

Report on Pricing and Access to *Econometrica*

Ted Bergstrom, UCSB

Roger Gordon, UCSD

Martin J. Osborne, University of Toronto

The data that this report discusses were collected and analyzed by Ted Bergstrom. Ted wrote the first draft of the report, which is based on discussions between all three committee members.

October 31, 2004

Background Information

Worldwide Subscriptions

In 2003, *Econometrica* had 6260 paid subscriptions, of which 1721 were institutional subscriptions in high-income countries. Because institutional subscribers pay a much higher price than other types, they contribute about 75% of gross subscription revenue. When we account for the marginal cost of printing and shipping paper copies, the share of net revenue attributable to institutional subscribers in high income countries is even higher, approximately 90%. The only other significant source of net subscription revenue is individual subscriptions in high-income countries, which accounts for about 10% of net revenue. Table 1 shows subscriptions and revenue from each type of subscription in 2003. For these calculations, we assume that the marginal cost of supplying *Econometrica* to an additional subscriber is \$32.¹

Table 1: Revenue and Subscriptions

Econometrica Revenue and Subscriptions in 2003						
	number	price	revenue	net revenue*	% of gross	% of net
Institutional subs						
low income	366	35	12810	1098	1.7%	0.2%
high income	1721	334	574814	519742	75.7%	90.1%
Individual subs						
low income	226	30	6780	-452	0.9%	-0.1%
high income	3118	59	183962	84186	24.2%	14.6%
student	831	17	14127	-12465	1.9%	-2.2%
Total	6262		792493	592109		
*Net revenue from a source is calculated by deducting an estimated marginal cost of \$32 per issue to cover printing, paper, and mailing to one more customer.						

We see from the next table that *Econometrica* subscribers are widely dispersed across the world, but their numbers have fallen in recent years. About 36% of all high income institutional subscriptions come from Europe,

¹This estimate of marginal cost is based on cost calculations described in the section beginning on page 5. Direct calculations from *Econometrica*'s stated costs lead to an estimate of \$35 per subscriber. Calculations based on a technological study of journal costs by Tenopir and King [2] indicate a cost of \$29 per subscriber. We use the average of these two estimates.

Table 2: Geographic Distribution of Subscriptions

Institutional subscriptions in high income countries by region					
	subscribers 1997	subscribers 2003	absolute change	percent change	market share
(Japan)	(358)	(357)	-1		(20.7%)
Asia total	474	435	-39	-8.2%	25.3%
Europe	772	627	-145	-18.8%	36.4%
US	662	552	-110	-16.6%	32.1%
Aus, NZ, Canada	115	88	-27	-23.5%	5.1%
other	18	19	1	5.6%	1.1%
Total	2041	1721	-320	-15.7%	

32% from the U.S., and 25% from Asia, where Japan is by far the largest demander. The total number of institutional subscriptions from high income countries fell by about 16% between 1997 and 2003. The declines were fairly uniformly distributed across countries, with the exception of Japan, where the decline was negligible.

US Academic Subscriptions by type of institution

We have more detailed information about the characteristics of US universities that subscribe than we have about other institutional subscribers. It is interesting to see that this market has some segments that seem to be much more price-elastic than others.

Between 1997 and 2003, the number of subscriptions purchased by U.S. universities fell from 535 to 450, a decline of about 16%. These losses came largely from two groups of subscribers:

- Institutions classified by the Carnegie Corporation as Masters I level
- Research universities who eliminated duplicate copies held on campus.

Of the 85 lost subscriptions, 39 were from masters-level institutions that dropped their only subscription, and 28 were from research institutions that eliminated duplicate subscriptions. In 1997, 42% of the 438 institutions ranked by the Carnegie Corporation as Masters I subscribed to *Econometrica*. In 2003, this proportion dropped to 32%.

Table 3: US Academic Subscribers by Type of Institution

	Institutions in U.S.	Subscribers		Sub Loss 97-03	Loss as %	Percent of Class subscribing	
		1997	2003			1997	2003
Research Universities I	93	89	90	-1	-1%	95.7	96.8
Research Universities II	36	36	35	1	3%	100.0	97.2
Doctoral Universities I	51	39	37	2	5%	76.5	72.6
Doctoral Universities II	58	47	40	7	15%	81.0	69.0
Baccalaureate Colleges I	156	59	54	5	8%	37.8	34.6
Master's Coll & Uni I	430	178	139	39	22%	41.4	32.3
Master's Coll & Uni II	89	8	5	3	37%	9.0	5.6
Baccalaureate Colleges II	446	10	7	3	30%	2.2	1.6
Specialized Institutions	200	14	13	1	7%	7.0	6.5
Associate of Arts Colleges	1207	3	3	0	0%	0.3	0.3
Law, Seminaries, etc	343	0	0	0		0.0	0.0
Totals	3109	394	333	61			

In 1997, 34 institutions had more than one subscription to *Econometrica*. They had a total of 91 subscriptions and thus had 57 duplicate subscriptions. In 2003, only 24 institutions had multiple subscriptions and they had a total of 60 subscriptions, and thus had 36 duplicate subscriptions. The number of duplicate subscriptions in the U.S. therefore fell from 57 to 36, a decline of about 37%.

