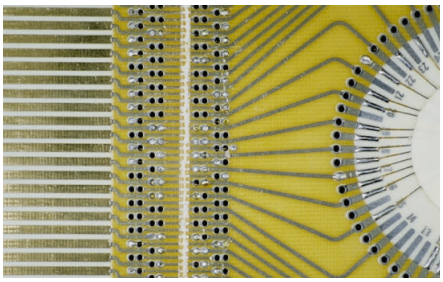
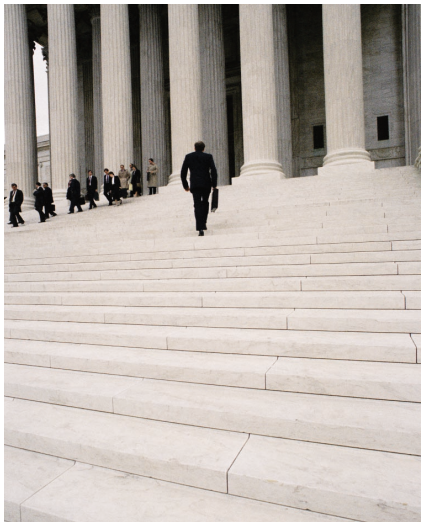
PUBLISHER MERGERS:
A CONSUMER-BASED APPROACH TO ANTITRUST ANALYSIS

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INFORMATION ACCESS ALLIANCE

American Association of Law Libraries | American Library Association | Association of College and Research Libraries | Association of Research Libraries | Medical Library Association | SPARC

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PUBLISHER MERGERS:
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Executive Summary
June 2003

Access to a broad array of research information is critical to the health and wealth of society. Advances in medicine, in technology, in the understanding of our environment and our economy, all depend on scientists, researchers, and scholars building on each others' work. Much of this work is conveyed through articles published in research journals and serial publications that researchers, educators, students, and the public access through libraries and institutions. Journals provide the most immediate access to significant new research in all fields of knowledge.

Over the past two decades, increased concentration in the publishing industry has been accompanied by significant escalation in the price of serials publications, eroding libraries' ability to provide users with the publications they need. Nowhere does this seem more troublesome than in the market for scientific, technical, and medical (STM) journals and legal serial publications where pricing, as well as marketing practices for electronic publications, threaten library budgets and ultimately the widespread availability of important writings to the public.

In this paper, the Information Access Alliance (Alliance) describes the issues that have emerged as the industry has become increasingly concentrated and advocates for a new standard of antitrust review that we urge be adopted by state and federal antitrust enforcement agencies in examining merger transactions in the serials publishing industry. The Alliance strongly encourages a shift in the paradigm for analyzing mergers among publishers of STM and among publishers of legal serial publications toward a more consumer-focused approach. When reviewing proposed mergers, antitrust authorities should consider the decision-making process used by libraries—the primary customers of

STM and legal serial publications—to make purchasing decisions. Only then will these mergers be subjected to the degree of scrutiny they deserve and adequate access be preserved.

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1. Introduction

The American consumer depends upon the Antitrust Division of the Department of Justice, and, on occasion, state Attorneys General, to protect it from being the victim of monopolies. The mission of the Antitrust Division is:

> to promote and protect the competitive process—and the American economy—through the enforcement of the antitrust laws. The antitrust laws . . . prohibit a variety of practices that restrain trade, such as . . . corporate mergers likely to reduce the competitive vigor of particular markets, and predatory acts designed to achieve or maintain monopoly power. . . .*The Division is also committed to ensuring that its essential efforts to preserve competition for the benefit of businesses and consumers do not impose unnecessary costs on American businesses and consumers*.[1]

The current standard used by the Antitrust Division to analyze mergers in the scientific, technical, and medical (STM) and legal publishing markets results in increased costs and decreased access to important research information for the consumer. The Antitrust Division has within its authority the power to adjust and refine this analysis.

Access to a broad array of research information is critical to the health and wealth of society. Advances in medicine, in technology, in the understanding of our environment and our economy, all depend on scientists, researchers, and scholars building on the work of one another. Academic journals have long been the vehicle through which researchers disseminate this work. Much of our current body of knowledge was first introduced through articles in research journals. New studies constantly expand the range of our understanding in many disciplines. From discoveries

[1] United States, Department of Justice, Antitrust Division, *Overview*, retrieved May 29, 2003, http://www.usdoj.gov/atr/overview.html (emphasis added).

of new treatments for a disease to the development of theories that impact social and economic policy, journals provide the most immediate access to significant new research from medicine to the law.

In science, technology, and medicine, the opportunity for journal publication encourages scholars to produce high-quality research that advances our knowledge. This research would have only marginal impact if the results were not distributed to broad audiences. Broad distribution through journal publication facilitates the validation of findings by other researchers and thus serves as a mechanism for testing initial results. The publication of several articles on related topics creates a public dialog among researchers through which each can refine and develop both methods and theories. Broader distribution also enables other scientists and researchers to challenge research and to build upon it. The development of penicillin, the discovery of the structure of DNA, and the development of radiation treatment for cancer patients all depended on researchers having had access to the work of others.

In the realm of legal publishing, serial publications, including reporters, codes, digests, citators, encyclopedia, looseleaf services, newsletters, and treatises, provide students, lawyers, researchers, and judges with vital information on the current state of the law in virtually all legal fields. Both the beginning law student and the seasoned lawyer depend on such publications for information on the ever-changing legal world. Serial publications provide both historical and current information, enabling lawyers to understand legal problems and provide quality, up-to-date legal advice. For law professors, legal serial publications serve many of the same functions as STM journals, serving as a source of original research as well as a repository of important knowledge in the field.

Wide availability of high quality STM and legal serial publications is crucial because of the critical role they play in facilitating the development and expansion of both applied and academic learning. Our nation's ability to use the results of research

productively will be severely diminished if policymakers, students, academics, researchers, and the public have only limited access to these publications.

Against this backdrop, the unchecked increases in subscription prices for STM and legal serial publications over the past two decades portend trouble. Consumers have already been forced to cope with subscription prices for STM and legal publications that have increased at rates substantially greater than the overall inflation rate.[2] Between 1991 and 2000, for example, library subscriptions to STM journals increased in price 158 percent, over six times the inflation rate, while legal serial publications increased 103 percent, over four times the inflation rate.[3] The increased cost of paper is often cited as a key reason for the rapidly increasing prices, but the cost of paper increased only 12 percent between 1991 and 2000.[4] The desire (and ability) to increase profits is one likely cause of high price increases. Price increases by commercial publishers in the STM journals and legal serials markets are significantly higher than those of nonprofit publishers. For example, between 1988 and 1998, the price of commercial biomedical titles increased 224 percent while the price of the nonprofit titles increased 129 percent.[5]

At the same time, consumer budgets remain static or are increasing only slightly. Faced with an ever expanding body of publications from which to choose, significant annual escalation of subscription prices and budgets that increase less rapidly (or even shrink), consumers are more and more limited in titles to which they can subscribe. Charged with maintaining and facilitating access to STM and legal serial publications, librarians struggle under the weight of price increases, often delaying purchases of new titles or canceling subscriptions outright. See Graph One.

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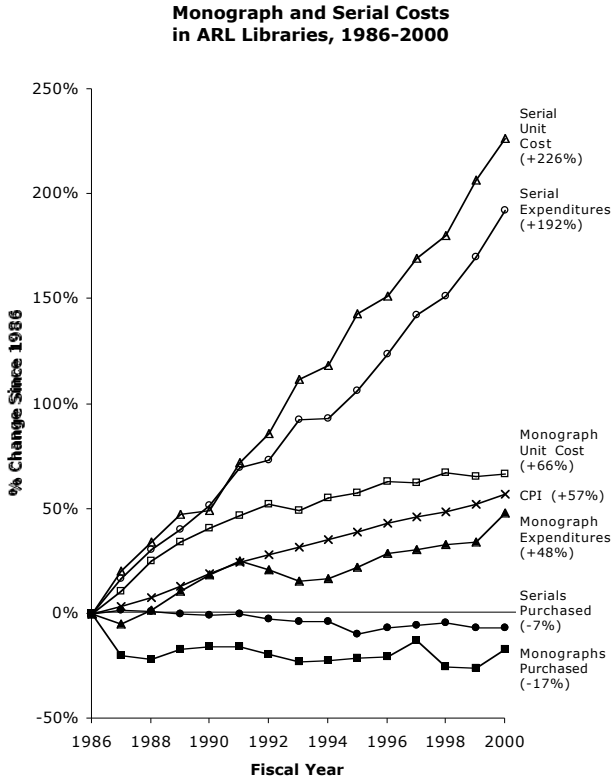
[2] Michael A. Stoller, Robert Christopherson, and Michael Miranda, *The Economics of Professional Journal Pricing*, COLLEGE AND RESEARCH LIBRARIES, vol. 57, Jan. 1996, at 9; and Mark J. McCabe, *A Portfolio Approach to Print Legal Serials Pricing* (July 2002) (unpublished manuscript).

