

## CHAPTER I

### THE ENVIRONMENT

It is difficult from the vantage point of the 21<sup>st</sup> century to remember the prevailing climate of academic and research libraries in the mid 1980's. At that time, many libraries were just installing their first “integrated library system,” and expenditures for automation had placed a strain on the overall budget. In 1985 academic librarians were still adhering to a materials budget allocation philosophy of 50/50 for monographs and serials. Materials were, for the most part, being acquired in printed formats. The Internet was a telecommunications system being used by a few scientists and not yet heard of by librarians or the rest of society outside of academe.

As pressure on materials budgets increased in the mid 1980's, the “serials crisis” became the subject of much speculation, research, and angst. Studies of the journal pricing policies of publishing conglomerates revealed that, as librarians had suspected, the production of scholarly journals had indeed become big business.<sup>i</sup> At the same time, the scholarly monograph was becoming an endangered format as even university presses could not afford to publish many books for which sales would not cover editorial, production, and distribution costs.<sup>ii</sup>

In the latter 1980s the effects of external economic factors that were causing upheaval in the academic library arena were beginning to be recognized. The economic factors of increasing book production output abroad, increasing book prices, the effect of the escalation in serial subscription prices along with inadequate funding on the ability of academic libraries to purchase monographs, and the decline in the acquisition of foreign language materials are all germane to this study of academic library monograph collections for the last years of the 20<sup>th</sup> century. The

interplay of these factors in the 1980s and 1990s constitutes the background for this study.

## BACKGROUND

### **Book Production**

The increase in library collections, library expenditures, book and serial pricing, and book and serial production is traced in University Libraries and Scholarly Communication,<sup>iii</sup> as background to the fiscal crisis in research libraries in the 1980s. According to the Mellon study, book production in the United States and Europe began to increase after World War I and then to rapidly accelerate beginning in the 1960s. In 1971 the United States was producing 40 percent of the combined total book production of the United States and the six European countries of France, Germany, Switzerland, the Netherlands, the United Kingdom, and Italy. The U.S. share of total production had decreased to 34 percent by 1988, even though book production in the United States had risen by an average of 2.1 percent a year from 1971 to 1988.<sup>iv</sup>

Although the production of books was rising in North America for the period 1970-1989, book production in Europe was increasing at an even greater rate. Until the late 1980s, the six European countries with the largest publication output were each producing almost twice the number of titles as publishers in the United States. Since 1980 European book production has grown at a higher rate than production in the United States. According to the Mellon study, the number of titles being published, both in the United States and in the six European countries, increased at an average rate of 2 % a year from 1970 to 1988. The U.K., France, and Italy had the largest increases of between 3.5 % and 5 % a year, while Germany, which has the highest volume, increased at 2.6 percent. The United States had a lower increase of 2.1 %. In summary, according to the Mellon study, "the number of titles published in Western Europe has been greater than the number published in the United States and has increased more rapidly."<sup>v</sup>

The Mellon study found that between 1974 and 1988, university press output had far

outstripped library acquisitions increase rate, and the study also demonstrated that international publishing had increased ahead of the rates of increase of libraries' acquisitions for the period 1950-88. "From 1950 to 1970, U.S. libraries actually increased their buying faster than the European publishers increased their production, but the two curves began to converge after 1970 and actually crossed around 1980, with the publishers' output advancing at a rate steadily ahead of the U.S. libraries' acquisitions."<sup>vi</sup> It was in the contraction which began in the 1970s, in fact, that the gap between larger and smaller libraries narrowed most, as the largest libraries showed the sharpest contraction." Mellon syn p.3

In a paper given at the annual meeting of the Center for Research Libraries in April 1992, Knut Dorn of Harrassowitz characterized book production in Europe as a "stunning explosion of monographic publishing," which would "continue to be a major challenge to the collections of North American university and research libraries."<sup>vii</sup>

Production figures given for 1990 by Dorn were 61,000 new titles for the old Federal Republic and approximately 9,000 for the new federal states, the former GDR. Annual production figures from Britain were 67,000 titles, France 45,000, Spain 40,000, Switzerland, 10,000 and Austria 8,000. The combined German language areas served by Harrassowitz accounted for 85,000 new titles annually. The Soviet Union, prior to its breakup, claimed to be number one in book production with 90,000 titles per year. These figures contrast to 57,000 new titles reported for the United States in 1991.<sup>viii</sup>

From 1980 to 1989 world book production increased from a reported 715,500 titles to 842,000 titles, approximately an 18 % increase with a 58% increase in Third World publishing. The North American, Latin American and Caribbean, and European shares of worldwide book production declined during the 1980s, while the production from the Asian countries steadily increased in proportion to the rest of the world.<sup>ix</sup> These shifts confirm what the Mellon study

terms "'global' shifts in publication patterns."<sup>x</sup>

Shifts in book production occurred by subject fields as well as by geographic origin. A study tracking book production for the twenty years between 1972-1992 was performed by Celia Wagner using Blackwell's approval plan database.<sup>xi</sup> Blackwell's database contains bibliographic records for imprints selected as suitable acquisitions for academic library collections, primarily U.S. and European English language publications distributed in the United States. In 1972, 16,271 titles were treated for the academic approval plan. In 1992, 32,455 titles were entered into the database, an increase of 99.5 % in the twenty-year period or a doubling in the twenty years. By broad subject area the humanities/fine arts had an increase in number of titles of 62.6 %, the social sciences 90.8 %, and the sciences 173.1 percent. Thus over the twenty-year period, the humanities/fine arts had the lowest increase in book production, the social sciences increased nearly 30 percentage points more than the humanities, but the sciences had a stunning increase in book production compared to the other areas of knowledge.

The Mellon study also tracked book production for a set of subject fields determined to be the most relevant categories for academic libraries and revealed similar findings to that of the Wagner study. The humanities and certain social science fields declined as a proportion of total publication after 1970. The fields of biography, education, literature-poetry-drama, and art-music all declined. The largest decline was in the literature-poetry-drama category which prior to 1970 had a 17.2 percentage share of total publication but by 1981 was down to a 9 % share. The declines in the humanities were counter-balanced by increases in book production in professional and applied fields with a shift of nine percentage points into business, law, medicine and technology.<sup>xii</sup>

According to Dorn, since 1950 book production in the humanities had been "consistently higher than in the social sciences by...a ratio of 2:1." From 1988-1991, the ratio moved towards

an even 1:1. German language book production in 1991 was 38 % in the social sciences, 39 % in the humanities, and 23 % in the sciences. Dorn forecast that the major increases in book production in the future would come in the social sciences.<sup>xiii</sup>