As we see from Table 3, almost all of the institutions in the top two Carnegie classes—Research I and Research II universities—continue to subscribe to at least one copy of *Econometrica*. But only about a fourth of all institutional subscribers belong to these “committed” classifications. Almost half of *Econometrica*’s US institutional subscribers come from the Baccalaureate I and Masters I classifications, where *Econometrica* subscriptions have declined significantly.

The institutional subscription price of *Econometrica* was \$174 in 1997 and rose to \$334 in 2003. The CPI increased by about 10% over this period, so the real price increased by about 75% over this period. During the same time period, the number of institutional subscriptions sold to US universities decreased from 535 to 450, a decrease of about 16%. If we assume that the demand curve for *Econometrica* did not change over this period², we

²Possibly the demand curve for journals shifted due to other forces, changes in university budgets, dramatic increases in prices of other library materials and so on. But whatever the cause, the demanders who responded most to these changes are likely to be

conclude that overall demand is quite price inelastic, with an elasticity of about -0.20 . Demand in the more elastic market segments, duplicate copies at research institutions and single subscriptions at Masters I universities, fell by 35% and 22% respectively, which would indicate demand elasticities of about -0.45 and -0.30 in these sectors. In contrast, demand for first copies by Research I and II universities did not change at all over this period, suggesting a zero price elasticity over this range of prices for this market segment.

Institutional site licenses for the online version of *Econometrica* first became available in 2004. At the same time, the institutional price was increased from \$334 to \$500. The availability of online site licenses along with the increased price is likely to induce a further loss of duplicate subscriptions at research institutions. The preliminary subscription data for 2004 suggests that the number of institutional subscriptions to US universities fell by about 7% from 2003 to 2004, but we have not yet analyzed this data to determine the change in number of duplicate subscriptions.

Price Comparison with Competing Journals

Table 4 compares *Econometrica* with other major economics journals, using alternative measures of value for money. Our price per page measure is calculated by dividing the price in 2004 by the number of pages in 2003. We also calculate a size-weighted measure of price per page, which takes into account the fact that the page size and layout of different journals result in significant differences in the number of characters per page. Citations are measured as the number of times that any issue of a journal was cited in 2002, according to the ISI citation index.

At its current price of \$500 for an institutional subscription, *Econometrica* is appreciably more expensive than its leading non-profit peers as measured by price per page or by price per citation. *Econometrica* is still much cheaper than the two major competing for-profit journals, *Journal of Econometrics* and *Journal of Economic Theory*, each of which costs more than 4 times as much per page and about 6 times as much per citation.

most responsive to changes in price as well.

Table 4: Price Comparisons with Peer Journals

	Price per Page	Size-weighted price/page**	Price per citation
Econometrica	\$0.26	\$0.26	\$0.42
<i>Non-profit peers</i>			
AEA Journals*	\$0.05	\$0.04	\$0.04
Econ Journal	\$0.22	\$0.22	\$0.35
J of Polit Econ	\$0.20	\$0.23	\$0.23
Quart J of Econ	\$0.14	\$0.20	\$0.13
Rev of Econ & Stats	\$0.29	\$0.16	\$0.38
<i>For-profit peers</i>			
J of Econ Theory	\$1.07	\$1.19	\$2.66
J of Econometrics	\$1.24	\$1.69	\$2.35
*Includes AER, J Econ Perspectives and J Econ Lit			
**Weighted by average number of characters per page			

Econometrica's Cost Function

The Treasurer's Annual Report [1] published in the January 2004 issue reports estimated costs for the Society for 2003. It assigns costs of \$582,500 to its publishing operation, but also includes administrative costs for the society of \$163,500. The publishing costs are allocated as follows:

Composition-Printing	\$120,000
Circulation Fulfillment	\$57,500
Postage-Freight	\$100,000
Editorial	\$305,000

If we attribute half of the Society's administrative costs to publication of *Econometrica*, then total costs of producing the journal amount to about \$660,000.

For many reasons it is useful to distinguish between "first-copy costs" and marginal costs per subscriber. First-copy costs include the costs of handling submissions and referee reports, editorial costs, and the costs of copy-editing and typesetting. Marginal costs per subscriber include the costs of postage and handling, circulation fulfillment, paper and bindings, and the marginal costs of printing an additional copy. The information available in the Trea-

surer's report does not coincide exactly with these categories, but with the aid of a study of journal costs by Carol Tenopir and Donald King [2], we can make some reasonable guesses. The postage-freight and circulation fulfillment costs are roughly proportional to the number of subscribers and we will treat them as marginal costs per subscriber. Composition and printing costs include the cost of typesetting and layout as well as the costs of paper and printing. Typesetting and layout are first copy costs, but paper and printing costs are essentially proportional to the number of subscribers. So we need to allocate these costs between typesetting-layout and paper-printing. Using statistics provided by Tenopir and King (pp. 262–263), we estimate that paper and printing comprises about 56% of the reported \$120,000 in composition plus printing costs. This would imply that \$67,500 of *Econometrica*'s costs are for paper and printing and \$52,500 are for composition and typesetting. The total costs that vary with the number of subscribers are then \$227,500, which includes \$100,000 for postage, \$60,000 for circulation and fulfillment and \$67,500 for paper and printing. Total circulation is 6439, which includes 6262 paid subscriptions and 177 complementary subscriptions and lifetime subscriptions. Dividing variable costs by 6439, we find a variable cost per subscriber of about \$35.