[3] STM data extrapolated from data in *U.S. Periodicals Prices—2002*, AMERICAN LIBRARIES, May 2002, http://www.ala.org/alonline/archive/periodicals02.html; legal serials data based on information from McCabe, *supra* note 2.

[4] Bureau of Labor Statistics, *Producer Price Index, Commodity Data, Pulp, Paper, and Allied Products, Paper*, Series WPU0913, retrieved Apr. 22, 2003, http://www.bls.gov/.

[5] Mark McCabe, *The Impact of Publisher Mergers on Journal Prices: An Update*, ARL, no. 207 Dec. 1999, at 5.



GRAPH ONE

ARL STATISTICS 1999-2000, Association of Research Libraries, Washington, D.C., p. 9.

Mergers of publishers of STM and legal serials have exacerbated this general trend in price increases. In the biomedical field alone, significant price increases occurred in 10 of 11 mergers over the past decade.[6] Although a few mergers have been abandoned after confronting antitrust scrutiny, including the proposed merger of Reed Elsevier and Wolters Kluwer (both significant players in the STM journal and legal serials markets), most mergers have faced little scrutiny and consolidation has continued at a rapid pace.[7] Despite significant opposition from many in the legal community, the Department of Justice approved the acquisition of West Publishing (the "crown jewel of legal publishing") by the Thomson Corporation in 1996 with a consent decree that some

[6] Mark J. McCabe, *Journal Pricing and Mergers: A Portfolio Approach*, THE AMERICAN ECONOMIC REVIEW, vol. 92, no. 1, Mar. 2002, at 265-67.

[7] McCabe, *supra* note 5, at 1.

considered to be "watered-down" and that "provided almost no relief to consumers troubled by the size and market power of this legal publishing behemoth."[8]

As described below, studies have shown that mergers in these industries result in larger increases in subscription prices than would be expected based upon inflation. Because the government has viewed these mergers through the lens of conventional antitrust thinking, traditional analysis has yielded unduly myopic market definitions. Thus STM journal and legal serials mergers have not been subject to the critical antitrust review that they deserve.

The Information Access Alliance sets forth in this paper an analysis of the STM and legal markets that strongly argues for application of a more consumer-friendly definition of the market by taking into account the decision-making process used by libraries when selecting serials. The Alliance focuses on libraries because the vast majority of revenue generated by publications of commercial STM journals and legal serials comes from libraries and institutions, not individuals.[9] The following discussion highlights important factors that regulatory authorities should consider when analyzing proposed mergers of STM and legal publishers in the future. This framework should serve as the starting point for analyzing these mergers. Each merger, of course, poses its own unique set of circumstances requiring focused investigation and analysis.

2. Access to a Broad Spectrum of Research Information is Essential

Research contributes significantly to the overall health and wealth of our society. Public and private investment in research and development (R&D) in the U.S. topped

[8] Kendall F. Svengalis, *Legal Information Buyer's Guide & Reference Manual*, 2002, at 8.

[9] United Kingdom, Competition Commission, *Reed Elsevier plc and Harcourt General, Inc.: A Report on the Proposed Merger*, July 2001, at 67-68 (in its description of the STM market, the Competition Commission notes that "the majority of subscriptions are to institutions" and concludes that while individual subscribers exist, they form "too small" a proportion of subscriptions to warrant a separate analysis); and Vincent Laurencin, *Reed Elsevier NV*, EXANE EQUITY RESEARCH REPORT, Sept. 11, 2002, at 13-14.

$265 billion in 2000, accounting for 40 percent of the total global investment in R&D.[10] The U.S. government alone spent over $100 billion dollars on R&D in 2002, with half that amount for non-defense-related purposes.[11] For the public to reap the benefits of this investment of taxpayer dollars, government agencies require grant recipients to publish the results of their research.[12] Publication assures not only a record of achievement, but, more importantly, ensures that current and future researchers will be able to build on this work.

The success of government investment in research is reflected in part in the major impact research has had on the development of technology in this country. A 1998 study found that 73 percent of the articles cited in U.S. industrial patents resulted from publicly funded research projects.[13] As noted by G. Wayne Clough, Chair of the President's Council of Advisors on Science and Technology, Panel on Federal Investment in Science and Technology and Its National Benefits, "federal investment in science and technology is crucial to our future economic health."[14]

Over the years, economists have shown that investments in research and development lead to technical innovation, improved productivity, and economic growth.[15] Robert M. Solow, a renowned economist, demonstrated in his 1957 seminal work that technological innovation is a significant contributor to increased productivity.[16]

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[10] Elisa Eiseman, Kei Koizumi, and Donna Fossum, *Federal Investment in R&D*, Rand Science and Technology Policy Institute, Project Memorandum PM-1336-OSTP, Arlington, VA, July 2002, at 15.

[11] *Id*., at 69.

[12] Dana A. Shea, *Balancing Scientific Publication and National Security Concerns: Issues for Congress*, Congressional Research Service, The Library of Congress, Jan. 10, 2003, at 7-8.

[13] Eiseman et al., *supra* note 10, at 48.

[14] Letter from G. Wayne Clough, Chair, PCAST, Panel on Federal Investment in Science and Technology and Its National Benefits, to John H. Marburger, III, Office of Science and Technology Policy, and E. Floyd Kvamme, Co-Chair, PCAST, Oct. 16, 2002, in PCAST Report on *Assessing U.S. R&D Investment*, http://www.ostp.gov/PCAST/pcast2002rpt.html.

[15] Arthur M. Diamond, Jr., *The Economics of Science*, KNOWLEDGE AND POLICY: THE INTERNATIONAL JOURNAL OF KNOWLEDGE TRANSFER AND UTILIZATION, vol. 9, nos. 2 & 3, Summer/Fall 1996, at 26-31.

[16] Robert M. Solow, *Technical Change and the Aggregate Production Function*, THE REVIEW OF ECONOMICS AND STATISTICS, vol. 39, no. 3, Aug. 1957, at 312-320.

His work was instrumental in persuading governments to invest in research and development as a fundamental way to encourage innovation and build a strong economy.[17] He was awarded the Nobel Prize for his contribution to economics and public policy in 1987. There are many examples of the impact of research on innovation. Researchers at Bell Labs invented the transistor in 1947, which paved the way for a wide array of electronic equipment from pocket radios and calculators to communications satellites.[18] Joshua Lederberg, while a researcher at Yale, discovered that genetic material can be transferred from one bacterium to another, laying the groundwork for the development of the biotechnology and genetic engineering industries.[19] Three professors, while researchers at MIT in 1977, developed an algorithm for encryption that is used widely by banks and credit card companies to secure online transactions.[20]

Investments in research have also led to breakthroughs in medicine and the treatment of disease. Funding of the National Institutes of Health (NIH) has grown over the years to make it the largest single source of federal non-defense-related R&D. NIH is authorized to spend $26.5 billion in 2003 on health-related research.[21] The value of such investment and the wide dissemination of its results is evidenced by the progress made in addressing Sudden Infant Death Syndrome (SIDS) over the past 30 years. In 1974, concerned about the growing number of unexplained infant deaths, Congress gave the National Institute of Child Health and Human Development (NICHD), an NIH division, the statutory responsibility to conduct research on what had become known as SIDS. By the early 1990s, researchers had discovered that placing infants on their stomachs to sleep was a significant risk factor in infant deaths. While continuing the research on the exact

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[17] *Solow, Robert M.*, ENCYLOPEADIA BRITANNICA ONLINE, retrieved Apr. 30, 2003, http://search.eb.com/eb/article?eu=70410.

[18] *Transistor*, ENCYCLOPAEDIA BRITANNICA ONLINE, retrieved Apr. 25, 2003, http://search.eb.com/eb/article?eu=75112.

[19] *Bacterial & Cellular Genetics and the Nobel Prize*, THE JOSHUA LEDERBERG PAPERS, PROFILES IN SCIENCE, National Library of Medicine, retrieved Apr. 24, 2003, http://profiles.nlm.nih.gov/BB/Views/Exhibit/narrative/bacgen.html.

[20] Sarah J. Reese, *3 Professors to Share Turing Award in Computer Science*, CHRONICLE OF HIGHER EDUCATION, TODAY'S NEWS, Apr. 18, 2003, http://chronicle.com/daily/2003/04/2003041805n.htm.

