

## DIFFERENTIAL PRICING AND EXCHANGE RATE PROFITS

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Abstract:

Prior to 1993, Elsevier Science negotiated "spot rates" which were set sometime in the early summer and would depend on the value of the dollar relative to the European currencies on the day the currency futures were purchased. Futures would be purchased, usually in July, for actual currency delivery in January (i.e., six-month forward purchases). The difficulty in this approach was that Elsevier was dependent upon the dollar's value on currency markets during a very narrow window of time during the summer.

In 1993, Elsevier Science implemented a policy to spread forward currency purchases, in monthly installments, over a twelve-month period running from July - June, in order to smooth the peaks and valleys of exchange rate fluctuation that can occur with spot rate purchases.

In 1999, Elsevier Science announced that they would hold price increases for the complete package of their print journals to single digit figures in each of the currencies in which they invoice -- US dollars, euro and yen. While Elsevier Science's announced intent was to "create a much more predictable and stable pricing environment for the vast majority of our customers", the net effect appeared to lock in inflated US\$ subscription rates and produce windfall exchange rate profits.

Text:

In preparing for this talk, I reviewed a number of sources, but the one that got me thinking in a new direction was Richard Poynder's recent interview of Derk Haank, of Elsevier, that appeared in Information Today, April 2002, 19(4). <http://www.infotoday.com/it/apr02/poynder.htm>

Dr. Haank's responses led me to consider the differences between perception and reality. This age old dichotomy suggested to me that it could be an important factor in the seemingly contentious relationship between European commercial publishers and some segments of the library and research community.

In the physical sciences, the distinction between perception and reality is fairly easily resolved by what has become known as the scientific method (that is, by independently repeatable experimental results). In the marketplace, however, the distinction is much more ambiguous.

One of the earliest experiments, reported in the Philosophical Transactions of the Royal Society, resulted from a perception that, presumably by some magical process, the water in a small spring was supposed to burn like oil. Quoting from Thomas Shirley's report in 1665 ...

"About a mile from Wigan in Lancashire is a spring, the water of which is supposed to burn like oil. It is true that when we came to the spring, and applied a lighted candle to the surface of the water, there was suddenly a large flame produced, which burned vigorously.

Upon making a dam, and hindering the recourse of freshwater to the burning place of the water, I caused that which was already there to be drained away, and then applying the burning candle to the surface of the dry earth at the same point, where the water burned before; the fumes took fire and burned very bright and vigorous. I then caused a bucket full of water to be poured on the fire, by which it was presently quenched".

Shirley concluded that "the fumes here mentioned were inflammable air or hydrogen gas, of which the rapid ascent through the water gave it the appearance of boiling" (1).

(1). Shirley, Thomas. A Well and Earth in Lancashire taking Fire at a Candle. Philosophical Transactions of the Royal Society of London. Abridged Edition. 1, 169 (1665)

Marketplace perceptions, however, are a much more difficult problem and if negative, and allowed to persist over time, can obviously be very damaging. Compare, for example, the introduction of the Ford Edsel automobile in 1957, and the Ford Mustang in 1964.

"The Edsel had many features that were innovative and have since become standard, such as self-adjusting brakes, an electronic hood release, and the ability to lock the transmission in park until the ignition is engaged. However, these features did not add up to a car that buyers wanted. Ford only sold about 63K 1958 model Edsels, falling far short of its sales goal of 200,000.

Only six years later, in April 1964, the Ford Mustang was introduced and sold a record 419K vehicles its first year in production. The key difference between the ill-fated development of the Edsel and the roaring success of the Mustang was the shift from a product-centric focus to a customer-centric one.

In his autobiography, Lee Iacocca summed up the differences between Ford's two new car introductions, which came fewer than ten years apart and provided a study in contrasts:

Whereas the Edsel had been a car in search of a market it never found, here was a market in search of a car. The normal procedure in Detroit was to build a car and then try to identify its buyers. But we were in a position to move in the opposite direction and tailor a new product for a hungry new market." (2)

(2) Adapted from "The Case for Market-Driven Product Definition"  
<http://www.pdcinc.com/book/chapter.html>

These two examples, obviously only scratch the surface, on the one hand, of what must be or have been an infinite variety of misunderstandings in the physical world and, on the other, only briefly touch on the inability of many commercial entities to adapt their structures, roles, and internal activities to the dynamic requirements of the customer.

My thesis, in this talk, is that the contentious nature of serials pricing is yet another example of a problem that has its roots in the dichotomy between perception and reality. In my mind, an understanding of current situation requires going back to the 1965, when I came to Caltech as its first chemistry librarian.