An alternative estimate can be based entirely on the data from the Tenopir-King study. Using data collected from a number of journal publishers, they estimate costs for a hypothetical journal.³ They estimate postage, processing and subscription management costs to be \$0.0081 per page, paper and printing costs to be \$0.007 per page, and the cost of binding to be \$0.12 per issue. Since *Econometrica* publishes about 1920 pages per year in 6 issues, these estimates imply a marginal cost per subscriber of about $\$.0151 \times 1920 + 6 \times \$.12 = \$29.70$.

For calculations elsewhere in this paper, let us assume that variable per-subscriber costs are midway between these two estimates at \$32 per subscriber. Subtracting variable costs of \$32 per subscriber from total costs, we have total first-copy costs of about $\$660,000 - \$227,000 = \$432,500$. Dividing these costs among the 1920 pages that *Econometrica* produces per year, we have first-copy costs of about \$225 per page.

³This hypothetical journal is similar in scale to *Econometrica*. It has 5800 subscribers and publishes 1723 pages per year as compared to *Econometrica*'s 6200 subscribers and 1920 pages.

The Open Access Business Model

There is a rapidly growing movement in the biomedical sciences toward open access to publicly funded research. PubMed Central is a digital archive of life sciences journal literature, developed and managed by the National Center for Biotechnology Information (NCBI) at the U.S. National Library of Medicine (NLM), which provides open access to the complete text of a large number of journals in biology and medicine. (See <http://www.pubmedcentral.nih.gov/about/intro.html>.)

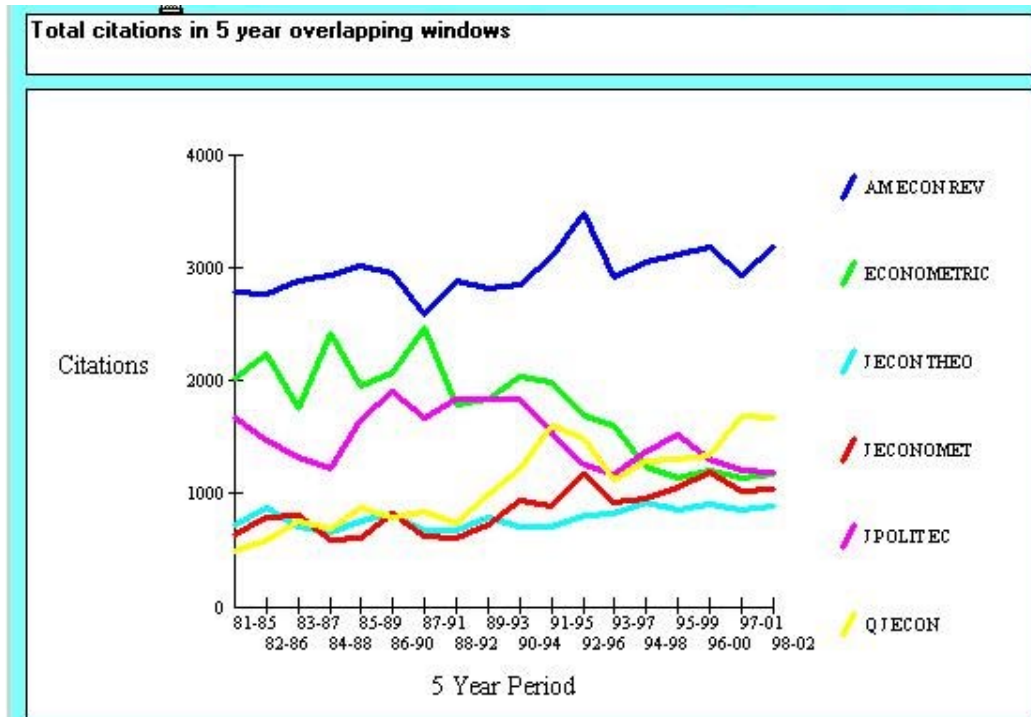
In September 2004, the NIH mandated that the full text of research funded by the NIH be made openly available on the web within six months of acceptance (see <http://www.infotoday.com/newsbreaks/nb040913-1.shtml>). The open access movement has attracted support in other disciplines as well. Peter Suber publishes a well-maintained and interesting newsletter on developments in open access at <http://www.earlham.edu/~peters/fos/fosblog.html>.

The business model for open access publishing is one in which a journal's costs are supported by page charges paid by authors or their home institutions or funding agencies. The Public Library of Science has started two new high-profile journals PLOS-biology and PLOS-medicine, which it intends to operate as direct competitors to Nature and Science. It plans to finance itself by charging authors \$1500 per article. In the short run, it is hard to see how *Econometrica* could feasibly move to full open access. The calculations above indicate that *Econometrica*'s first-copy costs are about \$225 per page. If *Econometrica* were to publish online only and not collect any subscription revenue, it could eliminate essentially all of its variable costs per subscriber and since its first-copy costs already include the cost of producing the pdf files for online distribution, its total costs would then be about \$225 per page. *Econometrica* prints only 60 articles per year and the length of articles averages a bit more than 30 pages. So in order for page charges to cover all costs, page charges would have to be at least \$225 per page or \$6750 per article. Unless the society can find alternative sources of revenue or drastic cuts in its costs, full author-funded open access does not seem to be a feasible alternative for *Econometrica* at present.

