reaching a high of 257 in 1997. Between 1971 and 1997, annual citations to Adam Smith increased more than 300 percent. These numbers must be "deflated" by two considerations. First, following a long-term trend, source items have become more citation-intensive.¹³ Second, the number of source items indexed by the *SSCI* rose during this period.

Controlling for Citation Inflation

Total *SSCI* citations are the product of the number of source items times the average number of citations per source item. The average number of citations per article rose from less than nine in 1971 to over eighteen

11. It is possible, therefore, to double-count an article citation if that article cites more than one edition of the same work (e.g., it cites a 1937 edition of *WN* and separately cites the 1976 edition of *WN*). A detailed study of four years' worth of citations (discussed later) found one instance of double-counting for this reason. It is also theoretically possible for double-counting to occur if the same work is cited inconsistently (e.g., cited as *The Wealth of Nations* in one place and cited as *Inquiry into the Nature and Causes of the Wealth of Nations* in another place). None of these types of errors was uncovered in the four-year period studied in depth. A clerical error in coding by the *SSCI* led to one instance found of double-counting. Given the high labor costs entailed in trying to eliminate these possibilities of double-counting for all years, and given the low frequency of occurrence, they remain as caveats. Since this study is interested in *changes* in Smith citations, these problems will introduce no bias as long as the sources of possible overcounting are consistent over time.

12. Data from 1970 were not obtained.

13. Stigler and Friedland (1979, 13) report average citations per article of about five in the period 1886–1925, rising to around eleven by 1964–69. Quandt (1976) finds in his survey that citations per article rose from about five in the 1920s to almost fifteen by the early 1970s.

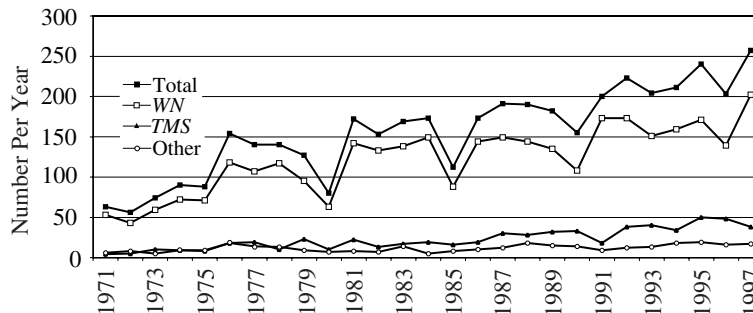


Figure 2 Adam Smith citations, 1971–97. For source, see appendix 2.

by 1997 (appendix 2). Since multiple citations of the same source in a given journal article produce only one *SSCI* listing, the interpretation of the increase is that a larger number of different articles is being cited than before.¹⁴ Figure 3 (top series) shows Smith's citations "deflated" for citation-intensity. Between 1971 and 1997, this measure of Smith's "real" citations rose 93 percent. These numbers support the hypothesis that there is a real rise in interest in citing Smith, after controlling for the tendency of researchers to cite more of all authors.

One must also consider the possibility that Smith's citations increased simply because of growth in the number of total source items (e.g., articles) being indexed by the *SSCI*. These fluctuated in number between 70,000 and 146,000 items over this period. Deflating Smith's citations for total *SSCI* citations (which encompasses both the rise in citation-intensity and source items) produces the bottom series in figure 3. By this measure, Smith's real citations were about the same in 1997 as they were in 1971 (the trend line slope is not significantly different from zero).¹⁵ Since 1987, however, Smith's real citations by this measure have dropped 20 percent, a decline that is statistically significant at the .05 level.

However, an examination of the changing nature of source items in the *SSCI* makes any prediction of Smith's fall premature. Fully covered journals in the *SSCI* rose from 1,030 in 1971 to 1,730 in 1996. Of these, 143 journals were listed as "economics" journals in 1971. In a personal

14. For example, a journal article having ten footnotes to Smith's *Theory of Moral Sentiments* would show up as one citation by the *SSCI*.

15. Trend line slope coefficient = .13, standard error of coefficient = .26.

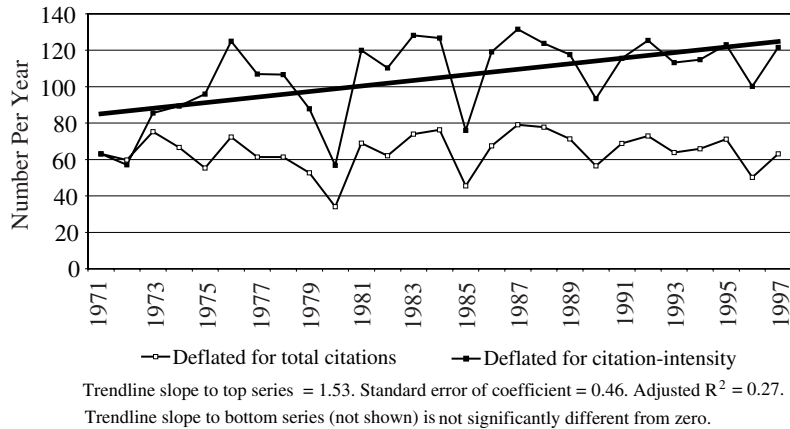


Figure 3 Adam Smith citations, adjusted. For source, see appendix 2.

