

population in the title of a book on an equal footing with that of production. As already indicated, however, there are strong features of the book and there is little doubt about its usefulness to people concerned with population and resources.

CLYDE V. KISER

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## A THEORY OF ECONOMIC-DEMOGRAPHIC DEVELOPMENT<sup>1</sup>

**I**N the field of demography, the appearance of a book on pure theory is an extraordinary event and it should be welcome. In spite of the recent contributions from Sauvy and others, demography still suffers perhaps more than other social sciences from the lack of a strong backbone of theory. Professor Leibenstein himself has not supplied the missing backbone; the scope of his book is too much restricted for that. But he has given an example of what might be accomplished in developing more comprehensive demographic theories by thoughtful deduction from stated premises with the aid of simple mathematics; and this example may turn out to be his most important contribution.

Much of the work is devoted to the question, how to escape from a state of "Malthusian equilibrium" of population, resources, and income: a condition of stationary, low average income per person, high birth and death rates, and stationary population near the maximum that can be sustained with the available resources. The author begins by defining certain conditions which such an equilibrium must satisfy, and in doing so he contributes a useful clarification of the implicit assumptions underlying Malthusian doctrine. He then proceeds to a mathematical analysis of the effects of certain changes in the demographic and economic variables, seeking to discover in what circumstances a given change can be expected to upset the equilibrium permanently so as to permit a continuing rise

<sup>1</sup> Leibenstein, Harvey: *A THEORY OF ECONOMIC-DEMOGRAPHIC DEVELOPMENT*. Princeton University Press, 1954, 216 pp. \$4.00.

of average income. An interesting result is the "critical minimum effort thesis," to the effect that a change in one of the variables—for example, increase of resources by investment of foreign capital, or diminution of population by emigration—must be of a certain minimum magnitude to make a lasting improvement in the level of living.

The analysis begins with a highly simplified model and complications are introduced one by one in an effort to approximate reality. However, when all the complications have been introduced the model still does not show any close resemblance to existing conditions. For example, it is assumed that in the initial equilibrium the population is at or close to the maximum which can be maintained upon the resources at its command, given the technology, distribution of income, etc. It is doubtful that the population of any important area is now in that position, and it appears unlikely that such a position has been characteristic of the history of population in various parts of the world, at least in recent centuries. Also it is assumed that the trend of income is a major factor, if not absolutely the most important factor, influencing the trend of population or its fluctuations about the equilibrium position. Whatever validity this assumption may have with reference to long-range trends of population in the past, it seems quite unrealistic in the world of today, particularly in the underdeveloped countries where large increases of population are produced by improvements of health conditions having little relation to income.

To repeat, Professor Leibenstein's main contribution may be in illustrating the potential value of his methods of deduction, rather than in the particular theorems which he sets forth. In this connection, not only his treatment of the question mentioned above but also his chapters on "Some elements of a multi-sector model," "On the construction of micro-economic-demographic theories," and on "The relevance, nature, and scope of optimum population theory" are recommended for careful reading. The reader will not find this book easy; he will need plenty of time and at least the normal complement of university courses in mathematics, but if he is patient he should be well rewarded.

JOHN D. DURAND