Trends in Citations and Number of Articles

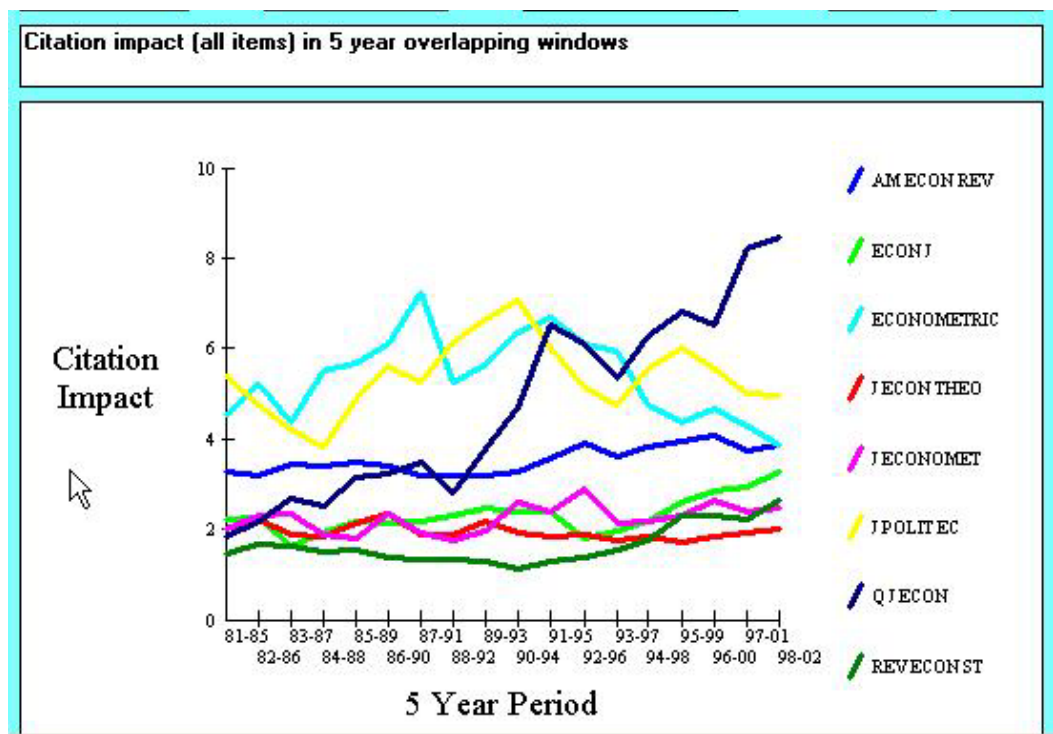
Over the past 20 years, the average annual number of citations to *Econometrica* has fallen significantly, both in absolute terms and relative to citations of other major economics journals. Figure 1 shows a 5 year moving total of number of citations to *Econometrica*, starting with the period 1981–1985 and ending with the period 1998–2002. For the period 1981–1985, *Econometrica* was second to the *American Economic Review*, with about 2000 citations as compared to about 2800 for the AER. For the period 1998–2002, the number of citations to *Econometrica* fell to about 1100, and its relative ranking in number of citations fell to fourth place. The two commercial Elsevier journals, each of which had only about one-third as many citations as *Econometrica* in the earlier period, now have nearly as many citations.

Figure 1: Citation Trends for Leading Journals



Some of the absolute and relative decline in *Econometrica* citations can be explained by the fact that the average annual number of articles published fell from 89 in the earlier 5-year period to 61 per year for 1998–2002. The number of articles published in the other non-profit journals declined only slightly over this period and the number published in *Journal of Economic Theory* and *Journal of Econometrics* increased significantly.

Figure 2: Impact Trends for Leading Journals



The number of times that each *Econometrica* article is cited has also declined. Figure 2 shows the trend in 5-year moving average “impact factors” for *Econometrica* and several peer journals. A journal’s impact factor in any year is measured by the number of citations per article in that journal in the previous two years. This may be taken as a proxy for the prestige attached to getting an article published in the journal. In the 1980’s and early 90’s, *Econometrica* was the top journal among its peers. (The *Journal*

of *Economic Literature* has the highest impact factor in economics. We have not included the JEL in the list of peers on the grounds that its articles are primarily surveys.) *Econometrica*'s impact factor has fallen by about 40% from its peak of 6.87 in 1991–95 to 3.87 in 1998–2002. It is now in third place among general journals, behind the *Quarterly Journal of Economics* and the *Journal of Political Economy*, and about the same as the *American Economic Review*, but still well above the impact factors of the high-priced *Journal of Economic Theory* and *Journal of Econometrics*.

Proposed Changes to *Econometrica* Subscription Policies

Electronic access to archives

Access to the *Econometrica* archives is currently available primarily through JSTOR. This access suffers from two limitations.

1. There is a “three year moving wall.” Articles only become available through JSTOR three years after they are published.
2. JSTOR access is available only to individual subscribers to the journal and to individuals who work for institutions that subscribe to JSTOR.