### **Book Pricing**

During the 1980s the escalation in serials prices attracted most of the attention but, as the decade was nearing the end, the decrease in purchasing power for monographs caused the rising prices of books to be noticed. The Mellon study found that book prices for U.S. books as reported in Publishers Weekly increased at a rate greater than inflation in only four fields between 1980 and 1986. But in the latter half of the decade, book prices increased at a rate greater than inflation in all fields but law. The arts and humanities did not increase above the rate of inflation nor did the social sciences and business until after 1985. The two fields with the greatest price increases were technology and medicine which also had the highest average prices, a pattern similar to that of the increase in serial prices.<sup>xiv</sup>

The study by Wagner also tracked book price increases for the twenty year period 1972-1992. Adjusted for inflation the average price for all new monographs increased by 47.2% between 1972 and 1992. By broad subject grouping the increase was 24% for the humanities, 51.8 % for the social sciences and 42.8% for the scientific, technical, medical titles. The data from Blackwell's approval plan database show that book production had begun to level off by the end of the 1980s but that prices for all new monographs continued to rise with the sciences continuing to show the greatest rate of increase.<sup>xv</sup> While the proportion of total dollars the three areas of knowledge occupied in 1972 was 38% for humanities, 25% for social sciences and 37% for the scientific materials, by 1992 the proportions had shifted and the humanities had declined by 12 percentage points to 26%, the social sciences had declined slightly to 24%, and the sciences had increased by 13 percentage points to 50 percent.

An update of the Wagner twenty-year study for book pricing in 1996 found that for the ten years of 1985/86-1995/96, the trend in price increases had moderated.<sup>xvi</sup> For monographs in all subject categories, the average price in 1985/86 was \$32.48. By 1995/96, it had risen to \$54.32. For the ten year period 1985-1995 prices rose on the whole 67%, but they rose 43% in the first five years and “only” 17% in the second five years. By broad subject groupings the price increase was 17% for humanities/arts, 27% for the social sciences, and 25% for sci/tech/med for an average of 24% adjusted for inflation. In the humanities/arts, prices went up 58% over the ten years, but more than two-thirds of the increase took place before 1992. For the ten-year time frame, the prices of books went up faster than inflation but, as inflation slowed, so did the increase in book prices. As Wagner stated, “Books are “getting more expensive *more slowly*.”<sup>xvii</sup>

Although book production and book prices were increasing, other economic factors in the academic library environment worked against an increase in funding for monograph acquisitions. The main factor was the rapid escalation in serial subscription prices, making the serials budget into a “black hole” which swallowed an ever increasing percentage of the materials budget each year. The next section traces the effects of serial subscription increases on materials budgets and monograph acquisitions.

## **Materials Expenditures**

The Association of Research Libraries began tracking serials expenditures of academic libraries in 1975/76. Table 1.1 gives the serials budget as a percentage of the total materials budget for the academic library members of the ARL for the time period 1975/76-1995/96.<sup>xviii</sup>

Table I.1

Serials Expenditures as a Percentage of Total Materials Budget

for ARL Academic Libraries

| Year    | No. of libraries | Serials Portion |
|---------|------------------|-----------------|
| 1975/76 | 94               | 40.40%          |
| 1976/77 | 94               | 44.20%          |
| 1977/78 | 94               | 47.10%          |
| 1978/79 | 98               | 49.50%          |
| 1979/80 | 99               | 50.90%          |
| 1980/81 | 101              | 53.70%          |
| 1981/82 | 101              | 52.20%          |
| 1982/83 | 104              | 51.70%          |
| 1983/84 | 105              | 50.70%          |
| 1984/85 | 106              | 51.30%          |
| 1985/86 | 106              | 50.00%          |
| 1986/87 | 106              | 54.30%          |
| 1987/88 | 107              | 56.20%          |
| 1988/89 | 107              | 59.00%          |
| 1989/90 | 107              | 58.00%          |
| 1990/91 | 107              | 61.00%          |
| 1991/92 | 108              | 60.00%          |
| 1992/93 | 108              | 63.00%          |
| 1993/94 | 108              | 61.12%          |
| 1994/95 | 108              | 61.43%          |
| 1995/96 | 109              | 62.97%          |

It was not until 1979/80 that the serials portion of the total materials budget exceeded fifty percent (50.9%) for ARL academic libraries. Until that time, the monograph portion of academic library budgets received the larger share of the materials budget. A 50/50 split had been an accepted, albeit unofficial, “industry standard” in the academic library field for many years. This ratio might not be attained, but it was an ideal to which most librarians aspired.

During the first half of the decade of the 1980s the fluctuation of the serials portion of the total materials budget reflects a struggle on the part of the libraries to hold serials expenditures near the 50 % line. In the latter half of the decade the serials expenditures began to rise more steeply as the price increases outstripped budgetary increases. By 1988/89 the median for serials expenditures for the 107 ARL academic libraries was 59% of the total materials budget.<sup>xix</sup>

Although many libraries canceled serials subscriptions in an effort to contain serials

expenditures, the portion of the total materials budget spent on serials continued to rise throughout the 1990's. Serials expenditures reached the 60% level for half of the ARL libraries in 1991 with the median for serials expenditures hovering at 63% in 1995/96.

Although serial subscription prices began rising in the early 1980s, it was not until the latter 1980s that librarians realized that drastic action had become necessary to stay within the bounds of inadequate materials budgets. In 1990, the ARL Office of Scientific and Academic Publishing began an annual Quick-SPEC Survey to assess member library response to journal price increases. The results of these surveys were reported 1991-1997.<sup>xx</sup> The data and the comments from respondents document the mood of librarians and the strategies employed to cope with the inevitable annual increases in serial subscription prices. Each year of the survey over 50% of the responding libraries indicated plans to cancel serial subscriptions. In the first year of the survey, it was evident that librarians did not expect to ever regain the periodicals purchasing levels of the 1970s and 1980s.<sup>xxi</sup>

Table I.2  
Percentage of ARL Libraries Predicting Reductions

|          | Serials Cancellations | Monograph Reductions |
|----------|-----------------------|----------------------|
| For 1991 | 52%                   | 53%                  |
| For 1992 | 63%                   | 63%                  |
| For 1993 | 72%                   | 64%                  |
| For 1994 | 55%                   | 50%                  |
| For 1995 | 44%                   | 64%                  |
| For 1996 | 57%                   | 50%                  |
| For 1997 | 59%                   | 25%                  |

The percentage of libraries planning serials cancellations was below half of the membership in only one out of the seven years the Quick Spec survey was conducted. And only in the last year did the percentage planning reductions in monograph purchases fall to a relatively low one-fourth of the membership. (Table I.2)

