Introduction

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THE CONCEPT THAT LIBRARIES are systems or organizations consuming and deploying capital and recurrent resources that can be optimized is a relatively recent one. Little in the structure of the college or university has given the librarian any incentive to think in economic terms. Indeed, there are some inducements not to economize. There is no profit motive to inspire the librarian, and no paying market for library services. These observations have been paraphrased from the final paper by Maurice Line, a career librarian. They state well the situation in which academic librarians find themselves.

In McKenzie's paper, the fundamental notions of economic choice and efficiency are explained in the context of a competitive market. He also points out what might be quite relevant to a study of libraries — that markets are not efficient if there are costs and benefits involving parties not directly involved in the transaction (i.e., third-party costs and benefits). Since these are difficult to measure (see King's and Braunstein's papers), this would seem to argue against modeling the library along market lines. Nevertheless, McKenzie's message is one of praise for application of the pricing system where it has not been tried before. The King and Braunstein chapters also suggest pricing policies.

According to Cohen and Leeson, during the period 1967-77 the total

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current funds for academic libraries increased from $416 million to $1250 million. In terms of real dollars, this increase is a less impressive 66 percent. A further negative note is that per capita student support began to decline in 1973.

While academic libraries get most of their money from their own universities, and in some instances have substantial gift and endowment incomes, the chapter by Drake and Olsen is pessimistic about such income in the future. Federal aid is noteworthy, particularly when total federal expenditures to libraries are considered.

Two main conclusions of Cohen and Leeson's analysis involve the allocations aspect of library budgets. While materials expenditures rose relative to salaries during the years 1960-69, the subsequent trend was in the opposite direction. Also, during the years 1970-76, materials budgets were redistributed in favor of serials at the expense of books.

According to King, the expense of materials to academic libraries has increased faster than allocated budgets. While these budgets were increasing at a rate of about 8-10 percent per year (1973-76), publishers of scientific and technical journals increased prices to libraries by nearly 12 percent per year (1975-77). King considers the economics of user charges. He distinguishes between average cost and marginal cost pricing policies for different information services, such as on-line searches, photocopying and interlibrary loans. The "externalities" of scholarly use of materials have to be considered in making pricing decisions. Economizing on journals through resource-sharing has a "catch-22" in that it may lead to higher publishers' prices and thus no net gain for the economizing library.

The influence of library size is probed by Michael Cooper. The observable outputs of a library include materials cataloged, reference questions answered, and items circulated. He reports on an empirical investigation of public library operations to determine whether economies or diseconomies of scale exist, thus providing an in-depth analysis of the cost side of library operations. How are these costs affected by a library's size? While his econometric estimation is based on public libraries, the results should be applicable to academic libraries. His findings are that costs are proportional to output levels. This means that average costs (costs per unit of output) are the same regardless of the size of a library and the population it serves. Of course, Cooper's study, as he acknowledges, has to set aside the important question of quality of output.

As pointed out by Braunstein, the library has a number of important competitors providing channels to information. These include on-line retrieval services and information brokers. Users are assessing the ways in which these various sources meet their information needs and are making choices. Use of a library by an individual causes costs to be incurred by that individual, by the library and by other users. The kinds of invisible costs that the economist delights in making explicit are spelled out in this article, e.g., the time, money and effort spent going to the library and the loss of time caused by other users (marginal congestion costs). Braunstein concentrates on the costs to the library as the basis for pricing policies. Consumer surplus (the excess of benefits over cost) is greatest when prices are charged. An offsetting factor is the invisible "transaction costs" necessary to collect fees. Unfortunately, user (and third-party) benefits are more difficult to quantify than costs. In considering implications for library organization, Braunstein also notes that "production complementarities" may argue for integration of multiple library services. Pricing of individual services becomes more complicated, however, with costs necessarily being based on the combination of many different services. He points out that tailoring service to the needs of patrons is a cost-saving strategy.

The chapter by Drake and Olsen turns to the "nirvana" of economists and librarians alike — technology and innovation. Innovation makes the great leap possible — more output for the same expense, or the same output for less expense. Financial pressure will force libraries into innovative strategies. The likely result will be a substitution of capital for labor in the production function (a concept also discussed by Cooper). Future trends include declining relative costs of computer hardware and electronic communications, compared with rising prices of goods and services (including payroll). These will radically change the nature of the library industry. Networking will be more common, the range of services offered will be more diversified, and new financing arrangements, including fee-for-service, will evolve. The significance for libraries of the physical plant may also be modified as information is transmitted directly to work sites or residences. The risks inherent in innovation will not stem the tide of change.

Line's concluding chapter documents with gentle humor the responses of librarians to financial pressure. These are classified as traditional, perfectionist, cultural, passive resistance, mañana, political, psychological, mini-economic, pseudo-economic, marginal-economic, false economic, and overkill. While his caricatures are chiefly of those who resent economic reasoning, he also pokes fun at the relentless quantifier — the "hypereconomic librarian." Line reserves some of his satire for psychopathology of faculty, students and administrators. Despite this, he urges that the ultimate goal of librarianship — the maximization of service to patrons — must be preserved; the means to this end, however, is economic behavior. The library must be run economically to provide the best possible services with limited financial resources.

Drake and Olsen state succinctly the principal message of this issue: changing economic conditions and pressure for greater productivity from resources in the public sector will be major factors in stimulating innovation. It is clear that institutions of higher education can no longer afford traditional libraries and comprehensive collections. Increasing wage rates, decreasing costs for technology and communication, and changes in consumer demand will force reallocation of library resources to provide funds for capital investment and more responsive service.

For these reasons, college and university libraries, as they have come to be known over the past century, may face revolutionary changes in their scope, nature and structure if they are to function as reasonably effective instruments in service to scholarship. In the end, it will be economics that will force this revolution. It is to this belief that this issue of *Library Trends* is dedicated.