communication, Jeffrey Lang, senior editor of *Social and Behavioral Sciences*, pointed out that new economics journals have been added over the years, but about the same number have been dropped, so that total economics journals numbered slightly fewer (140) in 1997 than they did in 1971; the ratio of economics journals to all journals fell from approximately 14 percent to around 8 percent. Thus, deflating by total *SSCI* source items introduces a downward bias and makes the conclusions drawn from it suspect. While it would be desirable to examine citations to Smith in economics journals alone, that approach is not feasible for all years.¹⁶ A subset of years is examined in a subsequent section.

Even if Smith's real citation count fell, this finding would not necessarily imply a decline in Smith's *relative* standing. In the context of an exploding information base, maintaining a near constancy in real citations over the period 1971–97 would probably imply a rise in Smith's relative standing. This thesis is explored by examining Smith's citations compared to Ricardo and Malthus, examining the years of Smith's possible fall (table 4).¹⁷ Smith's average annual citations are about double

16. According to the *SSCI*, there is no search engine to carry out a segmented search by discipline. Instead, one would need to search for Smith citations in each of the 140 economics journals individually. Given the sixty or more different Smith editions to be searched for in each journal for each of seventeen years, the multiplicative escalation of effort required is well beyond the resources available.

17. Unlike in table 3, the large number of citations to Marx precluded his inclusion here.

Table 4 Citations to Smith, Ricardo, and Malthus

| | Smith | | Ricardo | | Malthus | |
|------------------------|-------|--|---------|--|---------|--|
| | No. | Deflated for SSCI Citations ¹ | No. | Deflated for SSCI Citations ¹ | No. | Deflated for SSCI Citations ¹ |
| Annual average 1981–85 | 156 | 65.3 | 55 | 22.9 | 34 | 14.2 |
| Annual average 1986–90 | 178 | 70.4 | 36 | 14.1 | 37 | 14.6 |
| Annual average 1991–97 | 220 | 65.1 | 39 | 13.1 | 33 | 11.2 |
| Change ² | 41% | 0% | –29% | –43% | –2% | –21% |

Source: *Social Sciences Citation Index*.

1. Base = 1971.

2. 1991–97 compared to 1981–85.

the combined citations of Ricardo and Malthus. Smith's unadjusted average annual citations grew by 41 percent from 1981–97, while Malthus's fell 2 percent and Ricardo's fell 29 percent. Deflating for SSCI source items, Smith's average annual citations stayed roughly constant, while Malthus's fell 21 percent and Ricardo's fell 43 percent. In relative terms, Smith fared better than these other classical writers.

TMS versus *WN*

We turn now to an analysis of Adam Smith's two books. Not surprisingly, the predominant share of citations over the period 1971–97 were to *The Wealth of Nations* (see figure 2). One of the themes that emerged from the Smith retrospectives, however, is that 'das Adam Smith Problem' is essentially dead (Brown 1997, 297). Not only does *The Theory of Moral Sentiments* (*TMS*) not contradict *The Wealth of Nations* (*WN*); the growing consensus is that both books form a unified body of thought such that neither can be understood in isolation (Raphael and Macfie 1976, 20–25). To what extent do citations reflect this scholarship? If *TMS* were more important for understanding Smith's views than previously thought, one would expect citations of *TMS* to grow relative to *WN*.

Figure 4 shows annual ratios of *TMS* to *WN* citations. In 1971, scholars cited *TMS* less than once for every ten citations to *WN*. This ratio trends upward, reaching a peak in 1996 of about one in three. These numbers support the hypothesis that citation interest in Smith's moral philosophy is growing faster than interest in his political economy.

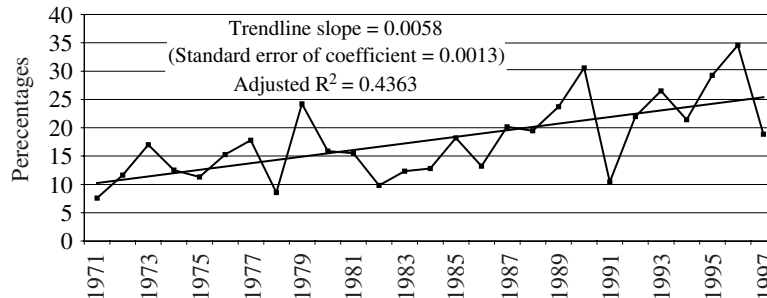


Figure 4 Ratio of *TMS* to *WN* citations. For source, see appendix 2.