[21] Eiseman et al., *supra* note 10, at 5 and 69.

developmental abnormality that causes SIDS, the NICHD led a national "Back to Sleep" campaign widely disseminating this newly discovered information. As a result, the rate of SIDS deaths fell 40 percent between 1992 and 1998.[22]

Research has produced many other examples of advances in medicine, as well. Ernest O. Lawrence, while a physics professor at Berkeley, developed the cyclotron, which was used not only to study nuclear physics, but also to produce radioisotopes used in the radiation treatment of cancer.[23] Jonas Salk, while an associate professor in the School of Medicine at the University of Pittsburgh, developed the first effective injection vaccine for polio.[24] In the 1940s, Ernst Chain and Howard Florey developed the penicillin mold, discovered by Alexander Fleming in 1928, into a powerful antibiotic suitable for treating human disease.[25] Just recently, researchers from MIT and Arizona State reported that they may have found a potential therapy for treating smallpox, a development that could remove the incentive for using smallpox in a bioterrorism attack.[26]

The progress and success of research is largely dependent on access to a broad array of information. Advances in medicine, in technology, in the understanding of our environment, our economy, our universe all depend on scientists, researchers, and scholars building on the work of others. Bruce Alberts, President of the National Academy of Sciences, noted recently that half of what scientists initially believe turns out to be wrong. It is only through the open exchange of information that errors are corrected

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[22] National Institute of Child Health and Human Development, *Targeting Sudden Infant Death Syndrome (SIDS): A Strategic Plan*, 2001, at 5-6.

[23] *Lawrence, Ernest Orlando*, ENCYCLOPÆDIA BRITANNICA ONLINE, retrieved Apr. 25, 2003, http://search.eb.com/eb/article?eu=48526

[24] *Salk, Jonas Edward*, ENCYCLOPÆDIA BRITANNICA ONLINE, retrieved Apr. 30, 2003, http://search.eb.com/eb/article?eu=66783.

[25] British Broadcasting Company (BBC), *Medicine Through Time: The Modern World, Disease & Its Treatment*, retrieved May 23, 2003, http://www.bbc.co.uk/education/medicine/nonint/modern/dt/modtbi3.shtml

[26] *MIT Research May Lead to Smallpox Drug*, MIT NEWS, May 19, 2003, http://web.mit.edu/newsoffice/nr/2003/smallpox.html.

and progress is made. Alberts noted that the new builds on the old in unpredictable ways.[27]

Much of the work of scientists and scholars is conveyed through articles published in research journals and serial publications. Faculty and researchers submit their work to journals that arrange for the review of the work by peers. Accepted articles are then published by the journals. For researchers, educators, and even the general public, journals provide the most immediate access to significant new research and the historical record for previous work in all fields of knowledge.

- In 1979, a mid-western mother turned to the medical literature at a nearby library when her son's epilepsy did not respond to a variety of drugs. She discovered mention of a diet that had been demonstrated to work on children and ultimately found help for her son. Three days after he started the treatment, he suffered his last seizure.[28]

- An attorney and his wife turned to the journal literature to learn about treatments for "arteriovenous malformation," a condition present in the brain of their 13 year-old son. Doctors had told them that, left untreated, there was danger of hemorrhage; at the same time, treatment could result in brain damage. Through the literature they found out about the treatments with the best success rates and the doctors and hospitals who specialized in them. "With this new-found information, my wife and I were able to know who to talk to about treatment and its risks, and what questions to ask. We had read the studies so we could evaluate them ourselves." The treatment they chose was successful.[29]

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[27] Bruce Alberts, *Welcoming Remarks*, SCIENTIFIC OPENNESS AND NATIONAL SECURITY WORKSHOP, Co-sponsored by the National Academies of Science and the Center for Strategic International Studies, Washington, D.C., Jan. 9, 2003.

[28] Joan Little, *Living Proof: A Nontraditional Treatment for Epilepsy Pulls an Illinois Family Together and Provides Inspiration for a Movie*, ST. LOUIS POST-DISPATCH, Apr. 16, 1997, at 01E.

[29] J. Peterson, *More on Online's Healing Ways*, DATABASE SEARCHER, Sept. 1990, at 6.

- James Watson and Francis Crick constructed a model of the double-helix structure of DNA in 1953 with the help of both the published and unpublished work of Rosalind Franklin.[30] Watson and Crick's work revealed how genetic material was duplicated, advancing significantly the study of genetics. Their work was published in the April-May 1953 issue of *Nature*. Along with Maurice Wilkins, Watkins and Crick were awarded a Nobel Prize for their work in 1962.[31]

- Joshua Lederberg, mentioned above, attributes the genesis of his work on gene transfer to an article he read by Oswald T. Avery and others on the chemical nature of the gene. Lederberg was awarded a Nobel Prize in 1958.[32]

- Ernest O. Lawrence got his idea for the cyclotron from an article he came upon by chance by a Norwegian engineer, Rolf Wideröe, in the Physics Library at Berkeley.[33] Lawrence received a Nobel Prize for his work in 1939.

- Chain and Florey were led to pursue the development of penicillin into a suitable treatment after reading Fleming's article in the 1929 volume of the *British Journal of Experimental Pathology*. The article recounts Fleming's accidental discovery of penicillin in his lab after mold killed the bacteria in a petri dish. Fleming, Chain, and Florey won the Nobel Prize for Medicine in 1945.[34]

- In 1985, three British scientists—Joseph Farman, Brian Gardner, and Jonathan Shanklin—announced their discovery of a hole in the ozone layer over Antarctica

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[30] *Franklin, Rosalind*, BRITANNICA STUDENT ENCYCLOPEDIA, in ENCYCLOPÆDIA BRITANNICA ONLINE, retrieved Apr. 30, 2003, http://search.eb.com/ebi/article?eu=296311.

[31] *Watson, James Dewey*, ENCYCLOPÆDIA BRITANNICA ONLINE, retrieved Apr. 30, 2003, http://search.eb.com/eb/article?eu=78294.

[32] Joshua Lederberg, [*Excerpt from and transcript of a diary page 1944, 1998*], THE OSWALD T. AVERY COLLECTION, AFTER THE DISCOVERY, PROFILES IN SCIENCE, National Library of Medicine, retrieved Apr. 30, 2003, http://profiles.nlm.nih.gov/CC/A/A/A/B/.

[33] J.L. Heilbron and Robert W. Seidel, *Lawrence and His Laboratory: A History of the Lawrence Berkeley Laboratory*, Berkeley, University of California Press, 1989, at 82.

[34] BBC, *supra* note 25.

in the journal *Nature*. They attributed the hole to a group of chemicals know as ChloroFluoroCarbons, or CFCs. This discovery and its implications for global climate change, led to an international treaty in 1987 known as the Montreal Protocol, which phased out the use of CFCs throughout the industrialized world. The Montreal Protocol was the first international treaty to address human-induced environmental damage and changed forever a multibillion-dollar industry.[35]

In our legal system, access to research is not only basic to the vigor of the common law system, but it is essential in fulfilling the fundamental principle of fairness. To ensure that people in similar circumstances are treated consistently, the legal system depends on precedent. This means that in addition to the facts of a case, lawyers and judges must have timely access to the decisions made in prior cases, to applicable statutes, and to judicial opinions that have interpreted and applied those statutes. From the justices of the Supreme Court to individual members of the public who represent themselves in legal proceedings, research is an essential component of the process.

- Andre Johnson, representing himself, presented an argument in court that eventually led not only to the reversal of his conviction, but also to a New Jersey Supreme Court decision that established the kinds of information required to justify no-knock warrants. Johnson was arrested in July 1997 in a home that police had reason to believe was being used to sell drugs. The warrant issued in the case, however, did not include specific justification as to why a no-knock search was needed. Johnson argued this point in court before an attorney was appointed to represent him. While the argument was dismissed at the time, his attorneys successfully reintroduced it in his appeal.[36]

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[35] Ozone Hole Inc., *The Ozone Hole*, retrieved June 4, 2003, http://www.theozonehole.com/ozoneholehistory.htm; and National Science Foundation, *Antarctic Ozone Hole Research*, retrieved June 4, 2003, http://www.nsf.gov/od/lpa/nsf50/nsfoutreach/htm/n50_z2/pages_z3/03_pg.htm.

[36] Henry Gottlieb, *New Jersey Raises Threshold for No-Knock Search Warrants*, AMERICAN LAWYER MEDIA, July 25, 2001, at 4.

As these examples suggest, researchers read journals more than any other type of publication and find them essential to their work.[37] Reading journal articles enhances a researchers' productivity and recognition.[38] Scientists spend a substantial amount of time reading journal articles—studies show that the typical scientist spends 11.7 hours per month surveying the literature, with cancer researchers spending about 24 hours per month.[39] Researchers depend heavily on the library for access to journals. While individual scientists subscribe to an average of 2.7 journals, they obtain 64 percent of the journals they read from the library.[40] Today, even with the advent of Web access to journals, libraries continue to be the scientist's source for journals through negotiating licenses for online access.