From almost the first day on the job, I was struck by the enormous antagonism my fellow workers expressed toward Gordon and Breach, especially in regard their serials. Problems with receiving issues, inconsistent production, confused pricing and incomprehensible billing ... it was a situation where Gordon & Breach simply couldn't seem to do anything right. The fact that they were able to continue publishing serials (and presumably profitably) for another 30 years almost defies belief.

Looking back on this experience, the real tragedy of G&B was that their behavior was so egregious that it made other commercial publishers look benign by comparison.

Later in 1967, the Caltech Chemistry Library was moved from the Gates and Crellin Laboratories (made famous by Linus Pauling) to a new central facility, the Millikan Memorial, a very short distance away.

It probably sounds unbelievable, but journal subscription costs were so low in those days that we were easily able to maintain duplicate subscriptions -- to 27 organic chemistry journals thru 1974, and both Beilstein and Chemical Abstracts thru 1972 -- in the old chemistry library which had been converted into a reading room for organic chemists.

As an aside, I worked in library at the Indian Institute of Technology in Kanpur as the Library Advisor in the early 1970s and just before we returned to the States, by way of Japan in mid-1972, the value of the US\$ dropped from 360 to 300 Yen. This presaged my first serials crisis, when the cost of a German Mark increased from \$0.27 at year end 1970 to \$0.37 at year end 1973. This would have led to a 37% increase over the 3 years, without any change in the journal subscription price. This trend continued, accompanied by repeated rounds of cancellations each year, finally leveling off with a year end rate of \$0.58 in 1979.

The next chapter in this saga occurred in the 1980s when the US\$ increased in value, presumably as a result of Ronald Regan's severe economic policies. From that 1979 year end high, of \$0.58, the cost of the Deutschmark steadily dropped to a cost of \$0.31 in March 1985.

Unfortunately for many libraries, some commercial publishers appeared to take advantage of this situation and raise their Deutschmark or Guilder subscription rates to maintain a relatively constant US\$ price. There were a variety of seemingly reasonable justifications ... inflation, growing scientific output, etc. ...

This relatively benign period for US libraries was followed by another serials crisis that resulted in the perception that subscription prices had been inflated to an artificially high level during the early 1980s and the net result is a continuing assumption that major European commercial publishers charge excessively high prices.

During the 1985-1988 serials crisis, very few librarians seemed to realize that this new crisis was primarily due to the dramatic loss of value of the US\$ vs European currencies. US\$ subscription prices would nearly double in cost, during this period, and the magnitude of the effect of this doubling could be partially attributed to artificially high pricing levels established in the early 1980s.

As the value of the US\$/DM exchange rate declined, from 3.2 DM in March of 1985 to 1.6 DM in March of 1988, many librarians did not seem to immediately recognize that a 50% loss in value of the US\$ meant a 100% increase in the cost of European journals. If exchange rate reporting, in the media, had been reversed,

from the standard \$/DM ratio, to a more understandable DM/\$ ratio, librarians might have quickly realized the significance of the increase from a 31 cent DM in 1985 to a 62 cent DM in 1988.

When this was done for Cell and Tissue Research, for example, which is published in Berlin by Springer, the 90% increase in its subscription price from \$1121 in 1985 to \$2133 in 1988, while obviously enormous, is understandable. Because, if one looked at the DM subscription rates, they actually increased only 18% over the four years. (3)

3. Roth, Dana L. The Serials Crisis Revisited. *Serials Librarian* (1990), 18(1/2), 123-129.

I strongly feel that the dramatic decrease in the value of the US\$ from 1985 to 1988 and its effect on journal subscription prices should have been more fully explained to librarians by the commercial publishers.

At Caltech, however, both the Library Staff and Institute Administration fully understood this phenomena. Thus, when the library's serials budget in 1984 recorded a \$35K unspent surplus, the Institute Administration allowed the library to carry this amount forward to the 1985 budget. This, because they foresaw the possibility of a decline in the value of the US\$ and realized that the library would need these funds in the future. This understanding of the variability of foreign currency exchange rates extended to the point where part of the Institute's investment strategy involved buying or selling Deutschmark future contracts.

Thus, Caltech at least, was very comfortable with Elsevier's policy vis a vis setting US\$ subscription rates thru 1999. By way of explanation, I quote from John Tagler and Derk Haank's postings on the Newsletter for Serials Pricing Issues. First from John Tagler:

"Prior to 1993, Elsevier Science negotiated "spot rates" which were set sometime in the early summer and would depend on the value of the dollar relative to the European currencies on the day the currency futures were purchased...."