In the second year of the survey mailed in September 1991, 63% of the responding libraries indicated planned serials cancellations and also cuts in monograph purchases. In 1993, a record 98 libraries replied to the survey. The answers indicated that “systemic changes and possibly upheavals are occurring in library buying.” In the first three years of the survey the number of libraries planning cuts increased each year. In 1993, 71 libraries (72%) stated their intent to cancel journals, compared with 63% (54 libraries) in 1992. The number of libraries anticipating cuts in monographic purchasing remained nearly [63] the same as the previous year at 64%. In 1993, twenty-seven libraries each indicated plans to cancel over \$200,000 in serials subscriptions.<sup>xxii</sup>

In 1994, the percentage was back down to 55% of responding libraries planning serials cancellations. Only 50% planned to reduce monographic purchases as compared to 64% the previous year. Comments indicated that libraries were trying hard to maintain book purchasing. Reductions in monograph purchasing were targeted at more expensive titles of over \$100, mainly in the sciences. The 1994 survey results were encouraging, with signs that the trends for cancellations and reductions were beginning to moderate.<sup>xxiii</sup>

For the 1995 survey, only 44% of respondents indicated plans to cancel serials. The indications were that high-priced disciplines in the sciences would bear the majority of the cancellations. The number of libraries trimming monographic purchases remained the same as the year before at 64%. However, respondents indicated they would be able to buy more books because of having cancelled a number of serial titles. The ability to buy books was directly linked to the loss of funding for monographs due to high serials prices. Libraries complained of a 20-30% loss in buying power for monographs.<sup>xxiv</sup>

After dropping in 1995, the rate of serials cancellations was predicted to increase in 1996. Fifty-seven percent of the responding institutions indicated they intended to cut subscriptions.

Although many of the libraries said they were not targeting specific publishers or disciplines, those which did reported the cuts would be heaviest in the sciences. About half of the libraries indicated reductions in monographic purchases. One comment was that they expected “to see small but constant erosion of monograph purchases overall as costs rise in other areas of the budget.” The report for the 1996 survey concludes, “...it is clear that annual serials cancellation has become a way of life for research libraries.”<sup>xxv</sup>

The report for 1997 indicated that fewer libraries (25%) anticipated trimming monographic purchases during 1997, the lowest rate since the Quick-SPEC surveys began in 1990. The comments indicate that libraries were trimming monographic spending “not only to support serials funding, but also to purchase electronic resources and subsidize document delivery.”<sup>xxvi</sup>

The Quick-SPEC surveys over a seven-year span show that the rate of serials cancellations had begun to moderate in the last years of the 1990s. Document delivery on demand and the mounting of full-text electronic databases, both locally and through networks, had begun to substitute for local ownership of serials. This shifting of funds enabled libraries to support the purchase of monographs, albeit at the already reduced levels of the latter 1980s.

The increase in serials expenditures as a proportion of the materials budget had to result in a corresponding decrease in funds for one-time purchases. There are several sources of data documenting the decline in the number of serials subscriptions held by academic libraries and the effects of serials cancellations projects on the resource base of U.S. academic libraries.<sup>xxvii</sup>

In 1985 the library market in the US accounted for \$852.5 billion (8.46%) of the net revenues of publishers for consumer book sales as reported by the Book Industry Study Group. The market percentage of purchases by libraries had decreased to 8.12% by 1990 and continued to decline to 7.57% in 1995 even though the total net dollar share had risen to \$1.454 billion.

The percentage of the total library budget spent on books decreased from 54% in 1987 to 50% in 1993 and continued to decline so that by 1995, the percentage spent on books was at 49%. In just under a decade, the percentage spent by all libraries on the average for books had declined by five percentage points. These figures are for the total library market comprised of public, school, college, and special libraries.<sup>xxviii</sup>

The figures given for the college market by the BISG show the same trends. In 1985 the college market was divided into 29.4% books and 52% serials and 18% other materials. In 1990 books had declined to 25.6%, serials were 60% and Other at 14.4 percent. By 1995 books occupied 20% of purchasing by college libraries, serials 68.4% and Other only 11.6 percent.<sup>xxix</sup> These figures are for the consumer book market and do not track purchases of academic materials, but they are for academic and college libraries, not bookstores. The total library market had declined 5%, but the college library market had declined 10% in 10 years. The BISG figures do show a pattern of expenditures for books declining with expenditures for serials and “other” increasing.

The U.S. Department of Education National Center for Education Statistics Survey Report for 3,000 academic libraries found that in 1994 current serial subscriptions represented 51% of materials expenditures while books and other printed materials accounted for 33%. Combining the categories of computer files and searches, computer hardware and software, and payments for bibliographic utilities, networks and consortia, 7% of the expenditures for information resources went for those categories in 1994, up from 5.3% in 1990.<sup>xxx</sup>

Primary Research Group conducted a random sample survey of all libraries at all levels of higher education and in both the private and public sectors in 1996 and again in 1998.<sup>xxxi</sup> Findings from the *Academic Library Budget & Expenditures Report* show that spending in real terms for books by academic libraries fell an estimated 10% between 1994 and 1996. In 1998,

spending in real terms had continued to decline, but slowed considerably to about 1.1%.<sup>xxxii</sup> The PRG data show that journal subscriptions had fallen by 2.42% in 1996 from 1994 and fell an estimated 2.33% in 1998-99, meaning that the rate of decline in journal subscriptions continued to be steady. The surveys found public colleges canceling more journal subscriptions than private colleges. While number of subscriptions declined, spending for journals increased by 1.76% from 1997/998 to 1998-99. Spending rose 4.18% per subscription in just one year. Spending had increased although the number of subscriptions had declined.<sup>xxxiii</sup>

These trends are very evident in the two main statistical series for academic libraries, the ARL Statistics and the ACRL Statistics. The 1998/99 edition of the ARL Statistics a section entitled “The Decline of Ownership,” included data analyses for the 1986-1999 time period. Table I-3 and Figure I-1 are from the ARL Statistics, 1998/99. Table I-3 contains data on the costs and expenditures of monographs and serials and the corresponding decline in purchasing. Figure I-1 graphs the data in Table I-3.

