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Periodical Price Survey 1994: Projecting Serials Costs; Banking on the Past to Buy for the Future

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34TH ANNUAL REPORT PERIODICAL PRICE SURVEY 1994

Projecting Serials Costs: Banking on the Past To Buy for the Future

By Lee Ketcham & Kathleen Born

THE HERO OF THIS year's Periodical Price Survey is the U.S. dollar, whose strength in the face of European currencies brought some relief to the overstretched serials budgets of American libraries. Double-digit inflation, endemic in recent years largely because of the dollar's weakness against non-U.S. currencies, has finally eased. While currency fluctuation is a major factor in rising periodicals costs, publisher prices are tied to other factors as well: postage hikes, subscription erosion, production costs, competition for scholarly properties, mergers and splits, etc.

In order to help you plan your serials budget for the coming year, this year's survey will revisit last year's predictions, assess what actually happened to periodical prices in 1993-94, and analyze predictors for 1995 subscription costs. The study relies on cost history, country of origin information, and currency exchange rate analyses to identify trends in the cost of periodicals

and to project costs for the coming year. Three Institute for Scientific Information (ISI) databases were used for the core study—Arts and Humanities Citation Index, Social Sciences Citation Index, and Science Citation Index—yielding 6,846 titles. The list of titles from the Social Sciences Citation Index was greatly enlarged this year by the inclusion of selectively indexed titles.

The ISI databases are ideal for tracking cost trends of comprehensive, scholarly journal collections such as one

would find at research institutions. However, since the average cost of a journal in the three ISI indexes is \$372.95, the data from the ISI databases are less applicable to the collections of medium-sized university and college libraries. Because of this and in response to numerous requests, we have added another periodical index to the survey this year to address journal costs in smaller institutions. EBSCO Publishing's Academic Search indexes approximately 2000 journals commonly held in academic libraries. The average cost of a title in Academic Search is \$115.33. Finally, we have once again included a brief analysis of Magazine Article Summaries, a popular-periodical index produced by EBSCO Publishing, to provide data on consumer-oriented titles that make up the collections of most public and school libraries. The average cost of a magazine in this index is \$48.65.

Cost history and other information for each of the studies was pulled from EBSCO's database of 235,000 title records. For practical reasons, the study was limited to prepriced titles (as opposed to standing order or bill later titles) that can be ordered through a vendor. The data are current as of February 15, 1994.

Cost trends by discipline

As shown in Table 2, the stability of the traditional price hierarchy in the sciences continues, with Chemistry as the discipline with the highest average cost per title (\$1,106) in 1994, followed by Physics (\$1,099), Astronomy (\$627),

TABLE 1:
AVERAGE PRICE PER TITLE
BY CONTINENT/COUNTRY 1994

Continent/Country	Avg. Price Per Title*
The Netherlands	\$1,095.79
Switzerland	762.54
Ireland	746.46
Germany	532.21
United Kingdom	476.74
Avg. Cost of an ISI Title	372.95
Japan	288.53
United States	236.91
France	217.74
Australia and New Zealand	131.40
Italy	127.57
Canada	88.31
South America	80.96
Africa	61.13

*Shown in descending order

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TABLE 2: COST HISTORY BY SUBJECT