Recall, however, that *SSCI* data do not speak to the weight or intensity with which each cited work is used within any given article—that is, how *many* times *TMS* or *WN* is cited within the same article. Recall also that in absolute numbers, scholars cite *WN* far more heavily.

One can observe that the Adam Smith being cited at the end of the study period is a better-known Smith, whose complexities and nuances are more likely to be drawn out. The evidence for this is found by examining in detail four years' worth of citations, the beginning two years and the ending two years of the study period. In the early period researchers cited *TMS* infrequently, and when they did, it was rarely in the context of the *WN*. Only twice out of 111 articles published during 1971–72 do citations to both books appear in the same article, and no article cites more than two of Smith works. Subsequently, the Glasgow editions (published in six volumes over the period 1976–83) made Smith's writings more accessible to scholars, with the predictable consequence that a richer understanding of Smith emerged in the later period. In 1996–97, the share of articles citing more than one Smith work doubled to almost 12 percent, and the share of articles citing *WN* and *TMS* in the same article more than quintupled to over 9 percent (included are those articles that cite *WN*, *TMS*, and one other work). Eleven articles (3 percent) in the later period cite three or more of Smith's works, compared to none in the earlier period.

Scholars may consult *TMS* more than data on citations alone indicate. Book sales are a proxy (albeit a poor one, especially with library use) for book readership. The Liberty Fund publishes the U.S. softcover Glasgow editions of Smith's works. In a personal communication, David

Bovenizer, the director of publications for the Liberty Fund, reported that total sales of *WN* from 1981–97 amounted to 26,342 copies. Sales of *TMS* were 20,860 copies, or almost 80 percent of *WN*. These are huge absolute numbers for both books, considering that membership in the American Economic Association numbers only 22,000 and that a large inventory of Smith's works (including the hardcover Glasgow editions) is already in circulation. Even if perfunctory sales to libraries explain the large ratio of *TMS* sales to *WN* sales, this fact might indicate a greater awareness by acquisitions librarians of the relative importance of *TMS*. Alternatively, large book sales of *TMS* could merely reflect a movement along the existing demand curve: the real price of the book has come down.

Which Journals Cite Smith?

While there is an across-the-board rise in interest in citing *TMS*, the fastest growth has occurred within subdisciplines. We turn now to this data in table 5. Looking first at 1971–72 data (table 5a), we see that Smith was cited a total of 119 times in these early years, and more often in noneconomics journals (58 percent) than in economics journals (42 percent). In the noneconomics journals, sociology/anthropology journals provide almost as many citation "hits" (19) as do general economics journals (23). Journals in law and history cite Smith more than do all economic field journals. Within economics journals, general journals cite Smith slightly more often than specialized economics journals, with history of thought, economic development, and applied micro journals accounting for a large portion of all economic citations of Smith. The nine core journals in economics provide only 6 percent of Smith citations during this time period.

In general, most researchers in 1971–72 paid scant attention to the book Smith purportedly felt was his most important legacy (Ross 1995, 408): citations to *The Theory of Moral Sentiments* occur less than once for every ten citations to *The Wealth of Nations*. There are some exceptions to this rule. History of thought journals cite *TMS* once for every three *WN* citations and philosophy journals cite *TMS* once for every two *WN* citations (although small sample size should be kept in mind).