Over the past two decades, increased concentration in the publishing industry, along with significant escalation in the price of serials publications, has eroded the ability of libraries to provide faculty and researchers with needed publications. In several surveys, faculty have confirmed that their libraries do not subscribe to the depth and breadth of journals required for their work.[41] As access to journals declines, productivity declines: efforts may be duplicated, unproductive lines of research may continue, and innovation is slowed.[42]

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[37] Carol Tenopir and Donald W. King, *Toward Electronic Journals*, Special Libraries Association, Washington, D.C., 2000, at 159-175; and, Education for Change Ltd., SIRU, University of Brighton, and The Research Partnership, *Researchers' Use of Libraries and other Information Sources: Current Patterns and Future Trends*, Higher Education Funding Council for England, 2003, at 20-21.

[38] Tenopir and King, *supra* note 37, at 159-175.

[39] Tenopir and King, *supra* note 37, at 160.

[40] Tenopir and King, *supra* note 37, at 181-182.

[41] Association of Research Libraries, *LibQUAL+™; Spring 2002 Survey Results: Volume 1 Aggregate Survey Results,* Washington, D.C., 2002, and *LibQUAL+™; Spring 2002 Survey Results: Volume 5 Association of Research Libraries Survey Results,* Association of Research Libraries, Washington, D.C., 2002; and Education for Change Ltd., *supra* note 37, at 7.

[42] Tenopir and King, *supra* note 37, at 172.

3. Inflation in Subscription Prices of Journals Is Significant

Subscription prices for research journals have been increasing well beyond the consumer price index for several decades. Scholarly articles in library science publications that chart rising journal prices and describe the resulting pressures on libraries' ability to provide resources for their users have become commonplace.[43] Between 1986 and 2000, the median prices for scholarly journals issued by commercial and nonprofit publishers rose at least 192 percent—a rate more than three times the rate of inflation.[44] By way of comparison, the cost of paper, mentioned earlier, increased only 39 percent over this fifteen-year period.[45] Moreover, tuition and medical care, two notoriously high inflation categories, increased only 159 percent and 115 percent, respectively.[46]

Much of the inflation in academic journals can be accounted for by the significant rate of price increases in STM journals and legal serial publications (see Graph Two). Between 1990 and 2000, STM journals increased in price by approximately 11 percent per year.[47] Though there may be some differences, inflation rates for journals have been relatively uniform among academic fields within the STM market. One study found that between 1973 and 1987 prices rose at annual rates between 11.4 percent (technology) and 13.5 percent (biology), depending on the academic field of the journal.[48] Between 1994 and 1998, the seven STM academic fields with the highest journal prices suffered

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[43] Roger Noll and W. Edward Steinmuller, *An Economic Analysis of Scientific Journal Prices: Preliminary Results*, SERIALS REVIEW, Spring and Summer 1992, at 32.

[44] Association of Research Libraries, *ARL Statistics 1999-2000*, Washington, D.C., 2001, at 14.

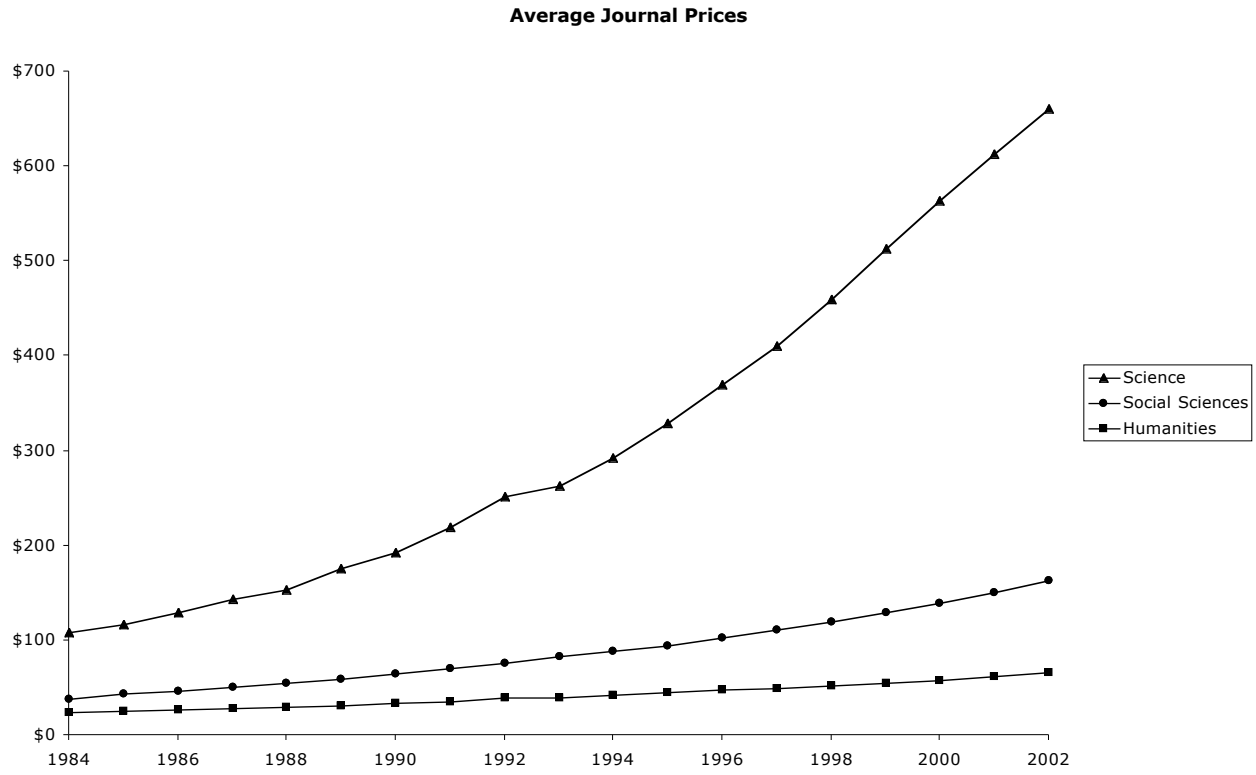
[45] Bureau of Labor Statistics, *Producer Price Index, Commodity Data, Pulp, Paper, and Allied Products, Paper*, Series WPU0913, retrieved Apr. 22, 2003, http://www.bls.gov/.

[46] Bureau of Labor Statistics, *Consumer Price Index, U.S. City Average: College Tuition and Fees, Series CUSR0000SEEB01; and Consumer Price Index—All Urban Consumers, U.S. City Average, Medical Care*, Series CUUR0000SAM, retrieved Apr. 21, 2003, http://www.bls.gov.

[47] Letter from Duane E. Webster, Executive Director, Association of Research Libraries, to Susan Edelheit, Assistant Chief, Civil Task Force, Antitrust Division, U.S. Department of Justice (Sept. 18, 2000) (on file with the Association of Research Libraries).

[48] Economic Consulting Services, Inc., *A Study of Trends in Average Prices and Costs of Certain Serials Over Time*, Mar. 31, 1989, at 20.

escalation at average annual rates ranging from 10.0 percent (astronomy) to 14.1 percent (technology).[49]



GRAPH TWO

Extrapolated from data in *U.S. Periodical Prices—2002*, AMERICAN LIBRARIES, May 2002, at <http://www.ala.org/alonline/archive/periodicals02.html>.

Table 1 below presents data for selected journals between 1998 and 2002, which reflect price increases that were substantial though slightly below those in the period from 1994 to 1998.[50] Not only has the inflation rate of STM journals been high, but the actual prices are significantly higher than those in other disciplines. One study found that prices for chemistry journals (part of the STM market) in 1990 were 22 times greater than

[49] Allen Powell, *Serials Pricing—An Agent's View: Trends and Characteristics of Higher Education Funding and STM Journal Pricing*, THE SERIALS LIBRARIAN, vol. 36, no. 1, 1999 (presented at the 1998 NASIG Conference), at 258.