Subject	Average No. of Titles	Average Cost Per Title 1990	Average Cost Per Title 1991	% of Change '90 - '91	Average Cost Per Title 1992	% of Change '91 - '92	Average Cost Per Title 1993	% of Change '92 - '93	Average Cost Per Title 1994	% of Change '93 - '94	'90 - '94 % of Change
General Works	87	\$53.91	\$64.96	20.50	\$62.85	-3.25	\$67.81	7.89	\$68.20	0.58	26.51
Philosophy & Religion	137	62.99	73.05	15.97	76.13	4.22	85.74	12.62	86.75	1.18	37.72
Psychology	134	109.38	124.51	13.83	138.59	11.31	152.71	10.19	162.67	6.52	48.72
History	213	55.86	61.81	10.65	67.35	8.96	72.21	7.22	76.25	5.59	36.50
Geography	63	161.51	201.47	24.74	228.95	13.64	247.50	8.10	266.77	7.79	65.17
Anthropology	43	129.43	142.63	10.20	155.09	8.74	157.50	1.55	170.49	8.25	31.72
Recreation	16	47.77	56.36	17.98	61.06	8.34	65.75	7.68	71.20	8.29	49.05
Business & Economics	259	129.57	156.83	21.04	173.09	10.37	193.32	11.69	208.60	7.90	60.99
Sociology	245	101.51	116.38	14.65	127.99	9.98	141.89	10.86	150.88	6.34	48.64
Political Science	61	75.92	92.44	21.76	99.65	7.80	111.80	12.19	118.31	5.82	55.84
Law	84	55.94	65.31	16.75	70.15	7.41	78.31	11.63	80.54	2.85	43.98
Education	95	83.95	98.02	16.76	105.26	7.39	120.77	14.73	125.38	3.82	49.35
Music	55	40.25	44.66	10.96	49.60	11.06	53.39	7.64	53.74	0.66	33.52
Art & Architecture	73	76.86	86.08	12.00	92.23	7.14	98.04	6.30	99.59	1.58	29.57
Language & Literature	338	51.71	58.89	13.89	62.29	5.77	67.16	7.82	68.46	1.94	32.39
General Science	70	196.88	241.19	22.51	307.20	27.37	361.36	17.63	390.11	7.96	98.15
Math & Computer Science	144	376.44	453.50	20.47	495.72	9.31	556.84	12.33	603.65	8.41	60.36
Astronomy	24	414.06	497.41	20.13	530.80	6.71	680.86	28.27	627.45	-7.84	51.54
Physics	196	663.89	794.59	19.69	915.05	15.16	1,070.83	17.02	1,098.94	2.63	65.53
Chemistry	209	638.61	805.38	26.11	914.24	13.52	1,042.37	14.01	1,106.33	6.14	73.24
Geology	74	296.69	359.36	21.12	386.56	7.57	449.08	16.17	468.43	4.31	57.89
Biology	239	376.12	446.30	18.66	472.29	5.82	548.79	16.20	558.10	1.70	48.38
Botany	57	295.00	347.24	17.71	374.82	7.94	437.00	16.59	454.33	3.97	54.01
Zoology	111	279.46	323.14	15.63	347.76	7.62	392.98	13.00	414.56	5.49	48.34
Health Sciences	1262	255.43	305.44	19.58	339.84	11.26	378.36	11.33	392.39	3.71	53.62
Agriculture	181	201.01	244.58	21.68	257.97	5.47	296.46	14.92	306.86	3.51	52.66
Technology	179	283.73	354.28	24.87	398.09	12.37	442.47	11.15	487.03	10.07	71.65
Engineering	225	333.53	433.95	30.11	492.31	13.45	535.93	8.86	587.81	9.68	76.24
Food Science	15	242.51	315.16	29.96	341.63	8.40	390.47	14.30	398.60	2.08	64.36
Military & Naval Science	6	79.17	88.33	11.57	104.67	18.50	122.33	16.87	137.17	12.13	73.26
Library & Information Science	64	100.66	117.74	16.97	132.23	12.31	143.62	8.61	149.68	4.22	48.70

Math and Computer Science (\$604), Engineering (\$588), and Biology (\$558). The other scientific disciplines follow closely and exhibit a stable price hierarchy as well, with Technology (\$487), Geology (\$468), Botany (\$454), Zoology (\$415), Food Science (\$399), Health Science (\$392), and General Science (\$390) showing very little change in their relative positions over the past five years. (Medical and health-related fields are grouped together for this study, which results in a relatively low average cost per title. EBSCO's Index Medicus™ Price Study is available for libraries that need a more detailed breakdown.)

Table 3A (p. 46) looks at the relative speed with which journal costs have gone up, discipline by discipline, over a four-year period from 1990 to 1994. Again, the sciences dominate the top of the chart. Not only do they cost the most, but they also

increased at the fastest pace over the long term. Geography, Business and Economics, and Political Science are, in fact, the only three disciplines ranked in the top 16 that are not pure sciences.

Short-term increases (1993-94) are charted in Table 3B (p. 46). When Table 3B of this year's study is compared to Table 3 of last year's study, the effect of a stronger U.S. dollar on the cost of subscriptions becomes apparent. Last year's chart reflected the percentage of price increases for 1993 subscriptions over 1992 subscriptions. Between November 1991 and November 1992 when 1993 subscriptions were bought, the dollar had weakened dramatically, causing the percentage of price increases across the disciplines to reach as high as 23.74%. Two out of every three disciplines saw double-digit inflation for the 1993 subscription year. Cost increases for 1994, on the other hand, range from

a high of only 12.13% to a low of -7.84%, and only two of the 31 disciplines have double-digit inflation.