Table 5a Smith Citations, by Type of Journal, 1971–72

| Journal Type | Total | | WN | TMS | Other | TMS/WN |
|-----------------------------|-------|--------|----|-----|-------|--------|
| | No. | % | | | | |
| I. Economics | 50 | 42.0% | 40 | 3 | 7 | 0.08 |
| General economics | 23 | 19.3% | 19 | 1 | 3 | 0.05 |
| Core journals | 7 | 5.9% | 6 | 1 | 0 | 0.17 |
| Specialized journals | 20 | 16.8% | 14 | 2 | 4 | 0.14 |
| Economic development | 6 | 5.0% | 5 | 1 | 0 | 0.20 |
| History of thought | 7 | 5.9% | 3 | 1 | 3 | 0.33 |
| Economic history | 0 | 0.0% | 0 | 0 | 0 | n/a |
| Applied micro | 5 | 4.2% | 4 | 0 | 1 | 0.00 |
| Comparative systems | 0 | 0.0% | 0 | 0 | 0 | n/a |
| Financial markets | 2 | 1.7% | 2 | 0 | 0 | 0.00 |
| Interdisciplinary economics | 7 | 5.9% | 7 | 0 | 0 | 0.00 |
| Business | 5 | 4.2% | 5 | 0 | 0 | 0.00 |
| Sociology | 2 | 1.7% | 2 | 0 | 0 | 0.00 |
| Philosophy | 0 | 0.0% | 0 | 0 | 0 | n/a |
| Psychology | 0 | 0.0% | 0 | 0 | 0 | n/a |
| II. Other fields | 69 | 58.0% | 56 | 6 | 7 | 0.11 |
| Law | 14 | 11.8% | 13 | 0 | 1 | 0.00 |
| Sociology/anthropology | 19 | 16.0% | 15 | 1 | 3 | 0.07 |
| Political science | 3 | 2.5% | 1 | 1 | 1 | 1.00 |
| Psychology | 1 | 0.8% | 1 | 0 | 0 | 0.00 |
| Natural science | 1 | 0.8% | 1 | 0 | 0 | 0.00 |
| General social science | 6 | 5.0% | 6 | 0 | 0 | 0.00 |
| History | 10 | 8.4% | 7 | 2 | 1 | 0.29 |
| Philosophy | 3 | 2.5% | 2 | 1 | 0 | 0.50 |
| Education | 4 | 3.4% | 4 | 0 | 0 | 0.00 |
| Health | 1 | 0.8% | 1 | 0 | 0 | 0.00 |
| International studies | 0 | 0.0% | 0 | 0 | 0 | n/a |
| Natural resources | 0 | 0.0% | 0 | 0 | 0 | n/a |
| Other | 7 | 5.9% | 5 | 1 | 1 | 0.20 |
| Totals | 119 | 100.0% | 96 | 9 | 14 | 0.09 |

Table 5b Smith Citations, by Type of Journal, 1996–97

| Journal Type | Total | | WN | TMS | Other | TMS/WN |
|-----------------------------|-------|--------|-----|-----|-------|--------|
| | No. | % | | | | |
| I. Economics | 231 | 50.2% | 174 | 36 | 21 | 0.21 |
| General economics | 85 | 18.5% | 68 | 11 | 6 | 0.16 |
| Core journals | 13 | 2.8% | 12 | 1 | 0 | 0.08 |
| Specialized journals | 80 | 17.4% | 60 | 11 | 9 | 0.18 |
| Political economy | 15 | 3.3% | 13 | 1 | 1 | 0.08 |
| Economic development | 19 | 4.1% | 11 | 7 | 1 | 0.64 |
| History of thought | 19 | 4.1% | 13 | 1 | 5 | 0.08 |
| Economic history | 11 | 2.4% | 8 | 1 | 2 | 0.13 |
| Applied micro | 10 | 2.2% | 9 | 1 | 0 | 0.11 |
| Comparative systems | 4 | 0.9% | 4 | 0 | 0 | 0.00 |
| Financial markets | 2 | 0.4% | 2 | 0 | 0 | 0.00 |
| Interdisciplinary economics | 66 | 14.3% | 46 | 14 | 6 | 0.30 |
| Business | 43 | 9.3% | 35 | 8 | 0 | 0.23 |
| Sociology | 14 | 3.0% | 8 | 3 | 3 | 0.38 |
| Philosophy | 7 | 1.5% | 2 | 2 | 3 | 1.00 |
| Psychology | 2 | 0.4% | 1 | 1 | 0 | 1.00 |
| II. Other fields | 229 | 49.8% | 167 | 50 | 12 | 0.30 |
| Law | 63 | 13.7% | 47 | 13 | 3 | 0.28 |
| Sociology/anthropology | 48 | 10.4% | 30 | 15 | 3 | 0.50 |
| Political science | 25 | 5.4% | 21 | 2 | 2 | 0.10 |
| Psychology | 19 | 4.1% | 10 | 9 | 0 | 0.90 |
| Natural science | 16 | 3.5% | 13 | 2 | 1 | 0.15 |
| General social science | 13 | 2.8% | 8 | 4 | 1 | 0.50 |
| History | 10 | 2.2% | 9 | 0 | 1 | 0.00 |
| Philosophy | 6 | 1.3% | 4 | 2 | 0 | 0.50 |
| Education | 6 | 1.3% | 4 | 2 | 0 | 0.50 |
| Health | 5 | 1.1% | 5 | 0 | 0 | 0.00 |
| International studies | 5 | 1.1% | 3 | 1 | 1 | 0.33 |
| Natural resources | 4 | 0.9% | 4 | 0 | 0 | 0.00 |
| Other | 9 | 2.0% | 9 | 0 | 0 | 0.00 |
| Totals | 460 | 100.0% | 341 | 86 | 33 | 0.25 |

Source: *Social Sciences Citation Index*.