Table I-3

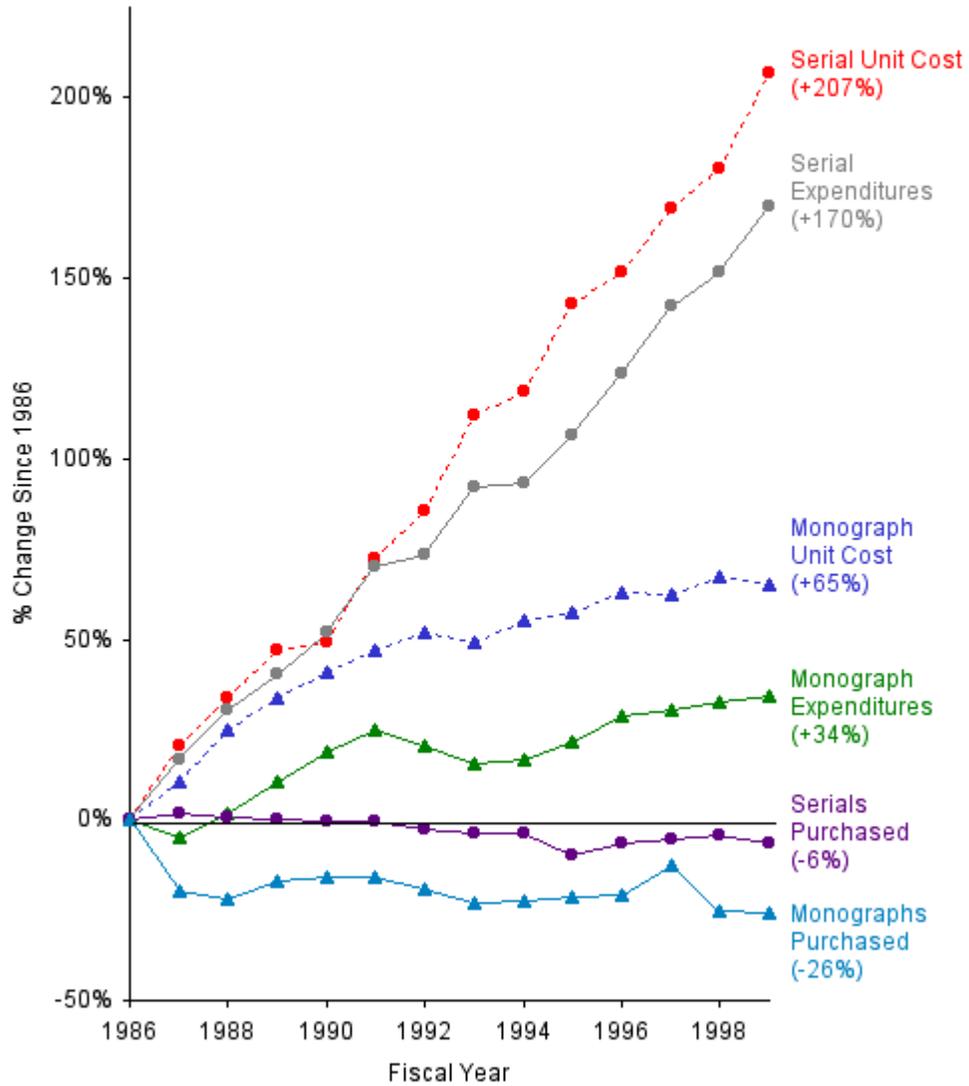
Monograph and Serial Costs in ARL Libraries, 1986-1999

| Year               | Serial Unit Cost | Serial Expenditures | Monograph Unit Cost | Monograph Expenditures | Serials Purchased | Monographs Purchased |
|--------------------|------------------|---------------------|---------------------|------------------------|-------------------|----------------------|
| (No. of Libraries) | (40)             | (103)               | (62)                | (99)                   | (40)              | (62)                 |
| 1986               | \$87.09          | \$1,517,724         | \$28.67             | \$1,120,645            | 16,312            | 32,679               |
| 1987               | \$104.79         | \$1,770,567         | \$31.79             | \$1,064,484            | 16,600            | 26,240               |
| 1988               | \$116.65         | \$1,979,604         | \$35.83             | \$1,141,226            | 16,456            | 25,570               |
| 1989               | \$128.22         | \$2,130,162         | \$38.39             | \$1,241,133            | 16,298            | 27,082               |

| Year                             | Serial Unit<br>Cost | Serial<br>Expenditures | Monograph<br>Unit Cost | Monograph<br>Expenditures | Serials<br>Purchased | Monographs<br>Purchased |
|----------------------------------|---------------------|------------------------|------------------------|---------------------------|----------------------|-------------------------|
| 1990                             | \$130.07            | \$2,304,744            | \$40.34                | \$1,330,747               | 16,221               | 27,545                  |
| 1991                             | \$150.02            | \$2,578,309            | \$42.16                | \$1,400,738               | 16,250               | 27,524                  |
| 1992                             | \$161.74            | \$2,630,827            | \$43.62                | \$1,353,865               | 15,896               | 26,344                  |
| 1993                             | \$184.49            | \$2,919,756            | \$42.76                | \$1,295,807               | 15,668               | 25,188                  |
| 1994                             | \$190.26            | \$2,932,091            | \$44.51                | \$1,309,807               | 15,698               | 25,341                  |
| 1995                             | \$211.48            | \$3,133,885            | \$45.13                | \$1,365,575               | 14,741               | 25,707                  |
| 1996                             | \$219.19            | \$3,393,307            | \$46.76                | \$1,444,015               | 15,223               | 25,911                  |
| 1997                             | \$234.55            | \$3,674,368            | \$46.58                | \$1,460,234               | 15,450               | 28,576                  |
| 1998                             | \$244.18            | \$3,818,832            | \$47.94                | \$1,486,764               | 15,615               | 24,447                  |
| 1999                             | \$267.09            | \$4,098,075            | \$47.40                | \$1,506,651               | 15,259               | 24,294                  |
| Average annual<br>percent change | 9.0%                | 7.9%                   | 3.9%                   | 2.3%                      | -0.5%                | -2.3%                   |

Figure I-1

Graph 2  
Monograph and Serial Costs  
in ARL Libraries, 1986-1999



The ARL Statistics report that in the thirteen-year period, 1986-1999, the median cost per volume of monographs purchased annually by ARL libraries increased 65 % while expenditures for monographs rose only 34 percent. The increased unit costs for monographs without a

corresponding increase in funding resulted in a decline of 26 % in the actual number of monographs purchased over the 14 year period. While the unit price for serial subscriptions rose 207%, ARL libraries purchased 6% fewer serial titles in spite of spending more than 200 times more money for serials subscriptions than in 1986. The ARL libraries spent 34% more on monograph purchases in 1998 than in 1986, but purchased 26% fewer titles.<sup>xxxiv</sup>

The trends for the large and medium-sized academic libraries in the *ACRL Statistics* are somewhat different from the *ARL Statistics*. Table I-4 contains the data reported for serials and monograph purchasing from the five editions of the *ACRL Statistics* 1987/1988-1994/95.