Astronomical examples

Astronomy journals illustrate perfectly the effect of a stronger dollar. In last year's study the average Astronomy title had the highest percentage of increase (23.74%); this year it has the lowest (-7.84%). More than half of the Astronomy titles in the ISI indexes are published in Europe. A stronger dollar in 1993 not only offset any publisher price increases but actually reduced the cost of an average Astronomy title by almost 8% for U.S. libraries.

Though interesting, single-year data like that in Table 3B are not reliable as an indicator of cost trends in a given discipline. When compared to last year's data or to the long-term trends in Table 3A, there is major fluctuation

among the disciplines relative to price increases. For example, price increases in Astronomy, Physics, and Botany moderated enough to drop these disciplines from the top three positions last year to the lower half of the chart this year. For journals in other disciplines, such as Anthropology, Geology, and Geography, the reverse is true. General Science stayed near the top in both 1993 and 1994. Technology and Engineering (which were combined in last year's study) moved from a median position last year to the second and third positions this year. These fluctuations are undoubtedly tied to market forces that influence the way publishers set rates, and, in time, the data may show cycles or trends within a discipline that will help with predictions.

Cost by country of origin

Price history among disciplines is one useful indicator of trends when budgeting for serials. It is also important to analyze journal costs by country of origin because of local economic pressures affecting foreign publishers, publisher pricing strategies, and the role played by currency conversion.

Nineteen hundred ninety-three was a good year for the U.S. dollar against the currencies of most nations. Between February and June, when fixed rates for 1994 subscriptions were set by some European publishers, the U.S. dollar gained ground steadily against European currencies. The dollar's value fluctuated through the fall but by November had become stronger than in June. As a result,

TABLE 3: PERCENTAGE OF CHANGE BY SUBJECT

3A: 1990—1994		3B: 1993—1994	
Subject	% of Change	Subject	% of Change
General Science	98.15	Military & Naval Science	12.13
Engineering	76.24	Technology	10.07
Military & Naval Science	73.26	Engineering	9.68
Chemistry	73.24	Math & Computer Science	8.41
Technology	71.65	Recreation	8.29
Physics	65.53	Anthropology	8.25
Geography	65.17	General Science	7.96
Food Science	64.36	Business & Economics	7.9
Business & Economics	60.99	Geography	7.79
Math & Computer Science	60.36	Psychology	6.52
Geology	57.89	Sociology	6.34
Political Science	55.84	Chemistry	6.14
Botany	54.01	Political Science	5.82
Health Sciences	53.62	History	5.59
Agriculture	52.66	Zoology	5.49
Astronomy	51.54	Geology	4.31
Education	49.35	Library & Information Science	4.22
Recreation	49.05	Botany	3.97
Psychology	48.72	Education	3.82
Library & Information Science	48.70	Health Sciences	3.71
Sociology	48.64	Agriculture	3.51
Biology	48.38	Law	2.85
Zoology	48.34	Physics	2.63
Law	43.98	Food Science	2.08
Philosophy & Religion	37.72	Language & Literature	1.94
History	36.50	Biology	1.70
Music	33.52	Art & Architecture	1.58
Language & Literature	32.39	Philosophy & Religion	1.18
Anthropology	31.72	Music	0.66
Art & Architecture	29.57	General Works	0.58
General Works	26.51	Astronomy	-7.84

publications without fixed rates turned out to be the better bargain in 1993 because invoices were paid late in the year

when the currency exchange was most favorable for U.S. libraries. Many large European publishers, however, did estab-

TABLE 4: COST HISTORY BY BROAD SUBJECT

	Average No. of Titles	Average Cost Per Title 1990	Average Cost Per Title 1991	% of Change	Average Cost Per Title 1992	% of Change	Average Cost Per Title 1993	% of Change	Average Cost Per Title 1994	% of Change	'90 - '94 % of Change
ARTS & HUMANITIES CITATION INDEX											
U.S.	762	\$58.47	\$64.44	10.2	\$70.57	9.5	\$76.22	8.0	\$82.19	7.8	40.6
Non-U.S.	774	110.27	132.83	20.5	144.55	8.8	162.20	12.2	165.02	1.7	49.7
SOCIAL SCIENCES CITATION INDEX											
U.S.	1,261	\$132.54	\$148.12	11.8	\$167.85	13.3	\$186.36	11.0	\$206.44	10.8	55.8
Non-U.S.	1,173	276.56	346.48	25.3	378.48	9.2	425.28	12.4	435.50	2.4	57.5
SCIENCE CITATION INDEX											
U.S.	1,140	\$239.19	\$268.18	12.1	\$304.44	13.5	\$339.89	11.6	\$378.30	11.3	58.2
Non-U.S.	1,734	412.90	514.96	24.7	567.51	10.2	649.28	14.4	665.70	2.5	61.2

