

Secrets of the “Big Deal”

The Pricing of Academic Journals and
the Fleecing of University Libraries



Origins

- What got me started (in about 2000):
 - Too many papers to referee
 - Which to refuse?
 - Why not look at subscription prices and work for the cheapest ones?
- I was startled to see the subscription price differences.

This led to

- Journal prices.com project with Preston McAfee
- In economics, median subscription price per article is about 3 times as high from for-profit as from non-profit publishers.
 - Ratio of prices per citation is even higher.
 - Similar story in all other disciplines

Bundle Discounts

Defenders of the big publishers explained:

“Comparing *a la carte* prices is not appropriate because publishers give large discounts for buying their entire bundle. Often the bundles cost less than half of the sum of *a la carte* prices.”

Bundle price project

- Paul Courant, Preston McAfee and I decided to collect prices paid by major universities for bundled contracts.
- Problem:
 - Confidentiality clauses in journal contracts forbid librarians to tell what they pay.
 - Contracts have complex terms
- Our Response: Freedom of Information Act requests from state-funded institutions

Publishers' Response:

Springer and Elsevier told libraries they couldn't respond.

Elsevier sued Washington State to stop them from responding.

Superior Court Judge in Colfax, WA rejected Elsevier's claims.



What were they trying to hide?

- Even with bundled “discounts”, commercial publishers prices per citation or per article are much higher than those of non-profits.
- There are striking differences in the prices paid by similar universities.
- Hard bargaining for journal bundle contracts can matter

Average* annual cost of bundles for
all Research 1 Universities in 2014

Publisher	Annual Cost of Bundle
Elsevier	\$1,734,000
Sage	\$186,700
Springer	\$590,400
Taylor & Francis	\$400,000
Wiley	\$878,500

*

^

Reported Ratios of Profit to Revenue

- Elsevier 39% (2013)
- Springer 34% (2011)
- Wiley 42% (2011)

Some Elsevier “costs”

- Paid its CEO \$8.7 million in 2013
- Donated \$2 million to U.S. politicians campaigns
- Spent \$38 million on lobbying in U.S.
- Lobbied heavily with European commission
(expenditure figures unavailable)

Lobbying data from
<http://influenceexplorer.com>)

Elsevier' s Explanation (*The Economist*, Feb 2012)

Elsevier charges average industry prices for its products, according to Nick Fowler, its director of global academic relations, and its price rises have been lower than those imposed by other publishers over the past few years.

Elsevier's enviable margins, Dr Fowler says, are simply a consequence of the firm's efficient operation.

Costs per citation

- We compare total costs per citation of major publishers bundles with those of non-profits.
- We use our sample to estimate average price for bundles paid by Research 1 universities for commercial publishers.
- Most non-profit bundle prices are publicly posted.

Cost per citation of non-profit journals*

Collection	Cost per Citation
All sampled nonprofits	\$1.02
Most cost-effective 95%	\$0.80
Most cost-effective 80%	\$0.61
Most cost-effective 50%	\$0.38

*Prices charged to Research 1 universities by nonprofit publishers with 3 or more journals included in Journal Citations Index

Cost per Cite of Publisher Bundles*

*2010 bundle prices for average Research 1 university

Publisher	Cost per Citation
Elsevier	\$2.24
Springer	\$3.08
Wiley	\$5.19
Emerald	\$6.94
Sage	\$7.24
Taylor & Francis	\$10.94
Non-profits (95%)	\$0.80

Cost per Article of Publisher Bundles*

*2010 bundle prices for average Research 1 university

Publisher	Cost per Article
Elsevier	\$4.82
Springer	\$3.64
Wiley	\$10.76
Emerald	\$5.20
Sage	\$9.60
Taylor & Francis	\$8.55
Non-profits (95%)	\$3.00

Big Deal Discounts

- Elsevier' s Freedom package includes almost all of their journals.
- Purchased one-by-one, 2009 total cost is about \$3.1 million
- Example: U of Michigan paid \$2.2 million for its Freedom Package
- That' s a 30% discount, right?

Not Exactly

- If Michigan had spent its \$2.2 million with Elsevier on single subscription journals, it could have obtained journals that get 91% of all the citations to Elsevier journals.
- So, for Michigan, the Big Deal Price is really only a 9% discount from list

So, how good are these deals?