Table I-4  
Serial and Monograph Purchases by ACRL Libraries  
Medians for Purchases and Expenditures 1987/88 – 1994/95

|                         | 1987/88<br>(N=100) | 1988/89<br>(N=114) | 1990/91<br>(N=106) | 1992/93<br>(N=109) | 1994/95<br>(N=116) |
|-------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Monographs Purchased    | 10,940<br>(N=87)   | 11,856             | 10,410<br>(N=91)   | 11,495<br>(N=92)   | 12,587<br>(N=94)   |
| Serials Purchased       | 4,524              | 5,091              | 4,941              | 4,426              | 4,942<br>(116)     |
| Monographs Expenditures | \$379,237          | \$423,496          | \$405,095          | \$422,050          | \$453,012          |
| Serials Expenditures    | \$724,838          | \$779,873          | \$894,164          | \$1,081,777        | \$1,062,668        |
| Total Materials         | \$1,244,790        | \$1,339,383        | \$1,390,118        | \$1,751,073        | \$1,770,388        |
| Total Expenditures      | \$3,241,796        | \$3,458,607        | \$3,742,613        | \$4,247,851        | \$4,658,282        |

The median for the number of monographs purchased by the ACRL libraries actually increases from 1987/88 to 1994/95. The number of libraries reporting also increases over the

time frame. It is possible that a number of larger libraries began reporting which raised the median.. The number of serials titles purchased remains relatively stable over the time frame. The median expenditure for monographs does increase by 19%; serials expenditures increase 47% with only a 9% increase in the number of serials titles. There was a 42% increase in materials expenditures over the time period. The number of libraries reporting for the *ACRL Statistics* closely matches the number of reporting libraries for the ARL.

There is, of course, a large difference in the sizes of the research libraries in the ARL as compared with the sizes of the academic libraries in the ACRL. The difference in magnitude by absolute numbers for monograph and serial acquisitions between the two groupings can be seen in Table I-5.

Table I-5

ACRL and ARL, Number of Titles for Monographs and Serial Purchases

|                                  | <b>1987/88</b> | <b>1988/89</b> | <b>1990/91</b> | <b>1992/93</b> | <b>1994/95</b> |
|----------------------------------|----------------|----------------|----------------|----------------|----------------|
| <b>ACRL Monographs Purchased</b> | 10,940         | 11,856         | 10,4100        | 11,495         | 12,587         |
| <b>ARL Monographs Purchased</b>  | 25,570         | 27,082         | 27,534         | 25,188         | 25,707         |
| <b>ACRL Serials Purchased</b>    | 4,524          | 5,091          | 4,941          | 4,426          | 4,942          |
| <b>ARL Serials Purchased</b>     | 16,456         | 16,298         | 16,250         | 15,668         | 14,741         |

The increase in monographs purchased by the ARL libraries in 1988/89 and the decreases beginning again in 1992/93 can be seen. The ACRL monographs purchased in 1987/88 are 43% fewer than the number purchased by the ARL libraries. Yet, in 1994/95, the ACRL purchased 49% as many monographs as the ARL libraries. In serials, in 1987/88 the ACRL libraries purchased 27% of the number of serials that the ARL libraries purchased. By 1994/95, the

ACRL libraries purchased 34% of the number purchased by ARL libraries. While the number of libraries contributing to both statistical series varies from year to year, the medians can still be utilized to track trends in purchasing power. The ARL libraries definitely are losing ground in both the number of serials and monographs purchased, while the ACRL libraries show slight gains in the medians for both categories, serial and monograph. The volume of purchasing is dependent upon the level of funding.

Materials expenditures are a portion of the overall academic library budget. The next section looks at library budgets for the 1985-1995 time frame.

### **Academic Library Budgets**

Added to the economic factors which worked to erode purchasing power, an actual reduction in funding as a percentage of the total institutional budget was experienced by research libraries. In a study of academic library budget trends for the time period 1976-1989 in four year institutions classified by the American Association of University Professors in categories I, IIA, and IIB, Budd found that funding had declined significantly for all three categories of higher education institutions. Budd also found that the "data for percentages of library budgets expended on books and periodicals exhibit clearly defined trends....The percentage devoted to books is going down while that devoted to periodicals is on the rise."<sup>xxxv</sup>

The Mellon study found that in the 1980s libraries had not taken a larger percentage of the university budget, but that their percentage had shrunk,... "though it must be observed that the growth in library budgets of the last ten years have been much less pronounced in the colleges than in the universities."<sup>xxxvi</sup>

A Survey Report from the National Center For Education Statistics examined data for academic libraries from 1990-1994 with historical comparisons to earlier IPEDS data.<sup>xxxvii</sup> The data are organized according to the Carnegie classifications of Research I and II, Doctoral I and

II, etc. For the 1974-1994 time period, the percentage of total institutional E&G expenditures spent by libraries declined from 3.9% in 1974 to 2.9% in 1994, falling short of the 6 % ACRL recommends. And the percentage appears to be decreasing over time. The decline was 2 % in the total of E&G expenditures spent by academic libraries over the 1990-1994 period. The decline was experienced in all categories of libraries except the public Research I and II institutions. According to the NCES report, “Data on research libraries has shown that this goal [6%] has never been reached and in fact that the share has declined over the period of 1982-1992.”<sup>xxxviii</sup>

The NCES report calculates that total operating expenditures for all libraries in the survey grew from \$1.09 billion in 1974 to \$4.01 billion in 1994 in constant dollars (based upon CPI 1996). Research I and II institutions accounted for 40 % of the total expenditures while the Associate of Arts institutions accounted for 11 %. Between 1990 and 1994, overall library expenditures increased by 10.7 % in constant dollars.<sup>xxxix</sup> In constant dollars, expenditures per FTE enrollment were \$406 in 1974 and \$401 in 1994. The lowest expenditures per full-time equivalent enrollment occurred in 1981 (\$345) and 1990 (\$367). Expenditures ranged from \$142 per FTE enrollment in public Associate of Arts institutions to \$1,288 per FTE in private Research I and II institutions. Expenditures per FTE enrollment in private institutions were about double those in public institutions (\$658 and \$322 respectively). Between 1990 and 1994 overall expenditures per FTE enrollment increased by 4.7% in constant dollars with the exception of the Associate of Arts institutions which experienced a decline of 3.3%.<sup>xl</sup> The proportion of expenditures for salaries and wages has declined over the 20 years, going from 60 % in 1974 to 50 % in 1994.<sup>xli</sup>

The ARL Statistics show that the ratio of major expenditure categories to total expenditures for academic libraries have changed slightly but steadily. The Table I-6 shows the major budget categories as a percentage of total expenditures for a twenty year period.

Table I-6  
Major Budget Categories as a Percentage of Total Expenditures

|                          | 1975 | 1984 | 1988 | 1999 |
|--------------------------|------|------|------|------|
| Library Materials        | 31%  | 33%  | 33%  | 38%  |
| Total salaries and wages | 58%  | 53%  | 52%  | 47%  |
| Other operating          | 11%  | 14%  | 15%  | 14%  |

In the 1987/88 *ARL Statistics* Kendon Stubbs observed that “ARL is changing from the ‘classic’ 60/30/10 model for personnel/materials/other, to a 45/35/20 model. More and more, 15% of the budget that used to go to personnel is going to materials and other operating expenditures.<sup>xlii</sup> By 1998/99, the percentage for materials had increased due to high prices, but the percentage for staff and “other” was even lower than ten years earlier.

