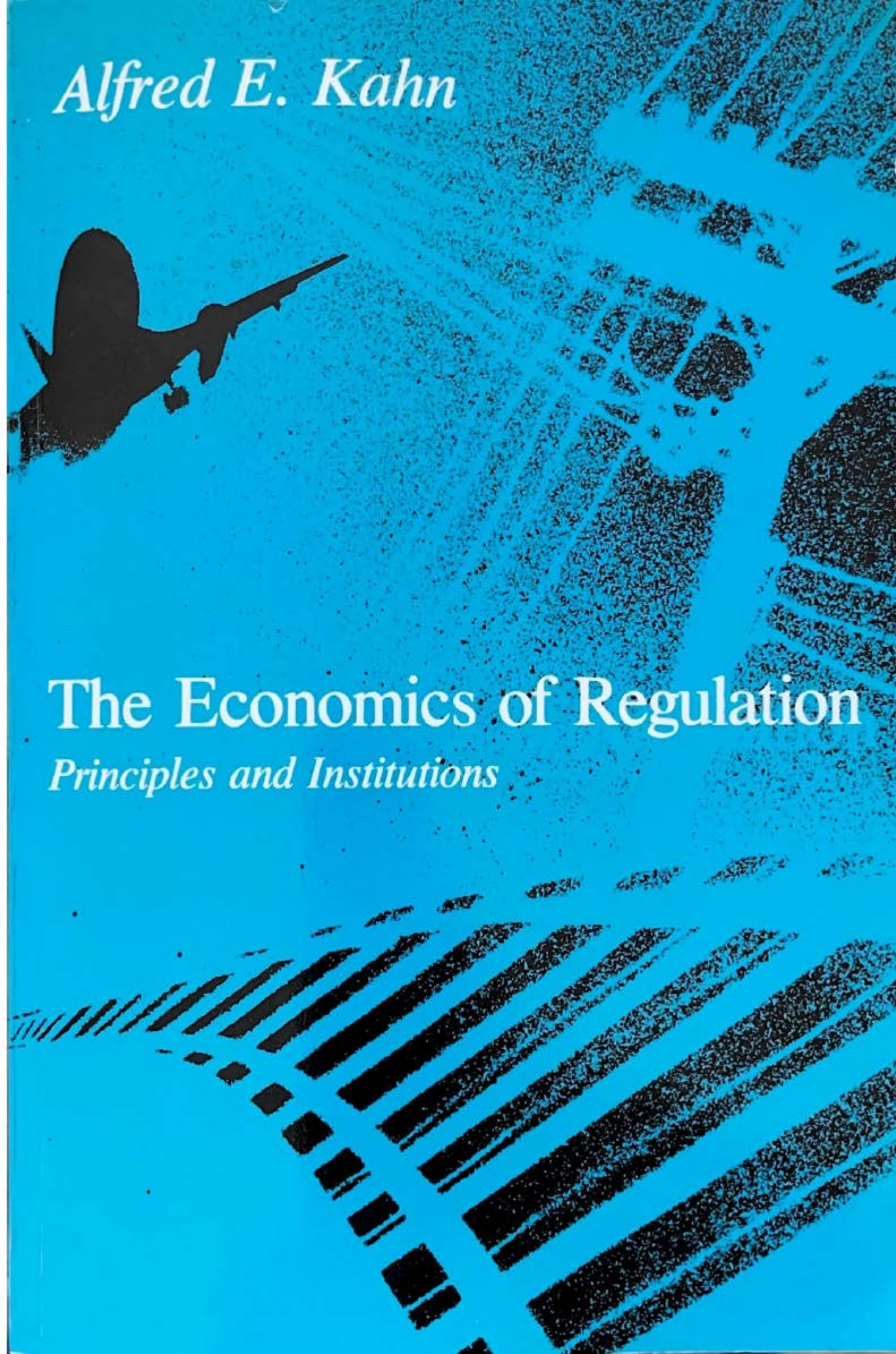


Alfred E. Kahn

The Economics of Regulation

Principles and Institutions



than would be indicated by that ratio.⁶⁸ Any successful effort by utility commissions to hold earnings on the companies' rate bases thereafter to the low rates suggested by those ratios would surely have resulted in a deflation of security prices, and, by thus increasing earnings/price ratios, have demonstrated that the true cost of capital was higher than they had originally inferred.⁶⁹ But how much higher, it is impossible to say with any precision.⁷⁰