[50] All journal prices in Table 1, except for medicine, are found in Lee Van Orsdel and Kathleen Born, *Doing the Digital Flip*, LIBRARY JOURNAL, Apr. 15, 2002, at 52. Journal prices in medicine are taken from *Five Year Journal Price Increase History-U.S. Libraries (1998-2002),* EBSCO Information Services, retrieved Apr. 22, 2003, http://www.ebsco.com/home/printsubs/priceproj.asp.

prices for music journals (not part of the STM market), an increase from a multiple of 15 times in 1980.[51]

Table 1: Prices of Journals in Selected STM Categories			
Subject	Average Cost Per Title–1998	Average Cost Per Title–2002	Percentage Change from 1998 to 2002*
Astronomy	$1,033.38	$1,249.42	+20.91
Biology	831.23	1,097.01	+31.97
Chemistry	1,543.67	2,143.22	+38.84
Engineering	891.59	1,249.96	+40.19
General Science	638.23	929.85	+45.69
Math & Computer Science	835.68	1,107.20	+32.49
Medicine	316.15	453.08	+43.31
Physics	1,653.07	2,218.82	+34.22
Technology	790.65	1,111.20	+40.54

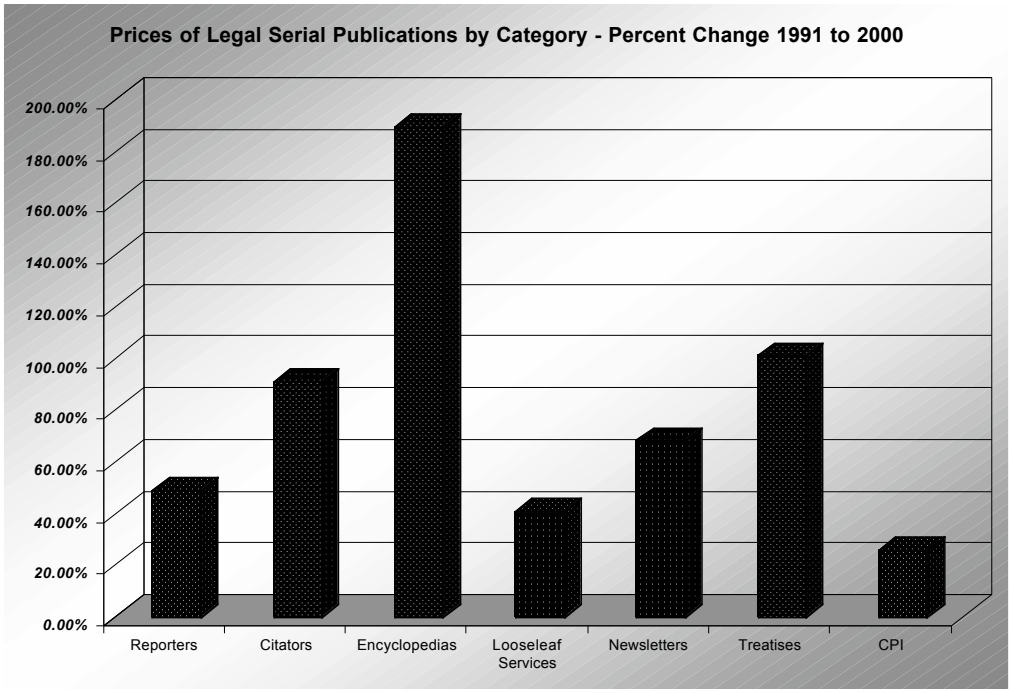
* Consumer Price Index for this period increased 10 percent.

In the legal realm, prices of serial publications have also increased substantially since 1990.[52] Similar to the STM journal market, price increases for legal publications have outpaced the rate of inflation substantially. Graph Three below presents data on the rate of price increases between 1991 and 2000 for the various types of legal serial publications.[53] Each of the categories listed below witnessed price increases that have exceeded by a significant amount the rate of overall inflation in the U.S. economy as measured by the consumer price index (26 percent).

[51] John O. Christensen, *Do We Know What We Are Paying For? A Comparison of Journal Subscription Costs*, SERIALS REVIEW, Summer 1993, at 39.

[52] McCabe, *supra* note 2.

[53] Table taken from McCabe, *supra* note 2.



GRAPH THREE
Data from Mark McCabe, *A Portfolio Approach to Print Legal Serials Pricing*.

The Information Access Alliance believes that STM journals and legal serial publications produced by commercial publishers over the past two decades have increased in price at rates disproportionate to any increases in cost or quality. As early as 1989, Economic Consulting Services, Inc., cited the "rapidly growing disparity between costs of publishing and subscription prices charged to libraries."[54] Other studies have consistently shown that commercial publications have higher costs per character and per page compared to noncommercial journals,[55] even though articles in these journals are often cited less frequently than articles in journals that are not commercially published (frequency of citation being considered as a measure of the quality of an article).[56] While publishers have offered many arguments to support their pricing practices, such as the increased costs of paper, labor, and equipment, and the increased size of journals, research has shown that these categories do not account for a large proportion of the price

[54] Economic Consulting Services, Inc., *supra* note 48, at 20.

[55] Office of Fair Trading (OFT), *The Market for Scientific, Technical and Medical Journals: A Statement by the OFT*, Sept. 2002, at 11.

[56] Theodore C. Bergstrom, *Free Labor for Costly Journals?* (Mar. 2001) (unpublished manuscript).

increases.[57] Regulatory authorities in the U.K., in a recent review of the STM market, were unconvinced by the arguments and evidence supplied by publishers to justify their prices.[58]

High prices and significant inflation can perhaps be best explained by the drive of commercial publishers to increase profits. Scholarly publishing has become one of the most profitable segments of the publishing industry, with profits of STM publishers at an all-time high. Reed Elsevier, which maintains a significant scholarly publishing operation, saw its profits rise by 75 percent from 1994 to 1998.[59] In 1997, the scientific segment of Reed Elsevier accounted for 17 percent of the company's total net sales but 26 percent of its operating income.[60] In that same year, Plenum Publishing was more profitable than 491 companies in the S&P 500.[61]

4. Mergers of Publishers Contribute to Inflation in Subscription Prices

Over the same period in which journal prices have been on the rise, so too have mergers among commercial publishers of STM journals and legal serial publications. Research has shown a very strong correlation between mergers and rates of inflation that are even higher than the general trend noted above. In one study of mergers among publishers of biomedical journals, prices were found to increase well beyond the general trend in 10 of 11 instances.[62]

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[57] Tenopir and King, *supra* note 37, at 276-277.

[58] OFT Report, *supra* note 55, at 11.

[59] Mary H. Munroe, *Which Way Is Up? The Publishing Industry Mergers Its Way into the Twenty-First Century*, LIBRARY ADMINISTRATION & MANAGEMENT, vol. 14, no. 2, Spring 2000, at 71.

[60] Brendan J. Wyly, *Competition in Scholarly Publishing? What Publisher Profits Reveal*, ARL, no. 200, Oct. 1998, at 10.

[61] *Id.*, at 8.

[62] McCabe, *supra* note 6, at 265-67.

Significant merger activity in the STM publishing market has occurred since 1990. Since 1997, at least five major commercial publishers of STM journals have been acquired by competitors, in addition to numerous mergers among smaller entities.[63] In the eighteen-month period ending in December 1999, a half-dozen transactions involving important STM and legal publishers occurred.[64] Since the late 1980s, Wolters Kluwer alone has acquired more than 300 companies (though not all of these acquisitions were necessarily of entities in the STM journal market).[65] The case of the market for biomedical journals is illustrative of the pace of merger activity among STM publishers. In recent years, the following mergers have occurred in the market for biomedical journals:[66]

- 1991—Reed Elsevier purchased Pergamon, which added, among other titles, 57 ISI-ranked[67] biomedical journals to Reed Elsevier's existing catalog of 190 ISI-ranked biomedical journals.
- 1997-1998—Harcourt supplemented its 118 ISI-ranked biomedical titles by acquiring 17 ISI-ranked titles from Churchill Livingstone and 27 ISI-ranked titles from Mosby.
- 1998—Wolters Kluwer supplemented its 112 ISI-ranked biomedical titles by acquiring 22 ISI-ranked titles from Plenum Publishing, 41 ISI-ranked titles from Thomson Science, and 37 ISI-ranked titles from Waverly.
- 2001—Reed Elsevier purchased Harcourt General giving Reed Elsevier a total of 409 ISI-ranked biomedical titles.

Though, as noted above, at least one merger was abandoned during this period while undergoing antitrust scrutiny (the proposed merger of Reed Elsevier and Wolters Kluwer

[63] McCabe, *supra* note 6, at 262.

[64] McCabe, *supra* note 5, at 1.

[65] *See* http://www.wolters-kluwer.com.

[66] McCabe, *supra* note 6, at 262.

[67] ISI, the Institute for Scientific Information, indexes and tracks citations for approximately 8,500 of the most prestigious, high impact research journals in the world. Not all journals published by these publishers are included in the set of titles tracked by ISI.

was abandoned by the companies in March 1998[68]), mergers have in general continued with little government opposition.