We propose that the Society take the following actions to change its electronic access policies.

RECOMMENDATION 1 Allow free online access to the current version and available archives for all IP addresses in countries other than the designated high-income countries.

RECOMMENDATION 2 Provide free online access to all back issues that are available electronically, with a two year moving wall.

RECOMMENDATION 3 Investigate the possibility of scanning back issues to extend the free online archive to the period before electronic copies were made available. Check these costs with Blackwell and with independent contractors.

Discussion of Recommendation 1:

This is a chance to do a lot of good at a very low cost. (This policy has already been adopted by the Proceedings of the National Academy of Sciences.) The direct administrative cost of this policy should be extremely small. Moreover, because subscription prices in low income countries are close to marginal cost, the indirect cost from lost subscriptions would be negligible. For low income countries, the current institutional rate for print-plus-electronic is \$39. Individual rates are \$30 for print-plus-electronic. In 2004 there were about 315 institutional subscribers and 203 individual subscribers in low income countries.⁴ (This excludes subscribers in Taiwan, which *Econometrica* currently misclassifies as a low income country. This error is supposed to be corrected in 2006.) Our calculations suggest that the marginal cost of providing a subscription with print and electronic access is about \$32. At this rate, the Society loses about \$2 on each of the individual subscriptions and gains about \$7 on each of the institutional subscriptions. This suggests that the current net subscription revenue from low income countries is less than \$2000.

Discussion of Recommendation 2:

It is important to understand that for a large number of current and potential readers, the JSTOR archive does not provide access to back issues of *Econometrica*. Subscription to JSTOR is expensive⁵ and many institutions do not subscribe. In the United States about 455 academic institutions subscribe to *Econometrica*, 413 of which subscribe to JSTOR. In the rest of

⁴None of the institutional subscribers and only 30 of the individual subscribers opted for the online only service. Institutions would save only \$4 and individuals \$15 by choosing online only

⁵The JSTOR website reports the prices charged to US academic institutions, but not those charged to other countries. For pricing purposes, JSTOR classifies US schools into four groups: Tier 1 consists of the schools awarding 50+ PhD's per year and coincides with the Carnegie Classification Doctoral I, Tier 2 includes Carnegie Doctoral II and Masters I schools, Tier 3 includes Carnegie Masters II and Bachelors' institutions with more than 1000 students, while Tier 4 includes Bachelors II (less than 1000 students). JSTOR sells access to several different journal archive collections. The prices reported here are for the Arts and Sciences Collection I, their primary collection, consisting of 117 journals in the arts and sciences. To subscribe to this collection, an institution needs to pay an upfront fee plus an annual subscription. For Doctoral I schools, the initial fee is \$45,000 and there is an annual charge of \$8500. Schools in tiers 2, 3 and 4 pay about 65% , 40%, and 20% of these amounts.

the world access to JSTOR is far more sparse. There are about 1455 institutional subscribers to *Econometrica* outside of the US, only 483 of which subscribe to JSTOR. In Germany about 25% of all institutional subscribers to *Econometrica* also subscribe to JSTOR and in Japan and France the percentage is about 20%. Nonsubscribing institutions include not only small colleges, but such major institutions as the Universities of Bonn, Munich, and Toulouse. Moreover, a large number of trained economists who are not individual subscribers to the journal are not associated with an academic institution and hence have no access to JSTOR.

JSTOR's contract gives them nonexclusive rights to distribute archival copies of *Econometrica*. Thus there seems to be no legal impediment to allowing open access to archival material. The direct cost of extending this access for archival material that is currently stored in pdf files is likely to be small. Blackwell's Synergy website already has back issues from 1999 to the current issue, but currently makes access to the text of articles available only to "subscribers" or to those who pay a fee per article.

The JSTOR moving wall currently allows access only to *Econometrica* material that is three or more years old. We propose a moving wall for an open access archive of two years. Research-oriented institutions are very unlikely to find it satisfactory to do without access to the most recent two years of *Econometrica*. The availability of material between two and three years old may reduce demand by some institutions that are less focused on research. This effect could be accommodated by adjustments in *Econometrica*'s subscription pricing schedule across institutions as we propose in Recommendation 4. (JSTOR allows publishers to set the moving wall at their own discretion. If two-year-old archives are available elsewhere, shortening the JSTOR window would have little effect and may be justifiable for the sake of simplicity.)

Discussion of Recommendation 3:

We have pointed out that a large number of potential *Econometrica* readers do not have access to JSTOR. Such users have no access to electronic versions of articles published before 1999. Thus the gains from making this access available are potentially large. The question remains, how much would it cost to provide these archives and how should they be paid for. The starting point is to determine costs. If the cost of scanning the pdf files for these archives is sufficiently low, these archives could also be made open

access without an extra charge. If the cost is higher, it might be necessary to restrict access to the older archives to individual and institutional subscribers and to slightly increase the subscription price for institutions that do not belong to JSTOR.

Tiered pricing in wealthy countries

In the hard sciences, the rates most academic societies charge for institutional subscriptions depend on the size and nature of the institution. We believe there are good reasons for *Econometrica* to adopt this practice. With the introduction of institutional site licenses for electronic access, discriminatory pricing seems appropriate on grounds of both efficiency and equity. In the days when libraries relied only on print copies, the case for price discrimination was less compelling than it is today. Small universities would buy a single copy and large universities with multiple libraries would buy several copies. In contrast, a single site license serves an entire campus.

