longer-run objectives. It is clear, however, that a case-by-case analysis of structural deficiencies is a slower process, as NBPI experience makes plain, and is not possible on a comprehensive basis. Those who are restrained soon feel that the policy is inequitable, and cooperation deteriorates. Clegg's proposed resolution of the tension is to establish a fully independent tripartite enforcement body with prior negotiation and agreement over norms by labor and management. This will strike many observers as utopian, for experience in other countries indicates that either the parties to collective bargaining cannot agree on the guidelines of the policy or, when agreement is present and enforcement is stringent, efforts at a long-run policy invite wage explosions among even the most disciplined labor movements.

Neither author raises the more basic question of whether the ultimate achievements of an incomes policy are very sensitive to the choice of administrative apparatus. The experience from several countries indicates that short-run objectives of incomes policy are best achieved in periods of labor surplus, but in the United Kingdom the policy was usually attempted in periods of labor shortage. In these situations incomes policy was an inappropriate instrument for the problems at hand—deflation or devaluation were more appropriate for treating the underlying short-run structural problems—and it is doubtful that the deterioration of the policy would have been delayed by alternative administrative arrangements.

The same question can be raised concerning the long-run objectives that concern Clegg and that were the main concern of the NBPI, as Fels's careful account indicates. The problems are very real, but as Fels notes, it is extremely difficult to discern the direction of impact of the NBPI. Indeed, it is not at all clear that the road to long-run reform of pay systems, work practices, etc., is via an instrument whose life is limited, given the nature of its short-run assignments.

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Capital Budgeting: The Public and Private Sectors. By A. JAMES BONESS. New York: Praeger Publishers, 1972. Pp. 190. $12.50.

This volume is an attempt to draw together certain topics in the private capital budgeting process and the public capital budgeting process. The discussion and conclusions deal specifically with investment in research and development in the aerospace industry, and the economic aspects of the military-industrial complex. As the author points out, investment decisions in research and development (R & D) deserve considerable attention, not only because the data required for investment analysis are difficult to obtain, but also because the intangible assets resulting from investment in research will frequently have a longer economic life than technologically durable physical assets. The author states in chapter 1 that the book is aimed at two audiences—"students with some training in economics" and "readers with practical interest in the area, but no recent academic preparation." To students with training in economics, the book points out some of the difficulties in translating economic theory into practice but presents little new information. To readers with practical interest in research and development decisions, the book offers interesting insights into the economic rationale underlying the structure and decision processes of the aerospace industry, but gives little practical guidance toward improved investment decisions.

Chapter 2 starts with a discussion of private-sector capital budgeting theory and practice, in which the well-known controversies are summarized. A discussion of the distinction between mathematical programming and the "programming" of a planning-programming-budgeting system seems a little overdone. Much of the chapter is devoted to the difficulties of applying conventional financial analysis to R & D projects because of (1) the high risk element in R & D investments and the difficulty of estimating the marginal cash flows and their variability, (2) the organizational rigidity (and consequent high fixed charges) of R & D operations, and (3) the need of balancing R & D and production investment.

Chapter 3 is a synthesis of extent private-sector literature on cost of capital, with numerous numerical illustrations. The discussion of optimal capital structure is somewhat confused, and the confusion is increased by erroneous identification on figure 3.1.

Chapter 4 deals with investment criteria and practice in the public sector. Emphasis is given to justifying the need for public sector investment and the difficulties of measuring both the value of and the degree of attainment of public goals. The author maintains that social benefits cannot be measured in dollars, and that therefore the private-sector approach to choice among investment alternatives is not directly transferable to the public sector. The peculiarities of investment and budgeting for R & D are examined.

Chapter 5 approaches the question of the public cost of capital. The author supports the classical position that the public cost of capital must be dependent on the marginal cost of capital in the private sector. That is, the cost of capital is the best alternative yield, public or private, that could be earned if the least beneficial investment in the public budget were not undertaken. However, he holds that this cost is not operationally measurable in a decentralized system. After much discussion, it is concluded that the social cost of capital can be approximated by the riskless rate of yield on treasury bonds.

Chapter 6 is a verbal discussion of the externalities of investments in production and technological change. Anecdotal evidence of external benefits of public-sector research efforts is presented, and a case is made for competitive research efforts on the basis of the value of information. A verbal argument to explain the tendency of certain firms to specialize in R & D is presented.

Chapter 7 is a case study of R & D expenditures in the aerospace industry. The author presents data relative to: (1) economics of scale in aerospace R & D, (2) amounts of public and private financing of aerospace R & D, (3) externalities among individual firms undertaking R & D and among militiary and commercial applications of R & D findings, and (4) capital-intensity and limiting factors of the aerospace R & D investment programs.

The book includes four appendices—a discussion of Weingartner's linear programming model of capital budgeting, a brief discussion of the application of dynamic programming to long-range planning, a simple representation of a military industrial complex as an economic subsystem (which is used to illustrate the conditions under which centralization may be superior to decentralization, and conversely), and, finally, a discussion of determining the economic life of an investment program.

In summary, the book represents a plea for more careful analysis of R & D investments, presenting anecdotal evidence and some elementary economic arguments in support of this plea.

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Tax Incentives. By TAX INSTITUTE OF AMERICA.
Lexington, Mass.: Heath Lexington Books, 1971. Pp. xiii+303. $12.50.

This book contains the papers and discussion presented at the Tax Institute of America's 1969 symposium. The book consists of four parts, each containing several papers and concluding with general discussion. Three basic questions tie the various pieces together: (1) What is an appropriate definition of a tax incentive, and hence what incentives currently exist? (2) What are the economic effects of particular existing tax incentives, and hence are they desirable relative to their alternatives? (3) What role can and should new tax incentives play in solving pressing social problems?

The papers by Stanley Surrey and Henry Aaron address the first question. Each offers a definition encompassing those "special provisions" of the tax laws, such as deductions, exclusions and preferential rates, designed to achieve social goals through the voluntary activities of economic agents. Within this framework, Surrey is primarily concerned with violations of commonly accepted notions of ability-to-pay—that is, of vertical or horizontal equity—whereas Aaron is concerned primarily with violations of neutrality with respect to resource allocation.

Aaron also presents an inventory of existing federal tax incentives (drawn mainly from the Tax-Expenditure Budget of the Treasury Department). Also included is an estimate of the revenue loss to the Treasury due to each provision.[1]

1. These estimates are drawn from a variety of sources, most of which assume no change in economic behavior from elimination of the special provision.