Volume Title: Higher Education and Earnings: College as an Investment and Screening Device

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Volume Publisher: NBER

Volume ISBN: 0-07-010121-3

Volume URL: http://www.nber.org/books/taub74-1

Publication Date: 1974

Chapter Title: Appendix K: Estimating Private and Social Costs of Higher Education

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Chapter URL: http://www.nber.org/chapters/c3666

Chapter pages in book: (p. 253 - 254)

Appendix K: Estimating Private and Social Costs of Higher Education

The purpose of this appendix is to describe briefly the procedure followed in estimating the private and social costs of higher education used in calculating the ex ante and ex post rates of return. The two main components of social costs are current expenditures by institutions of higher learning and a return on capital used by such institutions.[1] We assume a 12 percent return before depreciation on this capital and, following Becker, that taxes on such institutions, if they were not tax-exempt, would have been 1.5 percent of the value of the capital. We assume further that 71 percent of the business of higher institutions is educational (rather than research-oriented). Consequently, we estimate the social cost per student as

$$0.71 \ [(0.12 + 0.015) \ xP + E]/N$$

where P is the value of plant and plant funds, E is current expenditures, and N is resident enrollment in institutions of higher learning.[2] Data are available to make these estimates for 1946, 1948, 1950, 1952, and 1954, and we have interpolated linearly to obtain the intervening years. These estimates are presented in Table K-1.

According to Becker, private tuition costs were $228, $209, and $242 in 1949, 1956, and 1958, respectively. We have used the value of $228 in 1949 and have adjusted this figure by the Consumer Price Index to obtain estimates for 1946, 1947, and

[1] The basic data used in calculating social costs are taken from various editions of the *Statistical Abstract of the United States* (U.S. Bureau of the Census, 1965–1969).

[2] Although these data for plant are in historical dollars, our estimates agree with the more systematic estimates provided in Becker (1964).

1948. For the period 1950–1954, we approximate tuition costs by assuming they do not change from their 1949 value of $228. Finally, we increase each of these figures by 53 percent for such education-related expenses as travel, books, and so on. Our estimates appear in Table K-1.

TABLE K-1
Estimated social and private costs of higher education, 1946–1954 (in dollars)

Year	Social cost	Private cost
1946	619	273
1947	640	326
1948	658	349
1949	724	349
1950	790	349
1951	917	349
1952	1,044	349
1953	1,082	349
1954	1,119	349