Librarians at large universities have been busily eliminating subscriptions to “duplicate copies” and closing down smaller on-campus libraries. As the number of duplicate subscriptions has fallen and costs have risen, *Econometrica* has tried to maintain its revenue by drastically increasing institutional subscription prices across the board. The institutional subscription price was \$267 in 2002, \$334 in 2003 and \$500 in 2004. Between 1997 and 2003, *Econometrica* lost 22% of its subscriptions at US universities classified by the Carnegie Corporation as Masters’ Level Institutions. Of the 129 US institutions classified as Research Universities, almost all (125) purchased at least one subscription to *Econometrica* in 1997 and continued to do so in 2003. However, many research institutions reduced their holdings of duplicate subscriptions; the journal lost 35% of its duplicate subscriptions at research universities in the United States.

We propose the following changes in pricing structure.

RECOMMENDATION 4 Introduce a new pricing structure with the following features:

1. Tiered pricing depending on a university’s size and characteristics.
2. Two-part pricing, where a university pays an “entry fee” and then is able to obtain both online access and as many paper subscriptions as

it wants to buy at a price slightly above marginal cost.

3. Very cheap online site licenses for institutions with very few peers that subscribe to *Econometrica*.
4. A very low “introductory price” for electronic site licenses at educational institutions and public libraries that have not subscribed to *Econometrica* in recent years.

Discussion of Recommendation 4:

Tiered pricing with a two-part feature would enable the society to reduce prices in the most elastic segments of the market and recover the revenue by increasing prices for the most inelastic portions.

We are currently studying the relationship between institutional characteristics and demand for *Econometrica*. For the United States, we have a great deal of data about the characteristics of academic institutions. For other countries we have much less such information, although we are acquiring information about the number of Econometric Society members associated with each institution, the number of copies currently purchased by the institution, and whether or not each institution subscribes to each of several other economics journals. The results of this study should be useful in helping to sort institutions into tiers for the purpose of pricing. If the society decides to institute tiered pricing for high income countries, it will be important to consult with experts from each country about the appropriate grouping of institutions in that country.

Of the 519 U.S. institutions which by the Carnegie classification system are Masters II or Baccalaureate II institutions, only 12 subscribe to *Econometrica*, and in the 1207 junior colleges, there are only 3 subscribers. Only 4 public libraries (Chicago, New York, Cleveland, and Boston) subscribe to *Econometrica*. The revenue loss from offering free or very cheap site licenses to all institutions in these categories would therefore be very small. (A site license for a public library would permit in-library use only.) If all of them were to drop their print subscriptions, the total lost revenue would be less than \$10,000. For many institutions of this type, demand for *Econometrica* has not been sufficient to justify the cost of the shelf space needed to stock the print version. But with the electronic version, shelf space is no constraint. There would of course be some administrative costs in setting

up access for individual institutions in these categories. We suggest a price (perhaps a one-time fee?) sufficient to recover these administrative costs.

The most convincing evidence that an institution is not willing to pay the current subscription cost of a journal is the fact that it currently does not subscribe. We suggest that the society offer an introductory subscription rate for site licenses to the online version to all educational institutions that do not currently subscribe. This rate should be drastically smaller than regular institutional subscription rates and should be publicized with a mailing to economics department chairs and librarians at all of the relevant institutions. An extra benefit of this procedure is that once a university has online access, it will be possible to count downloads. In the future, rates can be adjusted to reflect historic usage.

Why Sell Paper Editions at Less than Marginal Cost?

The table below shows current subscription costs for print plus electronic, and for electronic only subscriptions for each type of individual subscriber. As we see, a subscriber to the electronic edition can add a print subscription at a “marginal” price ranging from \$4 for students to \$14 for regular member in high income countries. Our estimates suggest that the marginal cost of supplying a paper subscription to an additional customer is in the range of \$32. The average cost per subscriber of postage alone is about $\$100,000/6439 = \15.50 . But postage constitutes only about half of the marginal cost per subscriber. The remainder includes cost of paper, binding, printing and circulation fulfillment, all of which increase with the number of subscribers.

Subscriber Type	Print Plus Electronic	Electronic Only	Marginal Price of Print
Member (High Income)	\$59	\$35	\$14
Member (Low Income)	\$30	\$23	\$7
Student	\$17	\$13	\$4

We doubt that there is a good reason to supply paper copies to individuals whose incremental value for having paper in addition to electronic access is less than the marginal cost of providing paper. This leads to

RECOMMENDATION 5 Individual subscription prices for paper plus electronic should exceed the price of an electronic subscription by at least the

marginal cost of providing a paper subscription.

Submission Fees and Partial Steps toward Open Access

Although our discussion of costs suggests that it would be difficult for *Econometrica* to move to author-funded open access in the near future, there are some interesting possibilities for partial movements in the direction of author-generated revenue that might be used to reduce subscription prices and expand access.

One source of author-generated revenue that we believe should be tapped is fees for the submission of articles.