Over 1996–97, the total number of Smith citations had grown roughly fourfold to 460 (table 5b). Half of these are now in economics journals and half in noneconomics journals, although this must be qualified: growth in economic citations comes disproportionately from interdisciplinary economics journals, especially in business and sociology (whose relative shares approximately doubled). General economics journals increased citations to Smith overall at nearly the average rate. While citations to Smith in the core economics journals rose in absolute terms, they fell in relative terms and probably fell also in real terms.¹⁸

In noneconomics journals, law now comprises the largest share of Smith citation hits (almost 14 percent). Sociology and anthropology make up just 10 percent, down from 16 percent in the earlier period; political science now makes up about 5 percent. Psychology citations are notable for growing to 4 percent from less than 1 percent in the earlier period. History citations fall sharply as a proportion of the total.

There are several general conclusions to highlight from this data. First, the citations span an enormous range of disciplines. Smith's appeal is not only broad; its fastest growth is in newer fields of study (social psychology, natural resources, and interdisciplinary areas). Most notably, across all disciplines interest in Smith's *Theory of Moral Sentiments* rose rapidly during the period of study. The ratio of *TMS* to *WN* citations increased to .21 from .08 in economics journals, and to .30 from .11 in noneconomics journals. Economic development journals in 1996–97 have a ratio of .64, and interdisciplinary economics-sociology journals, a ratio of .38. Psychology journals show particular interest in Smith's moral philosophy, with a ratio of .90. Philosophy and education journals both indicate ratios of .50.

Summary and Conclusions

The “resurrection” of Adam Smith is stunning on the face of it. One is almost three times more likely to find a journal article addressing Adam Smith's ideas in the 1990s as in the nonbicentenary years of the 1970s; citation counts to Smith are likewise almost four times higher. Researchers and department chairs alike should be wary, however—given the

18. Without a thorough study of citation practices by the nine core journals, one cannot say definitively that real citation counts have fallen. This is because the citation inflation index is calculated from all journals within the *SSCI*. Core journals in economics likely have tighter editing standards and thus would yield a different inflation index.

vicissitudes encountered here—to assign significance to raw number counting in the *SSCI* or *EconLit* without careful attention to the search methodology employed or to interpretation of the context. In Smith's case, the noted changes *mainly* reflect a rise in the overall volume of scholarship and the growing citation-intensity of writing. Moreover, interest in Smith within the core journals of economics most likely declined. Looking broadly at all the data, however, a significant rise in Smith's relative standing is still discernable after adjusting for scholarship inflation and is reflected across a wide range of fields within economics and outside economics.

These broader findings are in conflict with the efficient market hypothesis for dissemination of scientific ideas.¹⁹ There are at least three competing explanations for this. First, it is possible that this increase in articles and citations simply reflects growing “inefficiency” in the allocation of academic time and talent. That is, institutional distortions or rigidities may provide incentives for scholars to pursue dusty volumes in the history of thought even though the marginal productivity in terms of current scientific advance is minimal.²⁰ As a corollary, citations to Smith may simply reflect a growing use of historical citations, not to hard scientific work upon which others are building. These arguments are difficult to reconcile with the facts: economics departments over the past fifty years have reduced relative rewards for studying the history of thought and indeed have dropped required courses at both the graduate and undergraduate levels. Further, core and general journals carry a smaller share of history of thought articles than previously. The rise of interest in Adam Smith despite these institutional changes cannot easily be explained by assuming that more resources are being “wasted” or that there is mounting interest in historical citations.

A second possibility is that the interplay over time of economic and political events may lead to cycles of theories being “in” and “out” of

19. Some might argue that the numbers of articles and citations within the core journals constitute the true test of the efficient market model. By this standard, Smith's influence in journal articles has fallen and in citation counts has probably fallen (but not certainly—see footnote 18). Researchers, however, disagree about the list of core journals. Moreover, recognizing that core journals (however defined) are more influential than other journals does not imply that other journals do not contribute to progress in the social sciences (broadly defined). The conclusions of this article are reached by examining the entire body of literature on Smith, rather than the subset of core journals in economics. Others may reasonably disagree.

20. Stigler (1969, 218), for example, saw the history of thought as a haven for “underendowed” researchers.

ideological favor. The great economists, being part of the accepted rhetorical canon, can more easily be used to advance causes. Jacob Viner notes that “an economist must have peculiar theories indeed who cannot quote from *The Wealth of Nations* to support his special purposes” (quoted in Black [1976] 1995, 76). Smith’s rhetorical eloquence commands the ear today as resonantly as it did in 1776, explaining the zeal with which various ideologies have wrapped themselves in his banner. Smith’s arguments for trade and markets are mainstays of current structural adjustment programs around the globe; Smith’s cynicism about the motives of government bureaucrats has germinated into a new field in economics—public choice;²¹ and the importance Smith gave to justice has struck a chord in those searching for legal, institutional, and cultural determinants of economic development (in Eastern Europe and elsewhere). A minority of scholars even assert that Smith, viewed through a modern lens, would himself be a vociferous critic of capitalism and culture as they are constructed today (Pack 1991; Werhane 1991).

