J. J. M. Evers

Linear Programming over an Infinite Horizon

Tilburg University Press, 1973, 190 pp.

In very many cases, an infinite horizon of planning is adopted in economic growth models. This point of view eliminates the arbitrariness of choosing the final values for some of the economic parameters. In this way, one comes to a problem of decision in an infinite dimensional space (usually row spaces).

The book proposes a systematic approach to a general class of linear programming problems over an infinite horizon. The justifying of regards the considering of these types of problems is discussed in the first chapter. It presents four economic growth models (of an input-output type) which leads to the study of linear programming over an infinite horizon.

The other chapters of the book systematically study a number of qualitative properties of the problem of linear programming over an infinite horizon: the existence of optimal solutions, duality,parametric properties, the existence of balance directions.

In the final part of the book, an algorithm is proposed for calculating the optimal solution. In their greater majority, the results in the book are original. The presentation of the material is rigorous and systematic and the reader is required to have only knowledge of classical mathematics analysis and linear algebra. A special chapter introduces him into the theory of line spaces l_1 and l_∞. From what the reviewer knows, this is the first book in the economic-mathematical literature to approach this important subject matter. We recommend this book both to those concerned with mathematical programming and to those interested in the mathematical theory of economic growth.

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