RECOMMENDATION 6 Require a submission fee for articles submitted for publication. Currently, those who submit an article for publication must join the Econometric Society, which costs the subscriber \$59 and which nets the society approximately \$39. We propose that the Society charge a submission fee of \$100 in addition to requiring membership. This fee could be waived or reduced for papers for which all authors have permanent positions in low-income countries.

One of the reasons that *Econometrica* has relatively high first-copy costs is that for every article that it publishes, it handles about 9 other papers that are eventually rejected. It seems to us that the time and attention received from the expert referees who work for *Econometrica* is worth far more than the \$100 per article that we propose. A fee for submission would be helpful on two counts. Authors now have an incentive to submit articles that have little or no chance of acceptance because they can get an expert reading at a very low cost. These fees could also supply a nontrivial source of revenue. In 2003, 598 new papers and 105 revisions were received and 60 papers were accepted. In 2003, 567 articles and 130 revisions were received and 54 were accepted. If 400 of the 550–600 articles currently submitted arrived with \$100 fees, this source would yield about \$40,000 in revenue.

There have been important recent developments in broadening internet-based open access to scientific work by means of “self-archiving” on OAI compliant servers. (What is OAI compliant? See <http://www.eprints.org/self-faq/OAI>.) Until recently, many publishers had restrictive policies that prohibited authors from putting final copies of their published work on their own university eprint archives. This has changed drastically within the

last year. Major commercial publishers, including Elsevier and Blackwell, now explicitly permit authors to place their own work on their own university servers, and most professional society publishers are following suit. (A very useful source of information about copyright policies of most publishers is available at <http://www.sherpa.ac.uk/romeo.php>.)

The *Econometrica* copyright statement (found on the penultimate page of the July 2004 issue of the journal) says “To copy otherwise, to republish, to post on servers, to redistribute to lists, or to use any component of this work in other works, requires prior specific permission and/or a fee. Posting of an article on the author’s own web site is allowed”. Taken literally this statement allows authors to post their own papers on their own personal website but not even on their own university’s archival website without permission. This is not satisfactory. Unlike university archives and other eprint archives, private websites are not sufficiently permanent to provide a lasting archival source and moreover are not OAI compliant and thus are not accessed by bibliographic services like RePeC and IDEAS. In contrast, Elsevier and Blackwell now permit posting of the final version of one’s own papers on one’s own university archive without the author’s obtaining explicit permission. Many publishers (including Blackwell but not Elsevier) allow one to post copies of the publisher’s own pdf file. Some publishers also allow authors to post copies of their finished papers on any public eprint server.

We propose that *Econometrica* allow authors to post a copy of the publisher’s pdf file on any public eprint server. The language here is borrowed from the copyright statement of the Institute for Mathematical Statistics, which is found at <http://www.imstat.org/publications/copyrights/copyrightTA.pdf>.

RECOMMENDATION 7 *Econometrica* should amend its copyright statement to say “The author(s) have the right to place the final version of this article (exactly as it appears in the journal) on their own website or on a public digital repository, provided that there is appropriate citation to the *Econometrica* publication.”

An interesting new idea for moving part-way to open access without abandoning subscription revenue has been successfully initiated by *Proceedings of the National Academy of Sciences* and the journals of the Entomology Society of America and the American Society of Limnology and Oceanography, and has recently been introduced by a commercial publisher,

Springer Verlag-Kluwer. Under the scheme, each author is given the option of purchasing open access for his/her article. (See <http://www.nature.com/nature/focus/accessdebate/13.html>.) An optimal price is probably one that attracts between a third and a half of all authors (coverage that would not be sufficient to induce many universities to drop their subscriptions). This policy has the advantage that the articles whose authors pay the fee become publicly accessible and the society receives a substantial extra source of revenue.

RECOMMENDATION 8 The society should investigate the feasibility of a “partial open access model” that gives each author the option of paying page charges, in return for which his/her article is made open access on the web immediately on publication.

Falling citation rates and the number of articles published

We note with concern that the annual number of citations to *Econometrica* has fallen drastically since the middle 1980’s. Over the 5-year interval 1984–88, *Econometrica* was the second most cited journal in economics and was cited almost as much as the *American Economic Review*. For the 5-year interval 1998–2002, the number of citations per year to *Econometrica* had fallen by 52% while the number of citations to the AER, the QJE, JET, and the Journal of Econometrics remained roughly constant or increased. *Econometrica* has fallen to fourth place in number of citations per year and is not far ahead of JET and Journal of Econometrics.

Table 5: Change in citations to major economics journals

Journal	1984–88	1998–02	Percent Chg
American Economic Review	2934	3174	8%
Economic Journal	652	1212	86%
Quarterly Journal of Economics	686	1212	77%
Journal of Political Economy	1215	1184	–3%
Econometrica	2471	1180	–52%
Journal of Econometrics	600	1047	75%
Journal of Economic Theory	662	892	35%

One source of the decline in citations appears to be the decline in number

Table 6: Change in number of articles published by major econ journals

Journal	1984–88	1998–02	Percent Chg
American Economic Review	863	819	–5%
Journal of Economic Theory	357	449	26%
Journal of Econometrics	318	425	34%
Economic Journal	339	382	13%
Quarterly Journal of Economics	271	382	41%
Econometrica	439	305	–31%
Journal of Political Economy	319	238	–25%

of articles published per year. While most of the other journals have either increased or held constant their number of articles, *Econometrica* published about 30% fewer articles per year in 1998–02 than it did in 1984–88, and has slipped from second place to fifth place among major journals in the number of articles published. Over the same period in which that total citations have fallen, *Econometrica*’s “impact factor” (citations per article in the two years following publication) has fallen substantially both in relative and in absolute terms.