A third possibility is that the efficient market model does not completely capture the nature of advance in the social sciences. In “The Half-Life of Dead Economists,” Anderson and his colleagues (1989) find considerable evidence to support the efficient market hypothesis, with the exception of a small cadre of pre-1900 writers including Marx, Mill, Smith, Hume, and Ricardo. The authors speculate that these figures continue to be cited because they did not *resolve* issues so much as they *posed problems* that remain interesting. William Letwin (1964, 246), for example, says that *The Wealth of Nations* deserves its reputation not “in any way as an ultimate statement, but as a turning point, the beginning of all that came after as it was the end of all that came before.”

Indeed, this may be the crux of the explanation for Smith’s recent ascent: the efficient market model presupposes a deductive, one-way progression of advancement and discovery. If the social sciences proceed in part inductively or recursively, then historical volumes may contain insights of value for modern scholars. Put differently, progress may entail “two steps forward, one step back.” R. D. Collison Black ([1976] 1995) ascribes this to the inevitably changing nature of perspective that occurs over time. He notes that Smith’s contributions to growth and development theory could be appreciated only after the static theories of

21. George Stigler, however, would deny Smith this honor. For a recent discussion, see Tribe 1999, 623.

neoclassical value and distribution had been explored. Accordingly, the present generation may find “fresh interest in a system of thought which placed economic problems firmly in the context of ethics . . . informed throughout by a concept of justice.” He concludes that “this may well prove to be the aspect of Smith’s ideas which the next generation of economists will see as vital” (75). This is a view endorsed by Tribe (1999, 627) in his assessment of scholarship on the context, rhetoric, and historical reception of Smith’s work that reveals “a new ‘micro-foundations’ . . . located in [Smith’s] account of the origins of moral order or of sociability.”

The sources of Smith’s longevity and resurrection will no doubt be the subject of continuing debate. Alfred Marshall perhaps anticipated this during the Smithian mini-renaissance of the late nineteenth century when he wrote, “There is scarcely any economic truth now known of which he [Smith] did not get some glimpse” (quoted in Black [1976] 1995, 76). Smith’s genius lay in exploring the penumbras between the practical, the social, the institutional, and the moral realms—areas experiencing rapid growth in interdisciplinary study over the last three decades. As traced in the present essay, the man who founded modern economics appears to be leading economists in exploring relationships with sister disciplines in sociology, psychology, philosophy, and law. If so, the response to Boulding’s query (“Who needs Adam Smith?”) may be—for some time—quite a few of us.

Appendix 1 Adam Smith in *EconLit* Index

| | Smith Journal Articles ¹ | Total <i>EconLit</i> Journal Articles | Smith Journal Articles Per 1,000 <i>EconLit</i> Journal Articles | |
|--------|---|--|--|--------------|
| | | | Number | (1971 = 100) |
| 1970 | 2 | 5,081 | 0.4 | 100.0 |
| 1971 | 7 | 5,012 | 1.4 | 354.8 |
| 1972 | 2 | 5,685 | 0.4 | 89.4 |
| 1973 | 8 | 5,981 | 1.3 | 339.8 |
| 1974 | 3 | 5,965 | 0.5 | 127.8 |
| 1975 | 8 | 5,997 | 1.3 | 338.9 |
| 1976 | 43 | 6,403 | 6.7 | 1,706.1 |
| 1977 | 17 | 7,077 | 2.4 | 610.3 |
| 1978 | 9 | 7,567 | 1.2 | 302.2 |
| 1979 | 9 | 7,805 | 1.2 | 292.9 |
| 1980 | 8 | 8,220 | 1.0 | 247.3 |
| 1981 | 7 | 8,420 | 0.8 | 211.2 |
| 1982 | 6 | 8,391 | 0.7 | 181.7 |
| 1983 | 6 | 9,418 | 0.6 | 161.8 |
| 1984 | 9 | 9,553 | 0.9 | 239.3 |
| 1985 | 12 | 9,918 | 1.2 | 307.4 |
| 1986 | 13 | 9,723 | 1.3 | 339.7 |
| 1987 | 12 | 9,933 | 1.2 | 306.9 |
| 1988 | 5 | 10,510 | 0.5 | 120.9 |
| 1989 | 19 | 10,768 | 1.8 | 448.3 |
| 1990 | 15 | 11,190 | 1.3 | 340.5 |
| 1991 | 9 | 11,802 | 0.8 | 193.7 |
| 1992 | 18 | 12,985 | 1.4 | 352.2 |
| 1993 | 18 | 13,315 | 1.4 | 343.4 |
| 1994 | 12 | 14,239 | 0.8 | 214.1 |
| 1995 | 20 | 15,569 | 1.3 | 326.4 |
| 1996 | 36 | 17,021 | 2.1 | 537.3 |
| 1997 | 17 | 15,698 | 1.1 | 275.1 |
| Totals | 350 | 269,246 | 1.3 | 133.6 |

