

movements will be found in some commodity or other.

The method employed is the standard method of the National Bureau, and is excellently applied; any criticisms of it apply not so much to this study as to the whole method. Each cycle is divided into nine "points of reference," and the price, output, and value in each series is averaged for each point of reference. There are certain doubts as to the propriety of this procedure, especially as the cycles considered are widely different in amplitude and duration and are widely dispersed in time. One wishes that more of the raw data were published, as any process of averaging inevitably covers up much that is interesting in the raw figures. There is a certain arbitrariness also in the selection of these nine reference points, and one wonders whether, for instance, a certain oddness in the behavior of many series between the eighth and ninth reference points is not as much a product of the method as of the facts.

Nevertheless the results obtained are interesting: a statistician could hardly hope for more, and Dr. Mills is to be congratulated on an extremely painstaking piece of work. Such defects as it possesses lie in the method, and perhaps even more in the positivistic philosophy which underlies all the work of the National Bureau, a critique of which would be out of place in this short notice.

K. E. BOULDING

Iowa State College

KUZNETS, SIMON. *National Product Since 1869*. Pp. xvii, 239. New York: National Bureau of Economic Research, 1946. \$3.00.

Dr. Kuznets' brief study has a very chastening effect upon the reader. It is quite customary to use estimates of national income and wealth with considerable glibness and with insufficient knowledge of the assumptions underlying such estimates and the inadequacy of the data upon which they are based. In this book the reader is made well aware of the difficulties in making such estimates and is given sober warning regarding the possible uses they may be put to.

The report is divided into four parts.

Part I culminates in a table giving annual estimates of net national product from 1919 to 1943 in terms of 1929 prices. Part II derives a series of similar estimates by decades from 1869 to 1938, overlapping each decade by five years. Part III studies the trends in the percent of family expenditures for rent and other services between 1870 and 1914. Part IV analyzes and recalculates the estimates of national wealth made by the Bureau of the Census since 1880.

Each part is built around a series of statistical tables developing step by step the final series of estimates. The tables are replete with notes on the sources of the data and explanations of the procedures used in combining the various series. There is a brief text preceding each collection of tables dealing in a very terse and technical way with the methodology employed in making the estimates and the reasons for making certain decisions regarding procedure. The text is comprehensible to the professional economist but it almost seems to have been written with the idea of discouraging and frightening off the lay reader. Indeed, the pointed and repeated warnings made by the author in the preface and reiterated by director Oswald W. Knauth in a special introductory comment would indicate that the National Bureau of Economic Research would be quite happy if the book came to the attention of only the most scholarly and technically trained students of national economy.

It is unlikely that these wishes will be realized. The subjects dealt with are too important and timely and the authority of the author and the publisher are too well accepted to prevent use being made of the results without due recognition of the many assumptions upon which they are based. Consequently one wishes that the descriptive text had been elaborated upon.

Part III is of special interest to students of family economics. It makes use of the many studies on family expenditures made between 1870 and 1914 by the federal and state departments of labor. The statistical study of the economics of consumption has always suffered by comparison with the study of production and distribution. Con-

tributions in this field are very much needed.

RALPH CARR FLETCHER

University of Michigan

NATIONAL BUREAU OF ECONOMIC RESEARCH.  
*Economic Research and the Development  
of Economic Science and Public Policy.*  
Pp. xi, 198. New York, 1946. \$1.00.

This small but, on the whole, meaty volume consists of twelve papers presented by distinguished foreign and domestic experts at meetings, June 6 and 7, 1946, of the National Bureau of Economic Research celebrating its twenty-fifth anniversary. It is appropriately bound in silver cloth. The contributors kept in mind surprisingly well that the general topic was to be the function of research in the development of economic science and its application in the guidance of public policy. There is far less discussion of the technicalities of empirical—specifically statistical—method than might have been expected. Technical jargon is absent. There are only three equations and two graphs in the book. Naturally, there are expressions of gratification at the progress statistical economic research has made in the past quarter century, and of course specific recognition of the leadership of the National Bureau in such research, but throughout the papers runs a forward-looking desire for much more research, more effective methods, and more co-operation and co-ordination, both nationally and internationally. Quite understandably, monetary and price system, international trade and finance, and full employment get the most attention among specific basic problems, with expressed conviction that none of them can be effectively investigated or dealt with by practical policy independently of the others. It is reassuring to see specialists realizing that you cannot put your hook into any economic, or indeed any social, problem without pulling out all the others in its train.

If the experts are finally getting philosophical and not only admitting but asserting a one-world unity or gestalt both of knowledge and policy, their holistic slant need not worry us. They are not going in for conceptual dialectics, metaphysics, or

absolutes. They know that an isolated fact, were such a thing possible, would be meaningless, that they are inquiring into relations—phenomenal cause and effect relations—of extreme complexity, with data which are never complete, and with methods, however highly developed, which can do no more than reach conclusions of a low or high degree of probability. Their philosophy is that of pragmatic, empirical science. Whatever applications to policy they look to are wholly within the anthropocentric frame of reference. They are not psychologists but they have an intuitive, or common sense, understanding of the fact that when cause and effect relations are considered as means-ends relations, value judgments enter. From there it is a short step to sentiment. While the empirical researcher can keep his own sentiments or values down to a minimum of interference with his objectivity, as soon as an attempt is made to apply scientific knowledge to human affairs, and specifically to economic policy, trouble begins, which the scientist is ill-equipped to meet, since he is not trained to the habit of compromise. (The obstructive role of habit, sentiment, the personal equation, and the self-esteem of policy-making officials is delicately exhibited by Dr. Goldenweiser's paper on "Translating Facts into Policy.") The contributor who most clearly realizes that the problem of policy is psychological is Mitchell, whose paper on "Empirical Research and the Development of Economic Science" is one of the most broadly suggestive.

Unfortunately we cannot comment on the various papers individually, save to note that R. H. Coats' "Considerations By the Way," one of the longest papers, is also the most entertaining and readable. Many of its philosophical allusions (When, for example, and by whom, was "the dynamic taken out of dynamics"?) are over the reviewer's head, but he is willing to bet that they were also over most of the heads in the audience!

Statisticians looking for short cuts and econometricians seeking "rigid" solutions will find little value in this book, but there is much in it, exposure to which would do young economists no harm—or older ones