One member of the committee observed that:

“these trends don’t have to be projected too far into the future to find *Econometrica* a minor specialty journal. Part of the cost of this is that work in theory and econometrics isn’t as quickly read by those doing applied work, so becomes cut off from what I think should be its objectives – improving the quality of research in applied fields. This is a cost to the profession generally, and not just to *Econometrica*.”

The committee realizes that recommending ways to respond to this loss is probably beyond our mandate. We would, however, like to propose the following “Item for discussion”, which might be considered by other groups within the society.

Item for Discussion *Econometrica could maintain its current support base and improve its citations and subscription appeal if it were to increase the number of articles published per year and make an effort to add articles of broader interest.*

We suspect that with the current flow of submissions, *Econometrica* could publish more articles with little effect on average quality. Currently about 10% of submitted articles are accepted. It would be interesting to query the current editors about their opinions of the drop in average quality that would result if they were to accept, say, 20% more articles. There would of course be some direct costs to the society from accepting more articles. But remember that most of the costs of the journal are not printing and handling of the paper, but selecting and editing the papers to be printed. The marginal cost of accepting an additional article is well below the average cost per article handled, because such an article has already been handled by the editor and referees.

Bibliography

- [1] Econometric Society. Report of the treasurer. *Econometrica*, 72(1):327–335, January 2004.
- [2] Carol Tenopir and Donald W. King. *Towards Electronic Journals*. SLA Publishing, Washington, D.C., 2000.



PubMed Central Overview

[About PMC](#)
[Journal List](#)
[Search](#)
[Utilities](#)

About PMC

- Overview

- ▶ [FAQs](#)

- ▶ [Back Issue](#)

- ▶ [Digitization](#)

- ▶ [Open Access](#)

- ▶ [Publishing](#)

- ▶ [Copyright Notice](#)

- ▶ [Info For Publishers](#)

- ▶ [Advisory](#)

- ▶ [Committee](#)

Overview

PubMed Central is a digital archive of life sciences journal literature, developed and managed by the National Center for Biotechnology Information (NCBI) at the U.S. National Library of Medicine (NLM). With PubMed Central, NLM is taking the lead in preserving and maintaining unrestricted access to the electronic literature, just as it has done for decades with the printed biomedical literature. PubMed Central aims to fill the role of a world class library in the digital age. It is not a journal publisher. NLM believes that giving all users free and unrestricted access to the material in PubMed Central is the best way to ensure the durability and utility of the archive as technology changes over time.

PubMed Central follows in the footsteps of other highly successful and useful services that NCBI has developed for the worldwide scientific community: GenBank, the genetic sequence data repository, and PubMed, the database of citations and abstracts to biomedical and other life science journal literature. GenBank, and the tools provided by NCBI for searching and manipulating its contents, have been a boon to molecular biologists and have helped advance developments in the field. PubMed (which encompasses Medline) is the database of choice, for researchers and clinicians alike, to locate relevant articles and, in many cases, link directly to a publisher's site for the full text.

Participation by publishers in PubMed Central (PMC) is voluntary, although participating journals must meet certain editorial standards. (See the [Information for Publishers](#).) Journals are encouraged to deposit all their content (and not just research papers or other selected material) in PMC so that the archive becomes a true digital counterpart to NLM's extensive collection of print journals. In line with this objective, NLM is [digitizing](#) earlier print issues of many of the journals already in PMC. Although immediate free access to all content is most desirable, a journal may delay release of its full text in PMC for some period of time after publication. See the [Deposit and Access Policies](#) for more information.

A journal is guaranteed access to a copy of its deposited data upon request, at no cost. PubMed Central does not claim copyright on any material deposited in the archive. Copyright remains with the journal publisher or with individual authors, whichever is applicable.

The value of PubMed Central, in addition to its role as an archive, lies in what can be done when data from diverse sources is stored in a common format in a single repository. GenBank has proven the advantages of collecting DNA sequences in a central repository with a common format. You get more rapid searching, manipulation, and cross-linking of the complete collection, and all the benefits that derive from that. Similarly, with PubMed Central, one can quickly search the entire body of full-text articles and locate relevant material regardless of its source. It also makes it possible to integrate the literature with a variety of other information resources such as sequence databases and

other factual databases that are available to scientists, clinicians and everyone else interested in the life sciences. The intentional and serendipitous discoveries that such links might foster excite us and stimulate us to move forward.

Many journals already have online publishing operations and there is a growing tendency to publish material online only, to the exclusion of print. This literature must be preserved in a form that ensures unrestricted access to it over the longer term. This is what NLM has undertaken to do. We invite all journals to join those that have already committed to creating this resource for people all over the world.

[Write to PMC](#) [PMC Home](#) [PubMed](#) [NCBI](#) [NLM](#) [NIH](#)

[Privacy Policy](#) [Disclaimer](#) [Freedom of Information Act](#)

Last updated: January 16, 2004