TABLE 5: COST HISTORY BY CONTINENT/COUNTRY OF ORIGIN

Continent/Country	Average No. of Titles	Average Cost 1990	Average Cost 1991	% of Change '90 - '91	Average Cost 1992	% of Change '91 - '92	Average Cost 1993	% of Change '92 - '93	Average Cost 1994	% of Change '93 - '94	'90 - '94 % of Change
NORTH AMERICA											
United States	2279	\$152.39	\$170.13	11.64	\$191.58	12.61	\$213.19	11.28	\$236.91	11.13	55.46
Canada	113	59.63	74.83	25.49	80.78	7.95	80.76	-0.02	88.31	9.35	48.10
Other	6	38.60	35.00	-9.33	33.57	-4.08	38.25	13.94	49.07	28.29	27.13
Average for all N. America	2398	148.03	165.34	11.69	185.94	12.46	206.40	11.01	228.86	10.88	54.60
EUROPE											
France	159	\$152.16	\$183.26	20.44	\$187.00	2.04	\$215.91	15.46	\$217.74	0.85	43.10
Germany	337	385.98	460.73	19.37	456.65	-0.89	554.19	21.36	532.21	-3.97	37.89
Ireland	40	473.25	579.52	22.46	643.25	11.00	802.74	24.79	746.46	-7.01	57.73
Italy	72	109.63	125.67	14.63	129.16	2.78	128.24	-0.71	127.57	-0.52	16.36
The Netherlands	322	628.05	828.21	31.87	862.84	4.18	1059.36	22.78	1095.79	3.44	74.47
Switzerland	127	454.46	629.61	38.54	611.73	-2.84	710.82	16.20	762.54	7.28	67.79
United Kingdom	1099	279.87	347.95	24.32	411.35	18.22	432.96	5.25	476.74	10.11	70.34
Other	215	156.67	191.39	22.16	215.54	12.62	254.02	17.85	228.49	-10.05	45.84
Average for all Europe	2372	327.85	412.85	25.93	455.46	10.32	520.72	14.33	536.55	3.04	63.66
ASIA											
Japan	83	\$194.68	\$207.36	6.51	\$215.90	4.12	\$232.63	7.75	\$288.53	24.03	48.21
Other	48	82.61	101.68	23.08	112.24	10.38	122.05	8.74	140.50	15.12	70.07
Average for all Asia	131	151.71	167.02	10.10	178.71	6.99	194.91	9.07	235.82	20.99	55.45
AUSTRALIA & NEW ZEALAND											
	82	\$103.10	\$112.66	9.27	\$118.45	5.14	\$123.84	4.55	\$131.40	6.11	27.45
SOUTH AMERICA											
	18	\$63.86	\$72.18	13.03	\$77.73	7.69	\$73.03	-6.05	\$80.96	10.86	26.78
AFRICA											
	15	\$33.18	\$68.44	106.26	\$56.01	-18.15	\$63.02	12.51	\$61.13	-2.99	84.25

lish fixed rates for subscriptions, thus eliminating the potential for savings based on currency fluctuation.

Table 5 (above) shows cost history for titles in the ISI databases grouped by the country of origin. Although the practice of setting subscription rates in U.S. dollars makes it difficult to distinguish true rate increases from the currency factors, an annual inflation rate of about 8%-10% seems to have become the norm for journal publishers worldwide. Looking at the next-to-last column (% of Change '93-'94) of Table 5 with this assumption in mind, it is possible to get a quick fix on the effect of the international currency exchange on the cost of 1994 subscriptions for U.S. libraries. If the average change is around 10%, currency conversion has had little or no effect on the cost of periodicals.