- Let us compare 2009 prices paid by large research universities per ISI citation and per article.
 - Elsevier's Freedom package
 - Packages offered by major professional societies.

Bundle Prices Charged to Large Research Universities

Bundle	Per cite	Per article
Elsevier (U Mich)	\$3.60	\$15.16
Am Biochem Soc	\$0.20	\$0.95
Am Physical Soc	\$0.45	\$1.10
Am Soc Microbiology	\$0.45	\$1.20
Oxford U Press (Colorado)	\$0.55	\$2.15
Am Chemical Soc (U Mich)	\$0.65	\$2.85
Am Geophysical U	\$0.90	\$2.65
IEEE	\$1.05	\$2.25
Am Medical Assoc	\$1.05	\$5.90

Bargaining and Big Deals

- Commercial publishers maintain the fiction that contract prices are rigidly tied to current prices of the stuff that was in your cart when the Big Deal began.
- Some libraries seem to believe this.
- Evidence suggests wide variation.

Dealing with subscriptions

- For-profit publishers try to extract “what the market will bear.”
- Limited budgets lend bargaining power.
 - Elsevier price increase, 2005-2014
 - Iowa 61%
 - California 28%
 - Elsevier prices
 - Michigan \$2.2 million
 - Wisconsin \$1.2 million

Variation in Elsevier Contracts

University	Enrollment	2009 Price
Texas	47,000	\$1,500,000
Georgia	33,000	\$1,800,000
Michigan	39,500	\$2,200,000
Wisconsin	35,000	\$1,200,000
Colorado	28,000	\$1,700,000
Kentucky	23,000	\$1,300,000
Cal (scaled)	27,000	\$1,100,000

Academic Journals: Is something broken?



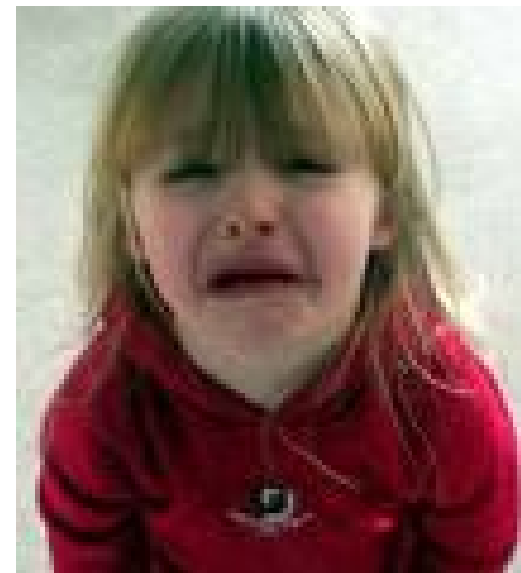
A Librarians' Shopping Problem

Problem 1: *Delegation*

Like physicians choosing drugs, and college professors selecting textbooks, librarians make choices for consumers who aren't spending their own money.

- Physicians choose treatments for patients and insurance companies pay.
- Professors choose texts for college students and parents pay.
- Librarians choose journals for professors and “the university” pays.

Problem 2: *Unreliable signals* Faculty arguments for purchases are sometimes fervid, but not always entirely credible. (Their own money is not at stake.)



Problem 3) *Complexity*

The major publishers have contrived to offer all-or-nothing deals of mind-boggling complexity.

Elsevier packages more than 2,000 journals.

Springer 1,900. Wiley 1400

Packages contain journals in more than 100 distinct disciplines. Who can say what the package is worth?



Problem 4) *Monopoly*

Probs 1-3, *delegation, unreliable signalling, and complexity* lead to price inelastic demand.

Markets with price inelastic demand are a monopolists' paradise.



Similar Cases

- Prescription drug industry---monopolies sustained by patents, delegated purchases, complex evaluation.
- College textbooks---Consolidation to three major publishers, delegated purchases, inelastic demand. (College degree offers huge consumer surplus. Publishers grab a bit.)

California Electric Power

- California electrical power. The state agreed to guarantee a price ceiling on electricity. The state would buy electricity at whatever it cost and sell to Californians at a price no higher than the ceiling.

