

PROGRAMMING ABSOLUTE PRIORITIES BY MEANS OF INPUT-OUTPUT ANALYSIS *

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1. *Introduction*

THIS paper presents a method of programming national production for absolute priority bills of goods subject to resource restrictions using an augmented static Leontief input-output system. This adaptation of the Leontief theory has been developed by a number of United States economists and computer programmers during the past decade, but does not seem to have appeared in the professional literature.¹

In section 2, two major obstacles to the development of mathematical programming models for national planning are discussed. In sections 3 through 6, a simple operational method for this purpose is presented. Finally, in section 7, the application of the method to programming economic development is briefly described.

2. *Obstacles to National Economic Planning and the Need for an Operational Method*

In the highly centralized economies of socialist and communist countries, national economic objectives are pursued directly through nationally administered agencies and industries. In the more decentralized economics of the free enterprise and market-oriented economies they are effected indirectly through contractual arrangements between Government agencies and privately administered firms, and through indirect controls. In spite of these differences, many of the problems of central planning are common to both forms of economic organization.

Perhaps the main common problem from the point of view of economic analysis is the current lack of an operational method of formulating na-

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¹ The application of input-output analysis presented here is not novel. It is similar to extensions of the classical Leontief theory that have undoubtedly been wisely adopted. Apparently, the extension on which the present method is based is due to the collaboration of a number of economists and computer programmers at CEIR, Inc., Arlington, Virginia, among them Jack Fawcett, Ben Sobin, Ed Berman, and George O'Rourke. My contribution is a formal description of the method in terms of economic programming and in the context of its application to problems of economic development.