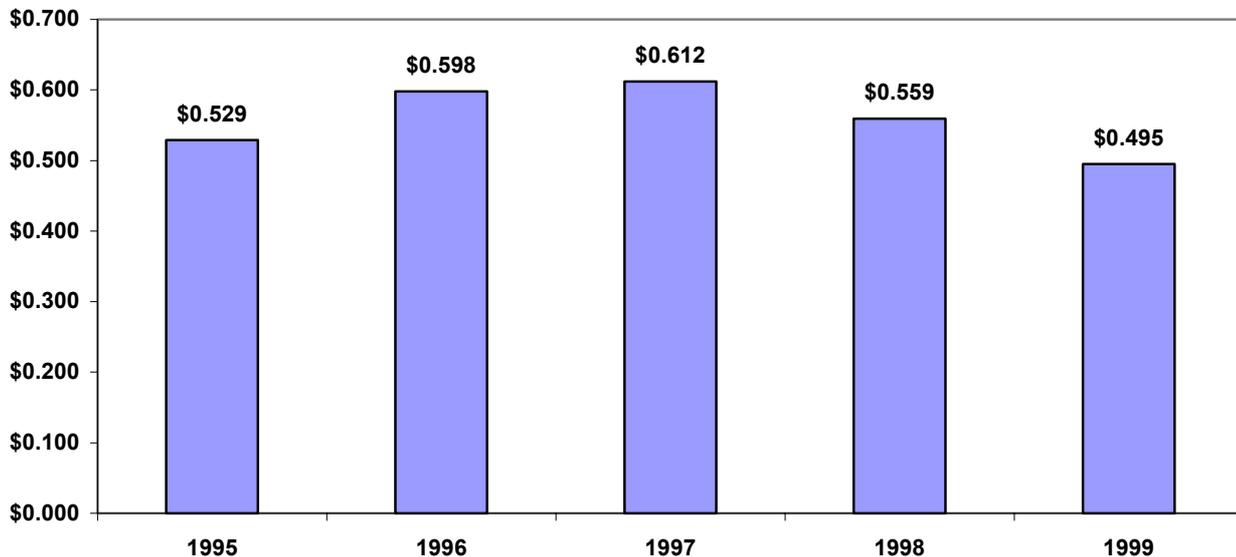
"In 1993 Elsevier Science implemented a policy to spread forward currency purchases, in monthly installments, over a twelve-month period running from July - June, in order to smooth the peaks and valleys of exchange rate fluctuation that can occur with spot rate purchases...."

"For 1998, we find that dollar prices for Dutch and Swiss published titles show the effects of the dollar's strength relative to those currencies. ... For example, BBA/complete increased by 2.9% and Brain Research/complete increased by 3.4%".(4)

(4) John Tagler. Newsletter on Serial Pricing Issues. 204 (March 13, 1998). URL = <http://www.lib.ncsu.edu/stacks/n/nspi/nspi-ns204.txt>

This trend continued with the 1999 subscription rates, which were set in mid-1998. BBA/Complete declined by 2.5% and Brain Research/complete declined by 1.5%. This is reflective of the general trend of the \$ cost of Dutch Guilders as shown in Figure 1.

**Fig.1 - \$ Cost of NLG based on Forward Currency Purchases (1995-1999)**



In June of 1999, however, Derk Haank posted the following seemingly contradictory statement:

"Elsevier Science today announced a new approach to scientific journal pricing that provides for a moderated and more predictable level of price increases for print journals in the coming year and beyond. The successful launch of ScienceDirect and the anticipated continuing migration from print to electronic allows for a more comprehensive view on pricing for Elsevier Science products.

Starting with subscription year 2000, Elsevier Science intends that annual print price increases for its entire package of journals will be under 10% in each of the company's invoicing currencies: U.S. dollars throughout the world excepting Dutch guilders in Europe and, starting in 2000, Yen in Japan. This includes the effects of currency fluctuation, growth in volume output and inflation.