As an example, titles from the United

Kingdom increased in 1994 by 10.11%, yet there was minimal change in the relationship between the British pound and the U.S. dollar between November 1992 and November 1993 when subscriptions were bought. A deviation on the high side of 10% suggests that the dollar was weak against the currency of a particular country or area of the world. Japan is a good

example, as the dollar lost substantial ground against the yen last year. The average title from Japan increased by 24.03% for 1994 subscriptions. A deviation of less than 10% suggests that rate increases for journals published in that country or continent were partially offset by a favorable currency exchange. The cost of the average German title de-

TABLE 6: 1995 COST PROJECTIONS BY BROAD SUBJECT

	No. of Titles	% of List	1994 Cost	% of Cost	Projected % Of Increase	Projected 1995 Cost	% of Cost	Projected Overall % Increase
ARTS AND HUMANITIES CITATION INDEX								
U.S.	766	49.7	\$62,960	33.0	10.0	\$69,256	33.5	8.3
Non - U.S.	776	50.3	128,059	67.0	7.5	137,663	66.5	
SOCIAL SCIENCES CITATION INDEX								
U.S.	1,275	51.3	\$263,209	33.3	10.0	\$289,530	33.8	8.3
Non - U.S.	1,209	48.7	526,516	66.7	7.5	566,005	66.2	
SCIENCE CITATION INDEX								
U.S.	1,155	39.1	\$436,932	26.7	10.0	\$480,625	27.2	8.2
Non - U.S.	1,799	60.9	1,197,590	73.3	7.5	1,287,409	72.8	

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creased by 3.97% between 1993 and 1994 because the Deutsche mark had lost ground to the U.S. dollar when 1994 subscriptions were bought.

The foreign-domestic price gap

Even without the currency factor, most foreign journals cost more than journals published in the United States, as Table 1 (p. 44) illustrates. Specifically, most European titles cost significantly more on average in 1994 than their U.S. counterparts. Table 4 illustrates this gap across the three broad subject areas. In the Arts and Humanities, the price of the average non-U.S. title is 101% more than the average U.S. title. The spread grows to 111% when U.S. and non-U.S. journals in the Social Sciences are compared. The differential is 76% for Science journals. These gaps are too large to be explained entirely by currency differentials or delivery costs.

The currency factor

The effect of currency conversion on the cost of subscriptions is nonetheless important. Chart 1 traces the percentage change in the average cost of U.S. and non-U.S. subscriptions over a four-year period and the corresponding percentage change in the exchange rate for a composite of European currencies

at the time orders were placed for each year's subscriptions. Simply stated, as the exchange rate line dips, the European currencies weaken (i.e., the U.S. dollar strengthens), and U.S. libraries pay less for European publications.

When this situation occurred in November 1992, it is interesting to note that the rate of increase for non-U.S. periodicals slowed compared to the prior year in all three broad subject areas but still increased by 10%. When the same situation arose in November 1993, the cost of non-U.S. publications fell much more sharply so that the increase to U.S. libraries averaged only 3%. It is possible that this phenomenon reflects a heightened sensitivity on the part of European publishers to the plight of U.S. libraries, or, conversely, a reaction to the pressures libraries have brought to bear through serials' cancellations.

Lest the currency factor be overemphasized, it is worth noting that titles published in the United States have shown average annual increases of 10.9% over the last four years. This figure is high when compared with an average annual inflation rate of 3.7%

based on the Consumer Price Index over the same time period.

Budgeting for 1995

The data on price history and currency fluctuation presented here can be used to analyze the relative vulnerability of any library's list to international market factors and to cost trends in heavily represented disciplines. An awareness of subject concentrations and of the mix of U.S. and non-U.S. titles gives the librarian/budget manager a foundation upon which to overlay less predictable factors when budgeting for the coming year. The less predictable factors include publisher rate increases for the next subscription year; the pressure on publishers to split, merge, or expand journals in some disciplines; and the performance of the U.S. dollar in relation to major international currencies.

The periodical cost projection for the coming year begins with an analysis of currently known facts. When preparing last year's article in February 1993, we knew that both domestic and European publishers were talking about rate increases of 10.5%. We knew that the U.S. dollar was strengthening and that, if its strength held, U.S. libraries would see little, if any, cost increases for European publications in 1994.