The *Academic Library Research and Expenditures Report* by Primary Research Group found that in 1996 academic library spending had increased by only 1.1%, but that in 1998 spending had increased an estimated 3.98%.<sup>xliii</sup>

In summary, academic library spending and budgets have increased in dollar amounts, but not in purchasing power or in percentage of institutional expenditures. All of these factors combined have had serious consequences for academic library research collections.

### **Effects of the “Serials Crisis”**

The Mellon study summarized the relationship between book and serial production, pricing trends and the inadequate funding of academic research libraries in the statement, “In the 1970s and 1980s, the rate of increase in volumes [non-serials] added at university research libraries virtually halted, while domestic and international publishing continued to produce

greater and greater numbers of new titles each year.”<sup>xliv</sup> One particularly disturbing aspect of the decline in purchasing power was that purchase of foreign language materials was thought to be suffering a steeper decline than that for English language materials.

### **Foreign Language Acquisitions**

The decline in acquisitions of foreign language materials was the subject of a report to the membership at the 1990 ARL spring meeting, "Research Libraries in a Global Context."

According to the ARL report, the acquisition of foreign language materials by North American research libraries began to decline in the 1970s. A few of the reasons given in the report for the decline are "the demise of government and cooperative projects for foreign acquisitions, the impact of inflation and devaluation of Canadian and U.S. dollars, the difficulty of finding staff trained in foreign languages, and an undercurrent of an English-only attitude among library users."<sup>xlv</sup>

The report further gives the escalation in serials prices as the major contributing factor in the cancellation of many foreign language serial subscriptions. Added costs for automation and preservation in the 1980s had combined with these factors to reduce seriously the acquisition of foreign language imprints.<sup>xlvi</sup>

Speaking at the annual meeting of the Center for Research Libraries in April 1992, Michael Keller attributed the decline in foreign acquisitions to a number of factors:

- The dollar declined 25% to 35 % between 1985 and 1990 against foreign currencies, the yen in particular;
- for-profit publishers successfully treated publication in the scientific, technical, and medical fields as a market commodity;
- there was increased scholarly output in interdisciplinary fields, as examples -- environmental research, molecular medicine, biochemistry and astronomy;
- increased emphasis on ethnicity and diversity in university curricular and scholarly

- activity;
- "twigging" which has resulted in excessive specialization in all fields;
- the "new world order" in Europe which has resulted in attention to an expanding universe of publication.

According to Keller, "All of these factors have worked to spread collection budgets broader and thinner and have worked against the acquisition of foreign language materials."<sup>xlvi</sup>

Keller made two points relative to the decline: 1) "that foreign imprints have declined as a portion of our annual intake of new publications in our libraries;" and 2) "that the percentage intake of foreign language publications of all genres has declined as well." Citing figures for Yale's foreign purchasing Keller stated that "In the 1970s, Yale's Library brought in about 12 % of the world's annual output of publications; in the latter part of the 1980s, that figure had shrunk to about 5 percent."<sup>xlvi</sup>

The severity of the decline in the purchasing of foreign monographs was confirmed at the Center for Research Libraries meeting by Knut Dorn of Harrassowitz. According to Dorn, from 1985 to 1989 approval plan purchasing of German monographs by North American libraries declined on the average by 20 percent. "Without an element of doubt," stated Dorn, "monographs ordering is at an all-time low." We have never sold as many monographs again as we did in 1985 and 1986."<sup>xlvi</sup>

While describing the severity of the decline in foreign language acquisitions the ARL report "Research Libraries in a Global Context" also acknowledges that the only data available on foreign acquisitions were supplied by the Library of Congress, Harvard and a few other research libraries. For the majority of ARL libraries, "An assessment of North American collections of foreign research materials is difficult because data on titles added by country of origin, expenditures for non-US and Canadian imprints, and size of holdings have simply not

been available."<sup>i</sup>

Subsequent to the report on the "Global Context," in 1992 the ARL and the American Association of Universities announced plans for a study of foreign acquisitions by eight world areas to establish evidence that there was a problem of declining foreign acquisitions. The assumption was that North American libraries were acquiring fewer items from overseas. The goal of the study was to design strategies and methodologies for identifying and addressing priority national needs in the area of foreign language acquisitions."<sup>li</sup>

The report of the AAU/ARL Foreign Acquisitions Project Task Force states that the institutional, national, and international context in which North American libraries operate had changed dramatically in the 1990s.

First, international developments have altered the economics of acquiring global resources. Second, the national context for area and foreign language studies is shifting from the national security concerns of the Cold War era to economic competitiveness and increased demand for research to solve specific economic or social problems. Thirdly, at the institutional level financial retrenchment has capped support for acquiring and making accessible global resources. In most ARL libraries, funds earmarked for these materials have not kept pace with the unrelenting increases in costs and volume of the world's publishing output<sup>lii</sup>.

The report further identifies nine factors as having the greatest influence over foreign acquisitions, including:

- Area-relevant library expenditures are natural and highly visible candidates for curtailment when institutional resources become constrained.
- The rapid increase in scholarly communication and collaboration across national borders

and new scholarly perspectives, such as cross-culturalism, are internationalizing scholarship itself.

- Cutbacks in foreign acquisitions are driven by local demands with little consideration of the effects on the entire North American access system for highly specialized global resources.
- Price trends of foreign publications document the sharp price increases that have occurred in East Asia, Latin America, Western Europe, and other overseas regions.
- The corollary costs of acquisitions, bibliographic control, and collection maintenance are disproportionately high for international materials.
- The pressures on research libraries have intensified as non-book formats--particularly electronic resources, audio cassettes and video-tapes--have become more prominent<sup>liii</sup>.

The overall summary is that the studies undertaken in the AAU/ARL project “provide persuasive evidence of a growing gap between the level of acquisitions of overseas materials and the explosion of global knowledge.”<sup>liv</sup>

As a result of the research conducted in the early to mid 1990s, the ARL and the AAU undertook to sponsor three Global Resources projects: the German Resources project, the Japan Journal Access project, and the Latin Americanist Research Resources project. In 1997, the Andrew Mellon Foundation gave funding to expand the joint initiative of ARL and the Association of American Universities to three additional projects and expand the scope of the Global Resources Program. The Program seeks to test new models that employ technology to maximize the aggregate acquisitions budgets for foreign materials; to build bridges to scholars and associations who use international materials in order to develop a better understanding of the research resources they need and how libraries can facilitate access to them; and to help create new models for recruiting and training future area specialists.