Among these three factors affecting journal prices each year, currency fluctuations have been the most erratic, resulting in high journal price increases in various regions of the globe in some years. With this change, this volatility will be substantially eliminated. With respect to the 2000 subscription year, the overall price increase for Elsevier Science print journals will be approximately 7.5%." (5)

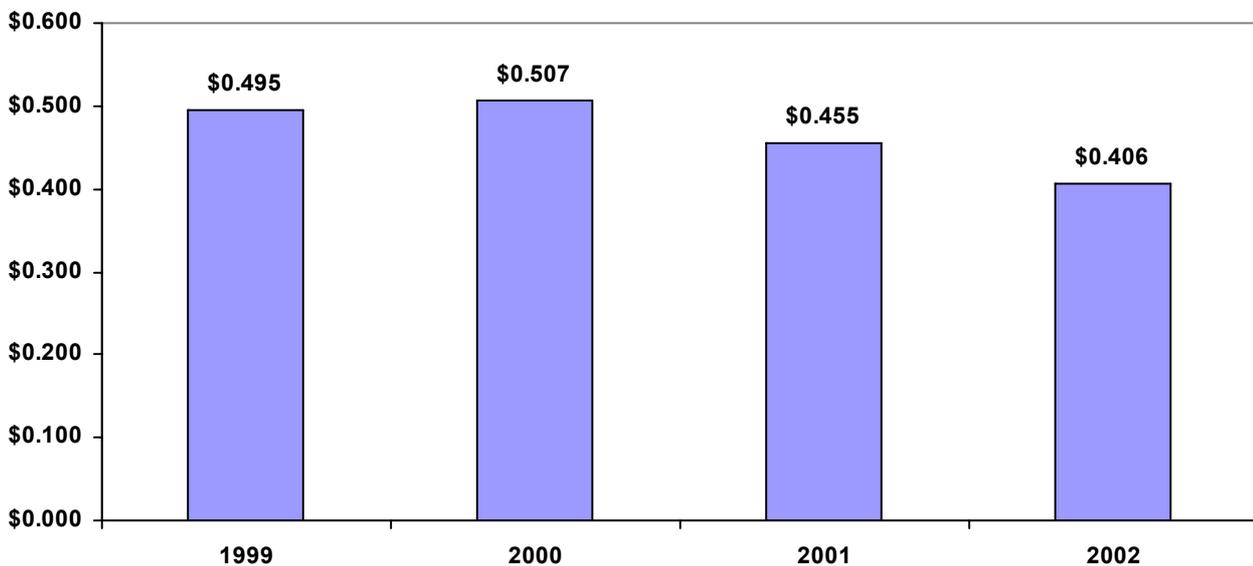
(5) Derk Haank. Newsletter on Serial Pricing Issues. 227 (June 20, 1999). URL = <http://www-mathdoc.ujf-grenoble.fr/NSPI/Numeros/1999-227.html#2>

As noble as this new approach sounds, the fact is that a "less than 10% subscription price increase" each year could result in the doubling of a journal's subscription price in less than 8 years. This is based on the well known 'rule of 73' that states that dividing 73 by a sustained annual cumulating percentage increase gives the doubling time in years.

This decision apparently adopts the US\$ and Japanese Yen as invoicing currencies, without a direct relationship to exchange rates, for libraries outside of Europe. It strongly encourages the perception that subscription rates are no longer based on the cost of production, which for many of the most expensive journals remains the EURO, which has a fixed relationship to the Dutch Guilder.

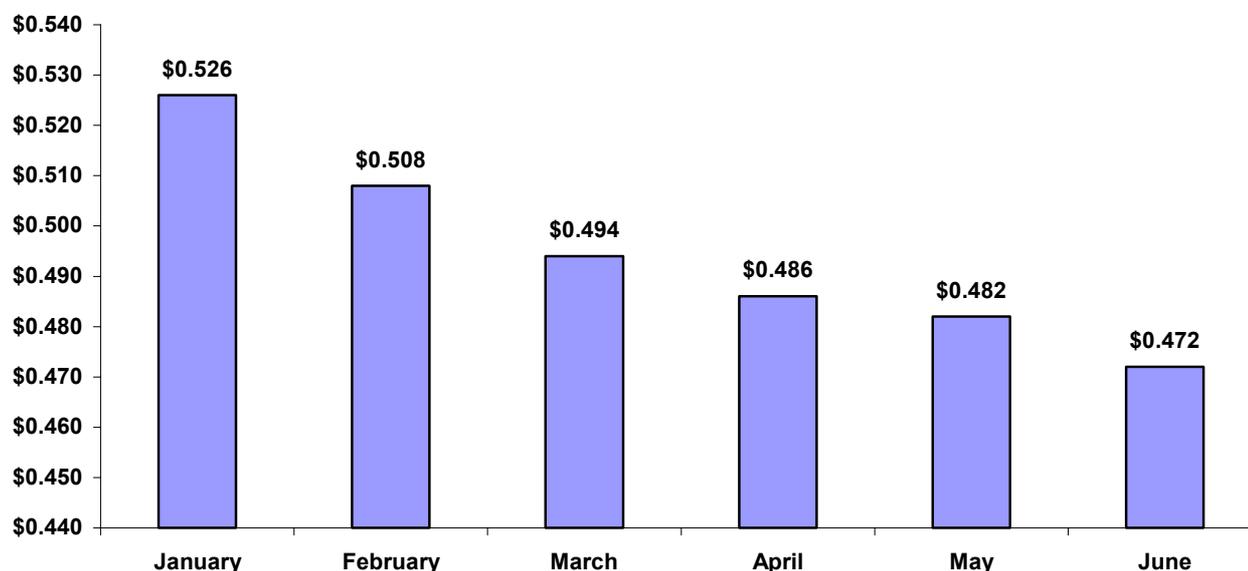
This also leads directly to the perception that European commercial publishers, who require payment in US\$ for journals shipped outside of Europe, are profiteering from current exchange rate trends. The continuing annual decline in the US\$ cost of Dutch Guilders, calculated on the basis of the previously mentioned forward currency purchases, since 1999, is shown in Figure 2.