Professor Mark McCabe of the Georgia Institute of Technology (formerly an economist with the Antitrust Division of the U.S. Department of Justice) has identified a statistical connection between STM journal mergers and subscription prices. Using data covering biomedical journals, McCabe found that the merger of Reed Elsevier and Pergamon in 1991 resulted in a 10 percent price increase for the titles of the merging parties in the post-merger period (1992-1994), while the merger between Wolters Kluwer and Lippincott in 1990 resulted in a 8.5 percent price increase. These increases were in addition to the general trend of rising subscription prices in the market.

Others have noted price increases caused by more recent mergers. Harcourt's purchase of Churchill-Livingstone and Mosby in 1997 and 1998, as well as Wolters Kluwer's purchase of Plenum Publishing, Thomson Science, and Waverly in 1998, resulted in average prices for the journals in each of the two new combined portfolios that were 6 percent higher than their premerger levels.[69] Analysis suggests that the merger activity over the past decade has been a significant factor in explaining the inflation in STM journal prices. As a result, if mergers continue unabated, it is likely that subscription prices will also continue their commensurate climb.[70]

From the late 1970s to the present, mergers among publishers of legal materials have occurred at a similarly breathtaking pace. This wave of mergers has resulted in a

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[68] The European Commission had made it known that it would not approve the merger unless significant divestitures were made in tax, medical, and law titles. There was enough overlap in content between the two companies that such sell-off would be necessary for the deal to proceed. Since most of this divestiture would likely have come from Wolters Kluwer, Kluwer tried to renegotiate the deal with Reed Elsevier. The companies could not come to agreement. John Gapper, *Reed Elsevier and Wolters Kluwer Call Off £20bn Merger Plan*, FINANCIAL TIMES (LONDON), Mar. 10, 1998, at 01.

[69] Letter from Duane E. Webster, Executive Director, Association of Research Libraries, to James Villa, Civil Task Force, Antitrust Division, U.S. Department of Justice (Feb. 16, 2001) (on file with the Association of Research Libraries).

[70] Sheila Collins, *Publishing Mergers and Controlling Costs*, THE LAW LIBRARIAN, vol. 29, no. 1, Mar. 1998, at 42.

market dominated by two or three large companies. Thomson and Reed Elsevier now command a significant share of the legal publications market, with Wolters Kluwer occupying a smaller, though still significant position in the market. Over this time period, the following have occurred:

- Thomson Corporation acquired Callaghan and Company, Clark Boardman, Warren, Gorham & Lamont, Lawyers Cooperative, Bancroft-Whitney, Research Institute of America, Practitioners Publishing, Counterpoint Publishing, Gale Research, Information Access, Barclays Law Publishers, Carswell, the West Publishing Company, Federal Publications, Inc., and Findlaw.
- By the time of its merger with Thomson in 1996, West had already acquired Banks-Baldwin, Foundation Press, the American Law Book Company, the Edward Thompson Company, and Boston Law Book.
- Reed Elsevier acquired Reed Reference Publishing, LEXIS-NEXIS, Michie, Butterworth, Matthew Bender, Shepard's, and CD Law.
- Wolters Kluwer acquired Aspen Law & Business, Commerce Clearing House, the Little Brown legal treatises, Wiley Law Publications, and Loislaw.com.

Though research into the effect of mergers on the prices of legal serial publications is ongoing, preliminary results suggest that the West-Thomson merger in 1996 led to a significant price increase for the affected titles. Although the Justice Department expected no adverse effects from the merger after it ordered the divestiture of approximately 50 titles from the portfolio of the combined entity, the average price of the combined entity's titles rose more than 20 percent after the merger.[71] Available data suggest that the materials formerly offered by West experienced the same increases in prices after the merger that librarians have witnessed with other materials taken over by Thomson.[72]

[71] McCabe, *supra* note 2, at 12.

[72] Susan M. Ryan, *Cost Inflation by Page Reductions: A Discrete Example of New Price Increases in Legal Serials*, THE BOTTOM LINE: MANAGING LIBRARY FINANCES, vol. 14, no. 1, 2001, at 6.

5. Inflation in Subscription Prices Limits Access to Important Research Information

Price increases for STM journals and legal serial publications pose a special problem for public and academic institutions. That is because library budgets are growing more slowly than journal subscription prices or are not growing at all.[73] An ever-increasing share of library budgets is being consumed by journal subscriptions. To compensate, most libraries have been forced to postpone the purchase of new journal titles, to cancel subscriptions altogether, and to reduce the purchase of books. While library materials budgets grew almost 150 percent between 1986 and 2000, the typical research library was forced to cut journal subscriptions by 7 percent and book purchases by 17 percent.[74] One commentator has noted that libraries "have had no choice but to cancel significant numbers of journal subscriptions and to reduce monographic purchasing, decimating their collections."[75] In the meantime, the number of new journal titles and books published continues to grow. This means that libraries are able to supply faculty and researchers with fewer and fewer resources from an ever-expanding universe of publications. Limited access is likely to affect adversely the development of new knowledge and innovation.

With local access diminished, consumers must rely more and more on interlibrary loan, which allows them to borrow materials and obtain copies from other libraries. Interlibrary loan allows consumers to obtain materials their libraries either cancelled or did not acquire in the first place because titles were out of scope for the collections or anticipated demand was low. Consumers depending on interlibrary loan, however, must wait up to two weeks for materials and cannot efficiently browse a library's holdings. This delay can be problematic for researchers whose work is time-sensitive.

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[73] Powell, *supra* note 49, at 256.

[74] Association of Research Libraries, *supra* note 44, at 9 and 14.

[75] Mary M. Case, *Views of the Current Marketplace for Scholarly Journals*, ARL, no. 200, Oct. 1998, at 1.

Library demand for journal subscriptions is not very responsive to changes in journal prices. This lack of sensitivity, referred to by economists as inelastic demand, helps explain recent price trends. McCabe has shown that a one percent increase in the price of a subscription results in only a 0.3 percent decline in subscription demand.[76] This inelastic demand gives publishers an incentive to raise prices of STM journals faster than the rate at which library budgets grow. Though some subscriptions will be lost, the increase in revenue generated by the price increase will exceed the amount of lost revenue from the declining subscription base. One explanation for the inelasticity of demand is that the individuals urging a library to subscribe to certain journal titles are not responsible themselves for the cost of the subscriptions. Faculty members require specific journals for their teaching and research needs; the libraries must then try to fulfill the requests of the faculty within their own budget constraints.

If the current trend of mergers leading to high journal price inflation continues, libraries will face even greater demands on their resources, the breadth and depth of collections will be affected, and library patrons and the public will suffer. Since library funding cannot practically expand to match the increases in prices of publications, more and more libraries will inevitably be forced to cancel additional subscriptions, thus affecting access by students, scholars, researchers, and others. With interlibrary loan providing only minimal relief (and being restricted in some license agreements for electronic journals), the longer-term solution lies in promoting competition so that the market will hold down price increases and ensure broad access to critical research information.

[76] McCabe, *supra* note 5, at 4. McCabe notes that journal demand elasticities for a company exploiting short-term profits would be no less than 1, that is, for every 1 percent increase in price there would be a 1 percent decrease in quantities sold. Elasticities of less than 1, as observed in the STM market, suggest that publishers are taking into account long-term profits, aware that too many cancellations can, over time, undermine the value of the journal.

6. Traditional Antitrust Analysis of Publisher Mergers Does Not Adequately Account for Consumer Purchasing Decisions[77]

In evaluating mergers, the responsible government agency (the Department of Justice or the Federal Trade Commission at the national level, and the attorneys general in each state) start their antitrust analysis by determining two factors: (1) the nature and extent of the markets in which the merging firms operate and (2) the degree of overlap among the merging parties in these markets. In general, mergers between firms selling products in the same narrowly defined market, with few sellers and few products, are more likely to be considered anticompetitive than mergers between firms operating in more broadly defined markets. In all cases, the market will be defined by determining whether a hypothetical monopolist in that market could exercise market power (the power to raise prices or limit output without regard to competition).[78]

Professor McCabe reports that mergers of publishers of STM journals are not likely to face scrutiny because of the narrow market definition used by the Department of Justice. The Justice Department assumes that the products the merging companies sell are book or journal *content*. Hence, the market is defined to include books or journals with similar content. Only where the overlap in content offered by the merging parties is high will the Department of Justice be likely to seek divestiture of a portion of the combined entity (or block the merger altogether).

This approach does not take into account the central feature of the scholarly journals market: different journals in the same academic field are not substitutes in the same way that two brands of consumer products, like auto tires, might be. Since academic journals are the source of original research, each journal is in reality a poor substitute for any other in the same field.

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[77] The discussion contained in the sections 7 and 8 is derived from various articles by Mark J. McCabe. SEE McCabe, *supra* note 2; McCabe, *supra* note 5, at 1-5; McCabe, *supra* note 6, at 259-69; and, Mark J. McCabe, *The Impact of Publisher Mergers on Journal Prices: A Preliminary Report*, ARL, no. 200, Oct. 1998, at 3-7.