4. Is there need for consistency between the basis on which the cost of equity capital is determined and the rate base to which it is then applied? If the

current dividend/price ratio plus that anticipated percentage growth: $k = D/P + g$. For a fuller explanation, see the Appendix to this chapter, which reproduces a very lucid account by Herman G. Roseman.

To some extent, g results merely from the reinvestment of earnings. If a company earns 9% on book equity, distributes 2/3 and reinvests 1/3 (that is, 6% and 3% of book equity, respectively), the book value of each share of stock will grow 3% a year and dividends may therefore be expected to do the same on this account, *ceteris paribus*. If 9% is also the cost of capital, the market value of the stock will be equal to book (see footnote 69, below) and $(D/P) + g$ (in this case 6% + 3%) will, as far as this source of growth is concerned, be the same as the earnings/price ratio, E/P (9%). The problem arises when g is expected to be greater or less than what would result merely from the reinvestment of earnings. See for example the estimates referred to in note 70.

⁶⁸ That certainly had been their experience during the preceding years. An investment of equal amounts in every stock traded on the New York Stock Exchange in December 1950 would have yielded an investor 15.0% compounded annually, in dividends and capital appreciation, by December 1960; a similar investment in December 1955 would have yielded 11.1% by

the later date. See L. Fisher and J. H. Lorie, "Rates of Return on Investments in Common Stocks," *Jour. of Bus.* (January 1964), XXXVII: 5. During the first period E/P ratios dropped continuously from over 15 to less than 5%, during the second its range was from about 8 to 5%. Board of Governors, *op. cit.*, note 66. Obviously what dropped E/P ratios was investor expectations that they would continue to see this kind of growth in earnings and market value of their investments.

⁶⁹ On the other hand, the sharp appreciation in the prices of public utility stocks, to one and a half and then two times their book value during this period, reflected also a growing recognition that the companies in question were in fact being permitted to earn considerably more than their cost of capital. Perhaps, indeed, the discrepancy was growing over time: as the data in note 76 demonstrate, the return on equity among the public utilities increased markedly relative to manufacturing in the two decades after World War II. See Miller and Modigliani, *op. cit.*, *Amer. Econ. Rev.* (June 1966), LVI: 386; David A. Kosh, "Recent Trends in the Cost of Capital," *Public Utilities Fortnightly* (September 26, 1963), LXXII: 19-26. Suppose, for example, the following skeletal balance sheet of a regulated company:

Net plant

100

Equity

Common stock (10 shares)	50
Surplus	50

And suppose the true cost of capital is 10%. If the regulatory commission permits the company to earn 10% on its net plant, valued at original cost, the profits will be \$1 a share, and, *ceteris paribus*, investors will buy those shares for \$10: market value and book value will coincide. But the market value will exceed book value if the commission permits a return in excess of the cost of capital: if, for example, it allows 15%, this will yield \$1.50 a share, for which investors will bid \$15.

But suppose, to illustrate the point in the text, the commission had been allowing only the true cost of capital, 10% or \$1 a share, but investors had bid share prices up to \$15, yielding currently

only 6⅔%, because they expected to get the other 3⅓% from future increases in earnings and appreciation of the securities' prices. If in this event the commission took the 6⅔% earnings/price ratio to represent the cost of capital, it would permit earnings of only \$0.67 per share, and the market price of the securities would collapse either to the book value of \$10, if investor confidence in future trends continued unshaken, or down to \$6.67, if those favorable anticipations were now destroyed.

⁷⁰ Since the true cost of capital (k) may be taken as equal to $(D/P) + g$ (see note 67), some company witnesses in regulatory proceedings have attempted in various ways to make plausible