Enter ENRON.



So what happens with academic journals?

- Remarkable price differences between non-profit and for-profit journals.
- Remarkable profit rates for large commercial publishers.
- Sharp price discrimination among buyers.

Is Open Access the Solution?



What do the markets say?

- Elsevier stock price has doubled in last two years.
- Claudio Aspesi, a stock market analyst for Bernstein Research thought in 2011 that Open Access would sharply reduce Elsevier's profits. He now says:
- "Subscription publishing appears in good health. Both Reed Elsevier and Wiley have outperformed the respective markets in the past year - The threat posed by OA seems to recede."

Elsevier' s revenues and profits per article

	Total in 2013	Per Article published
Revenue	3.44 billion	\$12,000
Profit	1.34 billion	\$4750

Open Access market share of JCR-listed journals (as of 2011)

- Fraction of journals: 13%
- Fraction of articles: 8%
- Fraction of citations 5%

Commercial Open Access: The Hybrid model

- In return for a fee from the author, publisher of a subscription journal will make this author's paper open access.
- Access to rest of journal remains subscription-based.
- No guarantee that subscription price falls when some authors choose open access.
- Uptake has been small

Author publication fees for hybrid open access

- Springer \$3,000
- Wiley \$3,000
- Taylor Francis \$2,950
- Elsevier \$500-\$5,000

Some Fully open access Author publication Fees

- Public Library of Science (PLOS) \$2250-2900
- PLOS ONE \$1350
- Ecosphere (ESA) \$1200
- Optics Express (OSA) \$1750
- Biomed Central \$2250
- Physics Review X (APS) \$1700

Zero publication fees

- 71% of all open access journals have no author publication fees.
- These provide about 1/3 of the citations from open access journals
- Some are subsidized by governments, societies, or foundations.
- Some are playing a loss leader strategy with intention of raising fees if journal is successful
- Some have very low costs.

Can open access be done more cheaply than PLOS or Pubmed Central?

- *Theoretical Economics* subsisted on \$75 submission fees, no author publication fee.
 - Used free journal management software (Wilensky's Open Journal Systems)
 - Editor and coeditors were unpaid enthusiasts
 - Hired graduate student edited LaTeX files
 - University of Toronto donated server use

Other examples ?

- *Journal of Machine Learning Research* (Stuart Schieber)
<http://blogs.law.harvard.edu/pamphlet/2012/03/06/an-efficient-journal/>
- *Economics Bulletin* (subsists on software and university fumes) no fees.
- *European Journal of Comparative Economics*
see "Publishing an E-journal on a Shoe String: Is It a Sustainable Project?"
Economic Analysis and Policy, 39(1), 2009,

Monopoly power in Subscriptions

- Subscription journals have monopoly power protected by copyright.
- Suppose that journals A and B are equally prestigious and a subscription to B costs 3 times as much as a subscription to A.
- It doesn't make sense to subscribe twice to A rather than to both A and B.
- Authors want to see them both.

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Will competition bring open access prices down?

- If A and B are equally prestigious and it is cheaper to publish in A than B, an author who has to pay the publication fees and has two papers to publish will generally want to publish both in A.
- This competitive force should drive author publication fees towards average costs.

What if university picks up the tab?

- Now the user doesn't pay for the product he is using.
- Has little incentive to respond to price.
- Competitive pressure is much reduced.
- Publishers with high reputations will be better able to keep extracting profits from universities.
- It probably makes sense for university subsidies of author fees to have a ceiling (say \$500-\$1000 per article) on the amount of subsidy.

A comparison

- Remember that Elsevier collects about \$12,000 for each article it publishes.
- Compare that to an publication fee of \$2,000 or \$3,000.
- A Problem: The \$12,000 is collected from thousands of libraries, the world over. (Only 38% of Elsevier's revenue comes from the U.S.)

The \$2,000 is collected from a single source.

Are Aspesi and the stock market right this time?

- “ Subscription publishing appears in good health... The threat of open access appears to recede.”
- Can we find a way to stop paying \$12,000 per article for publishing services that can be supplied for less than \$2,000 per article?

That' s all for now