Source: *EconLit* (Silverplatter CD, August 1998 release).

1. Search for "Smith," "Smith's," or "Smithian" in article title or "Smith" as named person. Items were edited for relevance.

Appendix 2 *SSCI* Citations and Adam Smith Citations, 1971–97

| | A. Annual Data | | | | | | | | |
|-------|-----------------------------------|---|---|----------------------|------------|-------|-------|---|--|
| | Total <i>SSCI</i> Citations | Total <i>SSCI</i> Source Items | <i>SSCI</i> Citations Per Source | Adam Smith Citations | | | | Deflated for Citation- Intensity ^{1,2} | Deflated for Total <i>SSCI</i> Citations ² |
| | | | | Number | | | | | |
| | | | | <i>WN</i> | <i>TMS</i> | Other | Total | | |
| 1971 | 644,078 | 73,150 | 8.8 | 53 | 4 | 6 | 63 | 63.0 | 63.0 |
| 1972 | 603,782 | 69,916 | 8.6 | 43 | 5 | 8 | 56 | 57.1 | 59.7 |
| 1973 | 633,438 | 83,055 | 7.6 | 59 | 10 | 5 | 74 | 85.4 | 75.2 |
| 1974 | 871,576 | 98,188 | 8.9 | 72 | 9 | 9 | 90 | 89.3 | 66.5 |
| 1975 | 1,025,418 | 126,916 | 8.1 | 71 | 8 | 9 | 88 | 95.9 | 55.3 |
| 1976 | 1,372,274 | 126,342 | 10.9 | 118 | 18 | 18 | 154 | 124.8 | 72.3 |
| 1977 | 1,469,800 | 127,357 | 11.5 | 107 | 19 | 14 | 140 | 106.8 | 61.3 |
| 1978 | 1,472,557 | 127,272 | 11.6 | 117 | 10 | 13 | 140 | 106.5 | 61.2 |
| 1979 | 1,555,802 | 122,205 | 12.7 | 95 | 23 | 9 | 127 | 87.8 | 52.6 |
| 1980 | 1,517,487 | 122,205 | 12.4 | 63 | 10 | 7 | 80 | 56.7 | 34.0 |
| 1981 | 1,606,302 | 127,123 | 12.6 | 142 | 22 | 8 | 172 | 119.9 | 69.0 |
| 1982 | 1,590,492 | 130,144 | 12.2 | 133 | 13 | 7 | 153 | 110.2 | 62.0 |
| 1983 | 1,473,449 | 126,850 | 11.6 | 138 | 17 | 14 | 169 | 128.1 | 73.9 |
| 1984 | 1,460,363 | 121,428 | 12.0 | 149 | 19 | 5 | 173 | 126.7 | 76.3 |
| 1985 | 1,587,649 | 122,169 | 13.0 | 88 | 16 | 8 | 112 | 75.9 | 45.4 |
| 1986 | 1,651,530 | 129,120 | 12.8 | 144 | 19 | 10 | 173 | 119.1 | 67.5 |
| 1987 | 1,556,198 | 121,635 | 12.8 | 149 | 30 | 12 | 191 | 131.4 | 79.1 |
| 1988 | 1,573,572 | 116,385 | 13.5 | 144 | 28 | 18 | 190 | 123.7 | 77.8 |
| 1989 | 1,646,742 | 120,772 | 13.6 | 135 | 32 | 15 | 182 | 117.5 | 71.2 |
| 1990 | 1,768,926 | 120,962 | 14.6 | 108 | 33 | 14 | 155 | 93.3 | 56.4 |
| 1991 | 1,873,031 | 122,840 | 15.2 | 173 | 18 | 9 | 200 | 115.5 | 68.8 |
| 1992 | 1,972,583 | 125,961 | 15.7 | 173 | 38 | 12 | 223 | 125.4 | 72.8 |
| 1993 | 2,061,740 | 129,830 | 15.9 | 151 | 40 | 13 | 204 | 113.1 | 63.7 |
| 1994 | 2,065,017 | 127,512 | 16.2 | 159 | 34 | 18 | 211 | 114.7 | 65.8 |
| 1995 | 2,175,811 | 126,621 | 17.2 | 171 | 50 | 19 | 240 | 123.0 | 71.0 |
| 1996 | 2,604,753 | 145,940 | 17.8 | 139 | 48 | 16 | 203 | 100.1 | 50.2 |
| 1997 | 2,625,887 | 141,069 | 18.6 | 202 | 38 | 17 | 257 | 121.6 | 63.0 |
| Total | 30,185,645 | 2,137,497 | 14.1 | 2,359 | 467 | 205 | 3,031 | | |