(Continued on p. 50)

Periodical Prices for Public and School Libraries

The titles in EBSCO Publishing's general index,

Magazine Article Summaries, are those most often subscribed to by school and public libraries in the United States, based on data

from EBSCO Subscription Services. Table 8 provides historical data for the 359 titles in the database. For 1994 subscriptions, the cost of U.S. titles went up 7.4%. The cost of non-U.S. titles rose by only 2.5% because inflationary increases were offset by a

TABLE 7:
1995 COST PROJECTIONS FOR TITLES IN MAGAZINE ARTICLE SUMMARIES

Magazine Article Summaries	No. of Titles	% of List	1994 Cost	% of Cost	Projected % Of Increase	Projected 1995 Cost	% of Cost	Projected Overall % Increase
U.S.	330	89.4	\$13,390	74.6	7.0	\$14,327	74.7	6.9
Non - U.S.	39	10.6	4,562	25.4	6.5	4,859	25.3	

strong U.S. dollar. The overall average cost of a title rose from \$46.07 to \$48.65. If our projected increase for 1995 subscriptions (Table 7) holds true, the average cost of a consumer title next year will rise to \$52.01, or an increase of 6.9% overall.

TABLE 8: COST HISTORY FOR TITLES IN MAGAZINE ARTICLE SUMMARIES

Index	Average No. of Titles	Average Cost Per Title 1990	Average Cost Per Title 1991	% of Change	Average Cost Per Title 1992	% of Change	Average Cost Per Title 1993	% of Change	Average Cost Per Title 1994	% of Change	'90 - '94 % of Change