The ARL published an update on the AAU/ARL Global Resources Program in 1999.<sup>lv</sup> The projects to strengthen global resources begun in 1996 by AAU/ARL are reported as well as other issues related to the Global Resources Program. Data on trends in foreign book production which were reported in *Scholarship, Research Libraries, and Global Publishing*<sup>lvi</sup> were updated. The conclusion from the updated analysis remained the same as in the 1995 study: “Research libraries collection coverage of global publishing output is declining.”<sup>lvii</sup> Other observations from the updated data analysis were that a significant number of original foreign titles with older imprint dates are cataloged in OCLC yearly and that the level of foreign acquisitions has been surprisingly steady over the decade of the 1990s.<sup>lviii</sup>

There were other aspects to the economic effects on acquisitions in research libraries which had begun in the 1980s.

### **Scholarly Publishing**

By the early 1990s it was becoming obvious that libraries and vendors were not the only parties being affected by the rise in materials prices and the decline in library acquisitions. The effects were also being felt in the publishing world or, more specifically, the scholarly publishing enterprise. The “serials crisis” had become the “crisis in scholarly publishing,” affecting both trade and scholarly publishers.

As studies of the escalation in serial and monograph prices were presented at professional library conferences, resentment was rising in the library arena towards publishing conglomerates responsible for the most egregious annual increases. Publishers, in turn, began to resent the adverse publicity of the studies and the accusations of the more vocal critics in the library field. In the 1990s there were several working groups and symposia in which the major parties in the scholarly publishing arena attempted to foster a better understanding of the role of each party and

to seek solutions to the “crisis in scholarly publishing.” One of these attempts was the aforementioned joint AAU/ARL Task Force on Foreign Acquisitions. Another was the formation in late 1993 of the Joint Working Group on Professional and Scholarly Information in the Electronic Age sponsored by the Council on Library Resources and the Professional/Scholarly Publishing Division of the Association of American Publishers. The working group was made up of equal numbers of academic librarians and publishers. It was asked to “address common issues of value-added contributions in the emerging electronic environment, to identify the issues that need to be addressed for successful collaboration and to create and distribute a report summarizing its findings.”<sup>lix</sup> The Report of the working group released in 1996, described the situation in the mid-1990's:

Classic market forces are coming into play: libraries are canceling subscriptions...and looking to databases and “on-demand” document delivery to supply access to particular information needed by their communities. Publishers are starting fewer new journals: from 3,200 new journals launched in 1980 to fewer than 1,000 by 1990. Libraries have decreased purchases of scholarly monographs in order to maintain subscription budgets. This force, coupled with a general trend favoring journal publication as the preferred medium for scholarly communication, has caused the monograph, a format traditionally used by scholars in the humanities and social sciences, nearly to disappear. One publisher noted that his company, which published four hundred monographs in 1989, would publish only forty in 1995. While some university press directors argue that the monograph is not dead and still has a prominent role in some important publishing operations, others take the opposite view. Kenneth Arnold, formerly of Rutgers University Press, has announced that “the monograph as a viable economic base for university presses is now dead.” All agree that the average unit sales of monographs have declined

dramatically. It is no surprise that the opposing dynamics of these forces have led to conflict marked by hard rhetoric.<sup>lx</sup>

Whereas the scholarly publishing crisis began with concern over the serials pricing situation in the latter 1980s, a few years later the plight of the specialized scholarly monograph had begun to attract more attention. If commercial publishers of scholarly journals were seeing a decline in profitability as libraries began to cancel serials subscriptions, it was the university presses which were particularly hard hit. In addition to declining sales, the support of parent institutions which had once seen the mission of university presses as the venue for disseminating scholarly research-- work that obviously would not be sponsored by the commercial marketplace, these self-same parent institutions beset by the same economic woes on a macro level being experienced by libraries and presses--began to expect the UP's to become self-supporting. In this difficult economic environment, UP's began to make decisions that no one wanted to make in a scholarly environment. Specialized monographs with a limited market could no longer be published just for the good of the academy, a situation characterized by Sanford Thatcher, director of the Pennsylvania State University Press as the "divergence of scholarly value and market value."<sup>lxi</sup>

It was estimated in 1996 that between 25-30 percent of all new academic monographs were published by university presses.<sup>lxii</sup> To become self-supporting, University presses broadened the scope of their lists and nearly all began to publish more popular works to offset the lack of profit on specialized scholarly monographs. They also began to experiment with electronic publication of journals and backlist titles.

In September 1997, the American Council of Learned Societies, the American Association of University Presses and the ARL sponsored a symposium entitled "The Specialized Scholarly Monograph in Crisis or How Can I Get Tenure if You Won't Publish My Book?" From

the discussions at that conference, it had become clear that the scholarly monograph would have to undergo changes in editorial and publication format or medium to continue to exist. One of the outcomes of the Symposium was that librarians, publishers, and vendors realized that just as libraries are interdependent in terms of resource sharing, all segments of the scholarly publishing enterprise are also interdependent for production and sales.

By 1990, electronic publishing was being enthusiastically espoused as the solution to the high cost of scholarly materials, both monographic and serial. But by the mid 1990s, the problems with electronic publication were becoming apparent and general consensus was that it would be many years before electronic publishing would become the dominant medium for monographs.

Although electronic publishing had become the preferred medium for reference information and indexing tools by the latter 1990s, electronic publication of both books and serials had not progressed as far. Nearing the end of the 1990s, university administrators and faculty had finally begun to realize what the library community had known for several years. Numerous studies and symposia had served to establish that the current model for scholarly publication was no longer sustainable. As shown by ARL tracking, between 1986 and 1996, the cost of scientific, technical and medical journals had increased by 148% and the ARL libraries alone were spending 124% more on serials to purchase 7% fewer titles.<sup>lxiii</sup> And for all of the attention given to the “serials crisis” in both academe and the commercial press, publishers were still raising prices without any relationship to the cost of producing the products. A central factor in the serials pricing crisis was that a small number of European conglomerate publishers were the main suppliers of journals in the STM fields. As described by Gloria Werner, the University Librarian at UCLA, “knowing that it takes a spark to start a fire,”<sup>lxiv</sup> in 1998, the ARL took the lead in forming SPARC, the Scholarly Publishing and Academic Resources Coalition. By 2000,

the Coalition which was formed to provide alternatives to high-cost journals had reached a membership of over 175 institutions and consortia. The goals of the Coalition of major libraries and affiliates were –

- To create a more competitive scholarly communication marketplace where the cost of journals acquisitions, archiving, and use are reduced, and where publishers who are responsive to customer needs are rewarded;
- To ensure fair use of electronic resources, while at the same time strengthening the proprietary rights and privileges of authorship;
- To apply new technologies to improve the process of scholarly communication and to reduce the costs of production and distribution<sup>lxv</sup>

SPARC was committed to stimulating other models of scholarly publishing and sponsored two collaborative publishing programs designed to assist in the formation of high-quality electronic journals in the STM fields.