[78] *See generally*, U.S. Department of Justice/Federal Trade Commission Merger Guidelines (1992, as amended 1997), 4 Trade Reg. Reptr. (CCH) ¶ 13,104.

In the market for consumer news magazines such as *Time* and *Newsweek*, the publisher produces the content by writing stories covering recent world events. In the scholarly publishing market, however, the publisher does not produce the content; content is produced by outside authors. Journals compete based on the quality of the articles accepted for publication. However, each article is unique. The *New England Journal of Medicine* is a poor substitute for the *Journal of the American Medical Association* because each reports distinct, original research. The same goes for any two serial publications on antitrust law. If the Department of Justice continues routinely to apply this framework for analyzing mergers in a market with this characteristic, few mergers will ever be found to be anticompetitive. Where there is little overlap in the content of their journals—as will usually be the case—the two merging parties will appear to operate in distinct markets. Their merger, therefore, will be seen as having few, if any, anticompetitive effects. This appearance, however, will be misleading.

If one follows the logic of the current standard being used by the Department of Justice, very few mergers of STM journal and legal serial publishers will be challenged. According to this view, since almost all STM journals and legal serials operate in distinct markets, mergers between two publishers will be seen as harmless. The problem with this conclusion is that it appears to ignore the impact of mergers by not taking into account the reality of how libraries make purchasing decisions. As Professor McCabe has shown*, mergers are strongly associated with rising subscription prices.* The missing link is the explanation why this is the case and how the antitrust laws are offended.

Absent from official analysis of serial publications mergers so far is an assessment of the process by which libraries select the titles to which they subscribe. In analyzing the proposed merger of Reed Elsevier and Wolters Kluwer, Professor McCabe and his then colleagues at the Department of Justice discovered that, from the perspective of the purchaser (the library), STM journals that would not be considered competitors based purely on content do, in fact, compete for library funds. Faced with budget constraints, libraries decide between titles based largely on two factors: annual subscription price and expected usage. With only a limited amount of budget dollars to

divide among titles, libraries select journals that provide the most benefit to their patrons per budget dollar.

In fact, many libraries calculate or estimate a ratio of cost-per-use, intended as a measure of the subscription price discounted by the value of the journal to the library's patrons.[79] For any given subscription price, a low cost-per-use ratio reflects greater use of the journal by the library's patrons. These libraries then rank the journals within a certain academic field from lowest to highest based on their cost-per-use ratios. For a set budget for journals from a certain academic field, the libraries then set a threshold ratio level above which journal subscriptions must be cancelled. If the budget for a given field is not exhausted by a library's current holdings, the library can purchase new journals. Each year, these libraries recalculate the cost-per-use ratios and adjust their holdings accordingly.

Other libraries may not calculate such a ratio in a systematic fashion. However, the decision-making process is effectively the same: In allocating scarce budget dollars among competing titles, libraries must gauge, whether systematically or not, the value of titles to library patrons. The result is that libraries are unlikely to subscribe to (or maintain subscriptions to) titles that are both expensive and rarely used.

Although the academic fields in which journals are grouped when libraries make purchasing decisions are based on the content of the journals, these groupings are not narrowly defined. For example, a medical library will not consider all journals relating to

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[79] *See, for example*: Tina E. Chrzastowski, et al., *A Cost/Use Analysis of Beilstein's Handbuch der Organischen Chemie at Two Academic Chemistry Libraries*, THE SERIALS LIBRARIAN, vol. 20, no. 4, 1991, at 73-84; Tina E. Chrzastowski and Brian M. Olesko, *Chemistry Journal Use and Cost: Results of a Longitudinal Study*, LIBRARY RESOURCES AND TECHNICAL SERVICES, vol. 41, no. 2, Apr. 1997, at 101-111; Mohammad Dadashzadeh et al., *The Development and Implementation of the Periodicals Analysis Database*, SERIALS REVIEW, Winter 1996, at 13-25; Carole Francq, *Bottoming Out the Bottomless Pit with the Journal Usage/Cost Relational Index*, TECHNICAL SERVICES QUARTERLY, vol. 11, no. 4, 1994, at 13-26; Richard K. Hunt, *Journal Deselection in a Biomedical Research Library: A Mediated Mathematical Approach*, BULLETIN OF THE MEDICAL LIBRARY ASSOCIATION, vol. 78, no. 1, Jan. 1990, at 45-48; Dorothy Milne and Bill Tiffany, *A Cost-per-Use Method for Evaluating the Cost-Effectiveness of Serials: A Detailed Discussion of Methodology*, SERIALS REVIEW, Summer 1991, at 7-19; and Marisa Scigliano, *Serial Use in a Small Academic Library: Determining Cost-Effectiveness*, SERIALS REVIEW, vol. 26, no. 1, 2000, at 43-52.

biochemistry to be separate from other titles when determining the value of such titles to the library. Rather, the library will group titles from various sub-disciplines such as neurology, biochemistry, clinical medicine, and the like into a single group. Cost-benefit analyses are then performed over this larger portfolio of journals, rather than within any of the sub-disciplines. Neurology journals, therefore, compete against biochemistry journals for library funds.

At first glance, one would not consider neurology and biochemistry journals to be competitors. (Under a purely content-based approach like that historically employed by the Department of Justice, neurology and biochemistry journals would always be considered as occupying separate markets, since the overlap in their content is low.) However, purchasers of these journals—libraries—see things differently. If a publisher raises the price of a neurology title without any improvement in the quality of the journal, it is possible that this will lead a library to cancel its subscription. If that occurs, the budget dollars freed from that cancellation may be used to purchase a biochemistry journal. By allocating budget dollars across a broad spectrum of academic fields, libraries turn journals whose content overlap may be minimal into direct competitors.

The finding that libraries are comparing items across a broader spectrum than one would suspect first arose in the context of the market for STM journals. Available data and research suggest that a similar phenomenon is occurring in the market for legal serial publications. While research and understanding in the legal publishing market is not as advanced as that in the STM journal market, similarities between the two markets suggest that the concepts applied in the context of the STM journal market may also be applied to understand the legal publishing market.[80] Most significantly, law libraries group titles from multiple categories of legal series (for example, citators, reporters, treatises) into a single portfolio when making purchasing decisions. Like the STM journal market, different types of legal serials compete with each other for budget dollars, even though the content and services provided by these materials differ.[81]

[80] McCabe, *supra* note 2, at 3.

[81] *Id.*, at 5.

If titles with little or no content overlap compete with each other for library funds, the framework for assessing mergers of publishers of these titles must be concordantly adjusted. One reason for heightened, rather than diminished, scrutiny is that the merger affords the purchasing company a one-time opportunity to reposition its products to maximize its returns. Publishers recognize that if they raise the prices of their titles, they will lose some subscriptions. Though demand may be relatively inelastic, price increases do engender declines in subscription bases. When a merger occurs, the purchasing company can increase its profits despite this result.

Consider where an entity formed by the merger of two publishing houses now publishes three journals (A, B, and C) that, prior to the merger, were purchased by Libraries S_1, S_2, B_1, and B_2 and that compete for the same budget dollars. If the combined entity raises the price of one of the titles (Journal A) significantly, it will lose some subscriptions. Libraries S_1 and S_2, which we will assume have smaller budgets than Libraries B_1 and B_2, may decide to cancel their subscriptions because the journal is no longer worth its price. If the price increase is not too large, Libraries B_1 and B_2 will continue to subscribe to Journal A at the higher subscription price. The increased revenue that the publishers derive from Libraries B_1 and B_2 paying the higher price for Journal A will at least partially offset the loss of revenue that occurred when Libraries S_1 and S_2 cancelled their subscriptions.

The other titles of the combined entity to which all four libraries subscribe (Journals B and C) now face less competition for the budget dollars of those libraries that cancelled their subscriptions. By canceling Journal A, Libraries S_1 and S_2 now have budget dollars available to spend on other titles. Recognizing this, the combined entity can raise the prices of Journals B and C, but by a smaller amount than the price increase for Journal A.[82] With less competition for budget dollars, the publisher need not fear

[82] It is important to note that the combined entity can only raise the price of its other journals profitably if these journals are competing for the same budget dollars. For example, consider a publisher who raises the price of one of its neurology titles significantly in order to enable it to increase the prices of its physics journals. Such a move will only be profitable if libraries see a tradeoff between neurology and physics titles. If libraries do not do so, then physics and neurology journals are competing for different library budget dollars. An increase in the price of the physics journals will result only in cancellations.

cancellations by Libraries S_1 and S_2. The budget dollars freed because of the cancellation now fund the higher subscription prices of Journals B and C. The combination of the higher revenue from Journals B and C and the higher revenue the publisher gains on Journal A from Libraries B_1 and B_2 more than offset the loss in revenue that occurred when Libraries S_1 and S_2 cancelled their subscriptions to Journal A. The net effect of these price movements is to raise the profits of the combined entity relative to the profits the publishers obtained on these journals prior to the merger.