Magazine Article Summaries	359	\$38.45	\$42.96	11.7	\$43.86	2.1	\$46.07	5.0	\$48.65	5.6	26.5

Periodical Prices for College and Medium-Sized University Libraries

Titles in the three ISI indexes that are analyzed in the body of this article range from commonly held, core academic journals to highly esoteric and

specialized journals, many of which are beyond the budgets and the collection needs of mid-sized and smaller academic institutions. For this reason, we are including an analysis of the titles in EBSCO Publishing's Academic Search, an indexing and abstracting service for core academic journals.

In Table 10, the 2000 titles in this index are arranged by subject so that cost trends in a given discipline can be seen. It is interesting to compare both average cost per discipline and rate of increase for this core list to the data shown in

TABLE 9: 1995 COST PROJECTIONS FOR TITLES IN ACADEMIC SEARCH

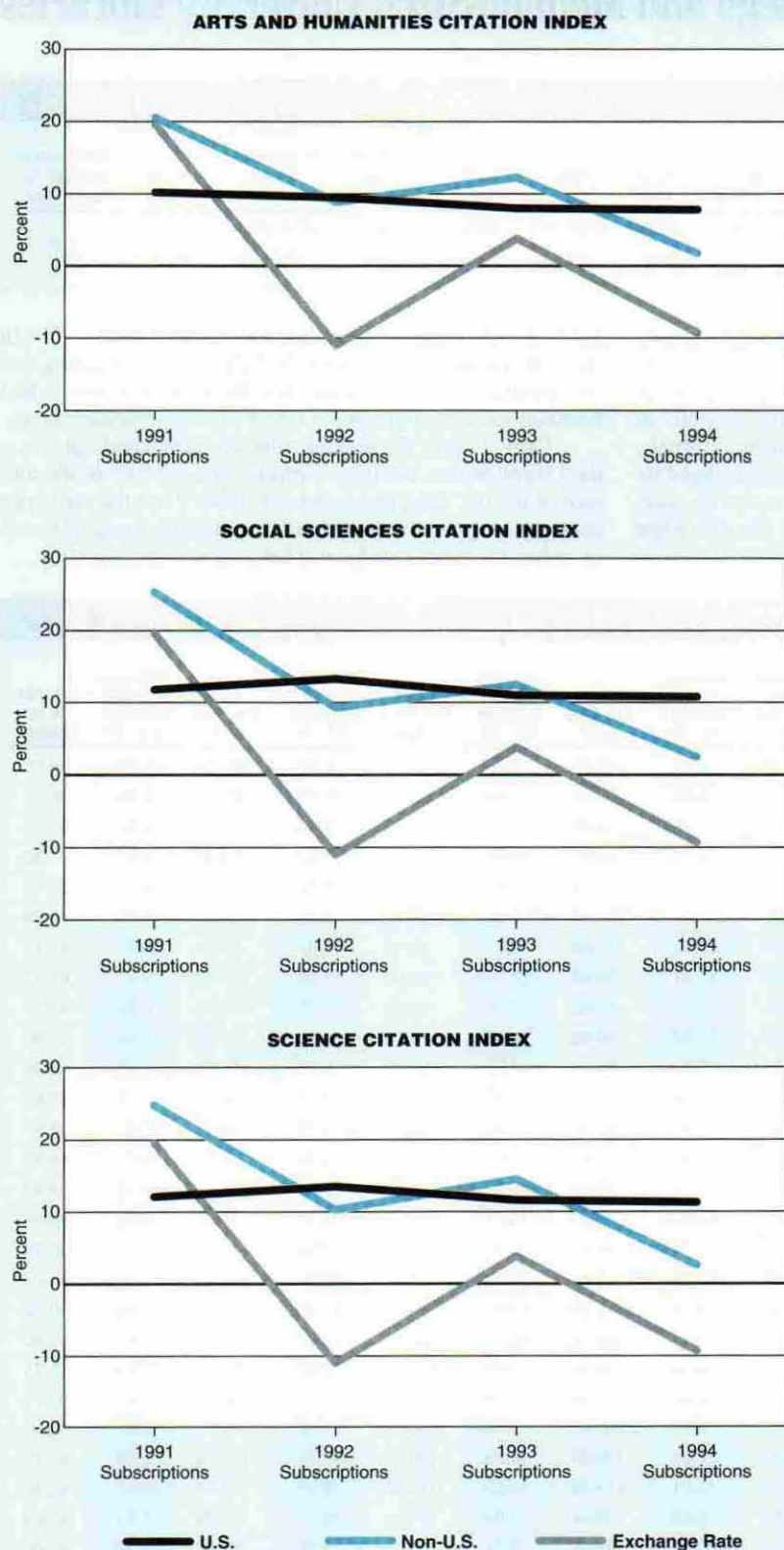
Academic Search	No. of Titles	% of List	1994 Cost	% of Cost	Projected % Of Increase	Projected 1995 Cost	% of Cost	Projected Overall % Increase
U.S.	1,467	79.6	\$128,118	60.3	10.0	\$140,930	60.9	9.0
Non - U.S.	375	20.4	84,324	7.5	7.5	90,648	39.1	