Appendix 2 continued

| | B. Summary Data | | | | | | | | |
|---------------------------------|----------------------------|----------------------------------|------------------------------------|--------|------|-------|-------|---|---|
| | Adam Smith Citations | | | | | | | | |
| | Total SSCI Citations | Total SSCI Source Items | SSCI Citations Per Source | Number | | | | Deflated for Citation- Intensity ^{1,2} | Deflated for Total SSCI Citations ² |
| | | | | WN | TMS | Other | Total | | |
| Growth (1971–97) | 308% | 93% | 111% | 281% | 850% | 183% | 308% | 93% | 0% |
| Average ³ (1970s) | 1,072,081 | 106,045 | 10.1 | 82 | 12 | 10 | 104 | 91 | 63.0 |
| Average (1980s) | 1,566,378 | 123,783 | 12.7 | 129 | 21 | 10 | 160 | 111 | 65.6 |
| Average ⁴ (1990s) | 2,143,469 | 130,092 | 16.4 | 160 | 37 | 15 | 212 | 113 | 64.0 |

Sources: Smith's citations are from the *Social Sciences Citation Index (SSCI)*, CD and print versions, various years. *SSCI* aggregate data are from the Institute for Scientific Information, Philadelphia.

1. Citation-intensity refers to the number of different citations per source item (e.g., per article).

2. Base = 1971.

3. 1971–79. All averages are annual averages.

4. 1990–97.

Appendix 3 Number of Adam Smith Articles, by Journal, 1970–97¹

| Journal Name | Bicentenary | Nonbicentenary | | Total |
|---|-------------|----------------------|---------|---------|
| | 1976–77 | 1970–83 ² | 1984–97 | 1970–97 |
| <i>History of Political Economy</i> | 5 | 17 | 39 | 61 |
| <i>Scottish Journal of Political Economy</i> | 5 | 5 | 13 | 23 |
| <i>Review of Social Economy</i> | 11 | 3 | 7 | 21 |
| <i>History of Economic Ideas</i> | 0 | 0 | 16 | 16 |
| <i>Économies et sociétés</i> | 0 | 2 | 9 | 11 |
| <i>Economics and Philosophy</i> | 0 | 0 | 10 | 10 |
| <i>International Journal of Social Economics</i> | 0 | 1 | 9 | 10 |
| <i>Cahiers d'économie politique</i> | 0 | 0 | 8 | 8 |
| <i>Journal of Economic Issues</i> | 1 | 5 | 2 | 8 |
| <i>Journal of the History of Economic Thought</i> | 0 | 0 | 8 | 8 |

Appendix 3 continued

| | | | | |
|---|-----------|-----------|------------|------------|
| <i>Canadian Journal of Economics</i> | 2 | 3 | 2 | 7 |
| <i>European J. History of Economic Thought</i> | 0 | 0 | 7 | 7 |
| <i>Journal of Political Economy</i> | 2 | 2 | 3 | 7 |
| <i>Revue économique</i> | 2 | 3 | 2 | 7 |
| <i>Atlantic Economic Journal</i> | 0 | 2 | 3 | 5 |
| <i>Australian Economic Papers</i> | 1 | 4 | 0 | 5 |
| <i>Oxford Economic Papers</i> | 0 | 3 | 2 | 5 |
| <i>Southern Economic Journal</i> | 0 | 2 | 3 | 5 |
| <i>American Economic Review</i> | 3 | 0 | 1 | 4 |
| <i>Economic Journal</i> | 1 | 2 | 1 | 4 |
| <i>Economica</i> | 1 | 0 | 3 | 4 |
| <i>Indian Economic Journal</i> | 2 | 2 | 0 | 4 |
| <i>Journal of Law and Economics</i> | 4 | 0 | 0 | 4 |
| <i>Quarterly Review of Economics and Business</i> | 0 | 0 | 4 | 4 |
| All other journals | 20 | 19 | 63 | 102 |
| Total | 60 | 75 | 215 | 350 |

Source: *EconLit* (Silverplatter CD, August 1998 release).

1. Ranked by number of Smith articles.
2. Excludes 1976–77.

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