Another factor to be considered is that, in the STM and legal markets, libraries always buy more than one product. In the markets for most goods, buyers purchase one product from one of several sellers. The seller must hold a certain share of the market before it is able to exercise market power. (A rough rule of thumb is that a seller with a market share of approximately 30-40 percent may be presumed to have market power. Companies with lower market shares can still exert market power, depending, for example, upon barriers to entry and the inability of competitors to expand output.[83]) In the STM journal and legal serial publications markets, libraries subscribe to as many products from as many sellers as possible within their budget constraints to provide the broadest possible access to consumers. Recognizing that content overlap is low even within sub-disciplines, libraries attempt to provide access to as many titles as possible.

In this type of market, each seller holds a higher degree of power over the market than in an industry where buyers only purchase one product. The ability of a publisher to raise prices and still maintain its share of the market is greater when buyers wish to buy multiple variations of similar (though distinct) products. Mergers among these sellers would concentrate more power over the market in the hands of the combined

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It is also important to note that the price increases for Journals B and C cannot be too large. If they are, Libraries S_1 and S_2 may decide (or be forced to) cancel their subscriptions. If the sum of the price increases exceed the amount of dollars freed from the cancellation of Journal A, or if the price increase is so large that the cost no longer justifies the subscriptions, the combined entity will not capture extra profits by raising the prices of Journals B and C.

[83] Antitrust enforcement agencies have challenged, and courts have enjoined, mergers of firms where the resulting entity's market share would be under 30 percent, but modern antitrust analysis takes into account many factors beyond market share, so percentage rules-of-thumb are less helpful. *See generally* ABA Section of Antitrust Law, ANTITRUST LAW DEVELOPMENTS (5th ed. 2002) at 327-353.

entity. Even though the combined entity's market share is below the 30-40 percent level often considered necessary for an entity to have market power, the combined entity could raise prices substantially without endangering its market share.

7. A New View of Publishing Mergers is Needed to Ensure Access to STM Journals and Legal Publications

If the antitrust enforcers continue to analyze the STM and legal serial publications industries by dividing titles into narrow content-based markets, mergers will seldom face scrutiny. Regardless whether titles within these markets compete with each other, the Department of Justice will raise few objections as the wave of merger activity continues. Mergers will continue unabated, along with the resulting inflation in subscription prices. Consumers will be deprived of ready access to significant research as libraries are forced to cancel more and more subscriptions.

The solution is plain: Antitrust enforcement agencies should—to comport with realities and fulfill their responsibility to protect consumers from harm—adjust the framework by which they analyze mergers of publishers of STM journals and legal serial publications. By adopting an approach that considers the selection process used by libraries, agencies would expand their definition of the markets. Market definition would be based on broad portfolios of journals consistent with the portfolios that libraries construct when selecting journals, rather than on narrow content-based comparisons that fail to take account of the competition for library dollars between journals with little content overlap. If the analysis performed by the Department of Justice more closely tracks the decision-making processes of libraries, the government will have a better understanding of the dynamics of the serial publications industry and will be better able to carry out its responsibility to the consumer. Since most state universities and public libraries are purchasers of these publications, state attorneys general will also have an interest in assessing, along these lines, the potential impact of future mergers and acquisitions in this arena.

8. Electronic Publishing Raises Similar Issues

One may argue that the analysis presented above is no longer applicable, or may soon diminish in relevance, because of the rise of electronic publishing. According to this argument, libraries concerned with ever-increasing prices for print materials should simply switch to electronically published titles. If the claim of publishers—that price increases for print materials are the result of printing and distribution expenses—is true, electronic databases of titles should offer a lower-cost alternative. In addition, proponents of electronic publishing would argue that electronic databases make a range of titles available at the click of a button. While there may be benefits to the user of having a collection of titles available electronically, there are troubling signs that some of the current market problems will only worsen.

In the market for print journals, bundling and price discrimination were generally not observed. In the emerging world of digital distribution, both bundling and price discrimination are common and are likely to become standard features of this market.[84] The most prominent example of this digital future is Elsevier's *Science Direct* product, which consists of more than 1,700 titles. The precipitous decline of marginal distribution costs is one possible explanation for this shift. In particular, as these costs decrease it becomes more attractive (that is, more profitable) for publishers to offer small-budget libraries a large bundle of titles.[85] Although wider distribution of a *given* bundle of titles has obvious benefits, this same distribution strategy may reduce the overall quality of many library STM collections. The explanation for this paradoxical result is that bundling offers *large* publishers the opportunity to foreclose some of its smaller competitors.

Consider the following simple example. Suppose there are two types of libraries, the first with small STM budgets, and the second, with large STM budgets. These

[84] Chuck Hamaker, *The New Elsevier's Surprising Service Problems*, THE CHARLESTON ADVISOR, vol. 4, no. 3, Jan. 2003, at 54-57.

[85] Mark McCabe, *Portfolio Models of Journal Pricing: Print v. Digital* (Mar. 2003) (unpublished manuscript).

libraries purchase journals from two publishers: large Publisher A and small Publisher B. In the print environment, the typical equilibrium scenario involves libraries purchasing titles from both publishers, with the small budget libraries buying a subset of the titles purchased by the large budget libraries. By contrast, in a digital regime (with price discrimination and bundling), this same market structure results in the foreclosure of Publisher B, that is, both the small and large budget libraries purchase a single bundle, Publisher A's. This is possible because Publisher A offers its bundle to each type of library at a price equal to each library's entire STM budget. No matter what prices Publisher B charges for its bundle, the libraries will always prefer A's product.[86] And although the small budget libraries gain access to all of A's content (the large budget libraries enjoy access to all of A's content in both scenarios), the absence of B's content lowers the overall quality of both types of collections.

These adverse foreclosure effects in a digital environment could be further exacerbated by publisher mergers. Under these conditions libraries will continue to base their purchasing decisions on an analysis of journal use and cost except that the unit of analysis will shift to the journal bundle. Journals will continue to compete with journals outside of their narrow content-based categories. However, the competition will take place within the context of the competition among different bundles. A neurology journal will compete for limited library funding with an engineering journal if the two journals are offered electronically in different bundles of titles, which are themselves in competition for library funding. In case of a merger, the analysis of its effects is actually less complex than its print counterpart.[87] As in the case of Publisher A in the foreclosure example, a merger between two publishers offers the newly merged firm the opportunity to foreclose some of the remaining smaller competitors (or to purchase them at a heavily discounted price, leading to further foreclosure). Of particular concern is the possibility that one firm may acquire more than half of the content in a particular market, permitting

[86] Note that foreclosure can occur in the print environment, albeit at the level of the individual journal, and thus has little competitive significance in a market populated by thousands of titles.

[87] McCabe, *supra* note 85.

it to foreclose all remaining competitors. In any of these scenarios, library collections decline in quality as the number of firms declines.

9. Conclusion

By reducing competition and raising prices, publishers of STM and legal serial publications are forcing libraries to eliminate subscriptions and reducing broad access to research information. While publishers continue to reap the benefits of higher prices (despite fewer subscriptions), the body of academic research is reaching an ever-diminishing audience. The work of individual researchers, who do not receive compensation for publication, and without whom publishers would not have goods to offer, will suffer further if mergers of publishers continue unabated. The publishers, who provide a distribution channel for the work of others, are actually impeding that distribution to increase profits.

Each new merger that appears on the horizon will require an individual analysis of library purchasing decisions, and it can be expected that no two mergers will be alike. With different journals at issue, analysis of each proposed merger will require an understanding of how libraries group the relevant journals when selecting the titles to which they will subscribe. If the journals of two merging entities are not normally grouped together by libraries when making purchasing decisions, or if the journals are sold to different types of libraries (for example, law libraries versus medical libraries), then a merger may be found to pose less anticompetitive risk. If, however, the journals of the merging entities compete directly for library funds, antitrust authorities should be willing to block those mergers even though the journals seem to have little facial content overlap.

Additionally, antitrust enforcement authorities should be willing to block mergers even though the combined entity's market share falls below the historically required market-share threshold. While traditional analysis may be suitable for most markets, the

characteristics of the STM journal and legal serials markets are such that strict adherence to the historically applied standards will further hinder the ability of researchers to gain access through the library to scholarly works they need and limit the public good generated by robust access to a wide array of research writings and data. Without a change in perspective on the part of antitrust enforcers, the ability of libraries to provide access to important, scholarly works will be further compromised and consumer access further diminished.