Table 2, which are drawn from the comprehensive ISI title list. The resulting range may be helpful as a planning tool for librarians whose periodicals collections fall somewhere between these two groups in terms of comprehensiveness.

Only 20% of these core titles are published outside of the United States, but they comprise almost 40% of the total cost of the list. Cost projections in Table 9 use the same percentages as those for the ISI indexes because these titles will be subject to very similar market and currency factors.

TABLE 10: COST HISTORY FOR TITLES IN ACADEMIC SEARCH

Subject	Average No. of Titles	Cost Per Title 1990	Average Cost Per Title 1991	Average % of Change '90 - '91	Cost Per Title 1992	Average % of Change '91 - '92	Cost Per Title 1993	Average % of Change '92 - '93	Cost Per Title 1994	Average % of Change '93 - '94	'90 - '94 % of Change
General Works	82	\$39.41	\$42.76	8.50	\$45.66	6.78	\$48.14	5.43	\$50.83	5.59	28.98
Philosophy & Religion	61	49.05	53.46	8.99	57.65	7.84	64.22	11.40	64.85	0.98	32.21
Psychology	47	115.65	124.73	7.85	134.89	8.15	143.29	6.23	154.27	7.66	33.39
History	135	49.14	53.91	9.71	60.82	12.82	65.09	7.02	69.48	6.74	41.39
Geography	16	66.17	74.23	12.18	76.86	3.54	79.37	3.27	82.83	4.36	25.18
Anthropology	21	86.22	97.95	13.60	107.14	9.38	110.82	3.43	123.00	10.99	42.66
Recreation	24	37.00	41.63	12.51	45.80	10.02	48.49	5.87	52.21	7.67	41.11
Business & Economics	427	102.56	120.93	17.91	135.63	12.16	150.90	11.26	165.19	9.47	61.07
Sociology	170	81.36	91.05	11.91	97.82	7.74	112.26	14.76	119.69	6.62	47.11
Political Science	44	56.34	62.58	11.08	68.20	8.98	71.05	4.18	75.49	6.25	33.99
Law	29	85.03	95.78	12.64	100.19	4.60	106.98	6.78	111.29	4.03	30.88
Education	129	59.22	65.00	9.76	70.31	8.17	78.77	12.03	82.23	4.39	38.86
Music	22	34.43	36.93	7.26	40.00	8.31	42.27	5.68	45.47	7.57	32.07
Art & Architecture	29	45.81	51.49	12.40	55.41	7.61	62.91	13.54	66.35	5.47	44.84
Language & Literature	141	41.66	46.65	11.98	50.72	8.72	53.51	5.50	56.18	4.99	34.85
General Science	27	90.76	107.03	17.93	118.60	10.81	121.09	2.10	131.02	8.20	44.36
Math & Computer Science	28	78.27	86.13	10.04	88.50	2.75	98.09	10.84	101.75	3.73	30.00
Astronomy	3	25.15	25.83	2.70	25.83	0.00	28.67	10.99	29.67	3.49	17.97
Physics	5	124.40	137.80	10.77	119.60	-13.21	164.40	37.46	173.60	5.60	39.55
Chemistry	9	462.25	512.56	10.88	606.11	18.25	694.67	14.61	733.11	5.53	58.60
Geology	13	118.92	130.26	9.54	138.78	6.54	152.97	10.22	156.68	2.43	31.75
Biology	23	175.29	189.70	8.22	202.52	6.76	227.85	12.51	246.70	8.27	40.74
Botany	3	91.67	96.00	4.72	101.67	5.91	118.33	16.39	121.67	2.82	32.73
Zoology	8	92.99	100.24	7.80	106.99	6.73	120.62	12.74	135.49	12.33	45.70
Health Sciences	117	89.80	100.32	11.71	112.18	11.82	118.48	5.62	126.08	6.41	40.40
Agriculture	20	76.27	90.59	18.78	96.97	7.04	111.65	15.14	113.05	1.25	48.22
Technology	51	78.74	94.55	20.08	107.57	13.77	116.28	8.10	127.40	9.56	61.80
Engineering	31	62.24	69.66	11.92	78.51	12.70	82.91	5.60	90.82	9.54	45.92
Food Science	20	38.12	42.26	10.86	46.19	9.30	48.56	5.13	51.02	5.07	33.84
Military & Naval Science	6	29.67	34.50	16.28	37.67	9.19	43.00	14.15	48.17	12.02	62.35
Library & Info. Science	39	81.48	97.82	20.05	112.47	14.98	122.80	9.18	124.65	1.51	52.98

CHART 1: COST & CURRENCY FLUCTUATION BY BROAD SUBJECT


The "exchange rate" line is based on an average of five major European currencies: the British pound; Dutch guilder; French franc; Swiss franc; and German mark. Each point on the exchange rate line represents the change in the composite currency's value as compared to the U.S. dollar (i.e., the change in how many dollars can be bought by a unit of the representative currency from one year to the next).

Our price projection of a 5.5% increase for European journals was conservative, based on a concern that the dollar could weaken before 1994 subscriptions were paid later in the year. Our projection for increases for non-U.S. publications turned out to be about 3% high because the U.S. dollar did continue to strengthen between February and November last year. Given the volatility of the international economy in recent years, this seems like a comfortable margin for budget planning in most academic libraries. Our prediction of a 10.5% increase for U.S. publications was very close to what actually happened.

Projecting 1995 costs is difficult because publishers are not yet saying much about rate increases for 1995 subscriptions. They are understandably reluctant to set rate increases too soon because of a volatile market. In the last few years, massive serials cancellation programs undertaken by research libraries in the United States have made journal publishers increasingly wary of projecting rate increases, despite libraries' need for early data for budget planning. European publishers will begin establishing fixed conversion rates in June. Contrary to their traditional practice of offering U.S. libraries a choice between paying in U.S. dollars at a fixed conversion rate or paying in the publisher's currency, some large European publishers are now offering only a fixed U.S. dollar rate. This practice makes it increasingly hard for U.S. libraries to discern exactly what part of a cost increase is attributable to currency fluctuation.

At this early date, based on current economic conditions and historical trends, we are projecting 1995 rate increases for academic libraries in the United States of 10% for domestic and 7.5% for foreign publications (see Table 6, p. 47). The 7.5% projection for non-U.S. publications is based on an assumed average rate increase of around 10.5%, the effect of which will be reduced by an estimated 3% due to the relative health of the U.S. dollar against most European currencies. The artful budget planner will tailor these early projections to his or her own budget philosophy and to the characteristics of the local collection, modifying the projection as new information from publishers, subscription agents, and economists becomes available later in the year.