- the SPARC “Alternatives” program to support lower-cost, directly-competitive alternatives to high-priced STM journals in important fields and
- the SPARC “Leading Edge” program to support ventures that contribute to a paradigm shift in technology use, introduce or demonstrate innovative business models, and/or address the information needs of an emerging or fast-growing STM field.

These initiatives were designed to stimulate ventures which would operate on a non-profit basis, principally within academe. As Werner said, “SPARC is helping scholarly communications change course. Active participants take considerable pleasure in its David vs. Goliath attributes and the fact that they’re putting their money where their proverbial mouths have been.”<sup>lxvi</sup>

While publishing of books and journals in electronic format was progressing slowly in the

1990s, the production of electronic indexes and reference information had rapidly secured user acceptance and user demand.

## **Electronic Resources**

The period between 1985 and 1995 divides easily into two five-year periods at 1990. The first five years can be characterized as a period in which purchases by libraries were still overwhelmingly for print formats. The purchases of CD-ROM products began in the later years of the 1980's. By 1990, libraries were purchasing indexing and abstracting tools on CD-ROM, and other reference products and single collection products were being produced in CD-ROM. Thus, the first five-year period (1986-1990) is not greatly affected by the purchase or licensing of electronic resources. In the second five-year period (1991-1995), it can be assumed that expenditures for electronic products were affecting the traditional serial/monograph print ratio in the library budget. However, it was observed in the NCES Survey Report that while new electronic media were growing in importance in 1994 only a small fraction of recorded knowledge was available in electronic formats.<sup>lxvii</sup>

Data for the growth in expenditures on electronic resources are scant. In 1993/94 the ARL inserted "Computer Files" as a new category of data in the ARL Statistics. In that year the university libraries median for computer files was 1, 183. In 1994/95 it was 1,804 and by 1995/96 it had risen to 2,441.

Williams has tracked growth in number of vendors, producers, databases entries, and databases for the twenty years 1975-1994.<sup>lxviii</sup> These data cover the worldwide database industry and are independent of the media in which databases are distributed and accessed. From 1985-1994, bibliographic databases grew by 67 % and full-text databases grew by 547 percent. In 1994 there were more than 3,642 full-text databases and according to Williams, "much of the

growth is due to the great increase in full-text databases on CD-ROM.” By 1994, the CD-ROM format comprised 20% of total by media type.<sup>lxix</sup>

Williams also interestingly notes that “Producer status has changed considerably from the late 1970s when governments were responsible for 56% of databases and not-for-profits and commerce/industry each produced 22 percent. In 1994 commerce/industry was responsible for 76%; governments, 14%; and not-for-profits, including academic, 10 percent.”<sup>lxx</sup>

Beginning in 1991, Tenopir and co-authors conducted three surveys of reference departments in ARL libraries: in 1991, 1994, and 1997.<sup>lxxi</sup> These surveys track the increasing use of electronic reference sources and the changes in the electronic media utilized. It is clear from the findings of the three surveys that, since 1991, academic libraries have been migrating from mediated searching for which the end user was charged a fee to provision of indexing and full-text through vendor database packages accessed via the World Wide Web. In the early 1990s libraries provided electronic databases mainly through stand-alone CD-ROM stations. In the mid-90s, the CD-ROMS were networked on a local LAN or databases were tape-loaded into the local online catalog system. By 1997, the trend was provision of electronic databases through consortium purchasing and WWW access. In the mid-90s it was becoming increasingly common for university libraries to provide remote access to locally purchased and mounted databases through the library online system. According to Tenopir and Ellis, “CD-ROM and locally-loaded databases may not yet be dead, but they are at the beginning stages of failing to thrive. The trend toward remote access and away from locally-held resources has several motivations. One is the ease of passing on to another organization—whether it is a commercial database service, a consortium, or a Web server—the burden of loading and maintaining databases. What the accessing library gives up in control is often made up in lower hardware requirements, ease on systems staff, costs, and hassle....As we move into the next decade, a trend seems to be emerging.

Print collections will be the medium of choice for locally-held reference materials that remain; digital services will increasingly focus on connecting to information housed elsewhere.<sup>lxxii</sup>

Primary Research Group found that spending for CD-ROMS by the libraries in their survey had begun to slow by 1998. Only 17% of the academic libraries planned to increase CD-ROM spending while 26% planned to decrease the number of CD-ROM subscriptions. Decreases were occurring more in the medium-sized and larger libraries. Spending for commercial on-line services had increased an estimated 7.5% in 1996, but had risen by 15.7% in 1998-99. More than 60% of the libraries said they accessed commercial databases through the Internet access option offered by commercial database vendors. “The data seem to suggest that the Internet is slowly becoming a pathway to the for-fee commercial database world, rather than a competitor to it.”<sup>lxxiii</sup>

In addition to the purchasing or licensing of electronic information products, the hyper-linking to sites on the WWW had become a major reference activity in most libraries. The library website through which users could access both resources being paid for by the library and “free” Internet information through the WWW had become commonplace by the end of the 20<sup>th</sup> century. An Internet survey in February 2000 by Intner on the “Impact of the Internet on Collection Development,” asked about the “collection” of Internet sites by libraries. Those responding indicated that they regarded Internet resources as they did information in any other medium to be collected for the library. Each department has links to useful sites on the library’s homepage; Internet resources are bookmarked on reference computers; websites were being cataloged; and “web-liographies” were created. It was clear that the Internet was not just an information resource, but that libraries also used the online ordering options available from both traditional book and serial vendors as well as from new e-commerce merchants.<sup>lxxiv</sup>

By the beginning of the 21<sup>st</sup> century, the number of electronic journals was indeed beginning to accelerate as was the number of journals available full-text through vendor

licensing. Whatever the expenditures, there can be no doubt that the growth in electronic databases and electronic journal publishing was a factor impacting library materials budgets

## Summary

The mid decade of 1985-1995 had been a watershed era. At the beginning library collections were almost exclusively printed materials, with the exception of those areas of the arts in which video and audio media formed materials of study. By the end of that mid decade, electronic formats had become preferred for indexing and abstracting. Library networks had become the preferred venue for the mounting of electronic databases, including full-text journals. There were a number of “virtual libraries” under construction. Although the problems with electronic publishing had become obvious, there was no doubt that digital formats were becoming the preferred format for many types of publications.

This study depicts the landscape of academic library monograph collections for the mid-decade of 1985-1995. Print monographs entered that time period as the favored format, were fighting for survival by 1990, and had again become recognized as a durable and popular format by the latter 1990s as the realities of digital collections and electronic publishing had set in.

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