**Fig. 2 - \$ Cost of NLG based on Forward Currency Purchases (1999-2002)**



While the calculated US\$/NLG exchange rate remained essentially constant for calculation of the 1999 and 2000 subscription prices, the month to month decline in the \$ cost of the Guilder from January to June 1999, shown in Figure 3, is something that one might also perceive as a major factor in the decision to discontinue the previous subscription pricing policy.

**Fig. 3 - \$ Cost of Dutch Guilders  
January-June 1999 (Interbank Rate)**



I want to take Derk Haank at his word that Elsevier is not profiteering but the facts are that if non-European subscribers were able to subscribe to journals under the previous exchange rate based policy, US\$ subscription rates for 2000, 2001 and 2002 would have been substantially less. In fact, since European commercial publishers dropped exchange rate based pricing for the 2000 subscriptions, the value of European currencies vs the US\$ has declined by over 20% and it certainly does not appear that this is reflected in current subscription prices.

For example, the Elsevier US\$ subscription prices and Exchange Rate US\$ subscription prices (based on the 10/01 rate in the previous year) are given in Table 1 for 2000-2002 subscriptions.

Table 1. Comparison of Elsevier US\$ subscription rates vs  
(Exchange Rate US\$ subscription rates)

Journal title	2000	2001	2002
BBA/complete	\$11,362 (\$10,895)	\$12,127 (\$9,535)	\$12,915 (\$10,504)
Brain Research/complete	\$16,344 (\$15,673)	\$17,444 (\$13,716)	\$18,578 (\$15,109)

This leads to a presumed exchange rate profit of over \$13K on these two subscriptions alone.

In conclusion, I have known and respected many people associated with European commercial publishers for a number of years. In fact, I actually stood up in a public meeting during the serials crisis in the late 1980s and defended both Elsevier and Springer, pointing out that librarians needed to differentiate between irresponsible and responsible commercial publishers and not castigate commercial publishers as a group.

I am also not making any accusations. I would only suggest that allowing the perception of over-pricing and exchange rate profiteering to continue, will certainly have a negative effect on the companies involved. These perceptions, combined with on-going difficulties some library users have accessing full text articles electronically, already seem to be influencing prospective authors in their submission choices.

For example, Table 2 shows the decline in articles published by Caltech authors in various commercial European titles, since 1995-1996.

Table 2. Articles published by Caltech authors in various journals 1995-2002

Journal	2001-2002	1999-2000	1997-1998	1995-1996	
Chem. Phys./Chem. Phys. Lett.	5	9	13	18	
Inorganica Chim. Acta		0	2	9	12
J. Organometallic Chem.	0	0	3	3	
Tetrahedron/Tet. Letters	1	10	24	11	

While this is obviously a small sample, the ease of electronic access of competing journals, published by scholarly societies, may be having a significant effect on the publication choices of Caltech authors.

Finally, I would like to pass along a thought from Scott Bedbury (the advertizing man behind the mystique of Nike and Starbucks), who was quoted in Southwest Airlines' Spirit magazine (March 2002, p.37). Scott's 'Brand Man's Mantra' is hopefully worth consideration.

"Show genuine compassion. No one wants to work for or patronize an Evil Empire, and bad karma is one enormous boomerang that knows where you live. Give a damn, and give back".