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STRUCTURE, SYSTEM AND ECONOMIC POLICY

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Proceedings of Section F of the British Association for the Advancement of Science held at the University of Lancaster 1-8 September 1976

EDITED BY
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PREFACE

The title of this volume describes succinctly the common theme of papers collected in this volume. They were presented at the annual meeting of Section F (The Economic Section) of the British Association for the Advancement of Science held in Lancaster in the fall of 1976.

While the mainstream of British economic thought seems to be still dominated by the aggregative theorizing with emphasis on monetary phenomena that came into vogue with the advent of the Keynesian approach, a small but steadily increasing number of economists seem to doubt that an appropriate combination of Phillips Curves, Full Employment Gaps and, say, summary indices of the Average Productivity of Labor could possibly provide a basis for realistic description of, not to say effective explanation of, the operating characteristics of a modern national economy. While the authors of these papers address themselves to a great variety of subjects, in each instance they probe below the surface of the aggregates in search of concrete, preferably directly observable – rather than statistically 'fitted' – structural relationships. These, in their turn, are used as building blocks for the construction first of small and simple, then of larger and more and more complex analytical systems or models. It is such combination of detailed factual information with a concise but flexible theoretical design that makes an effective analytical tool.

On an occasion, such as that of the annual British Association meeting, at which economists have an opportunity to share their interests with pure and applied scientists, the shift from abstract generalities to concrete specificity seems to be particularly appropriate. It is on this level – the level on which an economist can meaningfully discuss, say, direct reduction of ore to steel with a metallurgist, or questions of fertilizer production with an agronomist and a chemist – that not only can a common language be found, but a foundation can be laid for designing analytical systems capable of crossing the boundaries of different disciplines.

One of the procedures capable of mobilizing a large volume of detailed structural information without suppressing its fine grain is the so-called input–output analysis. In Britain, in contrast to the United States, the application of this approach has up to now been very limited. This volume contains several good examples of its effective use.

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To prove a theorem or to formulate a general theory, one needs only paper and pencil. To demonstrate how a theoretical scheme can be implemented empirically (not all of them can pass that test), one needs data. For didactic purposes any set of figures will do. But when it comes to practical application, the data have to be sufficiently complete, detailed and accurate. Many of the contributors to this volume wrote their papers with specific policy applications in mind, and all of them deplore the paucity of adequate statistics. Hence, Mr Nankivell's brief but informative contribution deserves to be read with particular attention – for he is Assistant Director of the Central Statistical Office.

The book opens with the Presidential address, in which I describe in some detail a recent attempt to quantify economic interdependencies at a global level. Dr Gossling seeks to find common ground between at least four factions of economists in his paper on 'Input–Output, Technological Change, and Inflation: The End of the Keynesian Era?' He concludes that improved data on input–output flows and the application of a disaggregated medium-term 'dynamic-inverse' type of model would more usefully illuminate the relationship between technological change and inflation than would the extended short-term Keynesian approach (even if highly disaggregative in presentation). Professor Mathur, too, is concerned with the marriage of technology and the price system within the framework of input–output analysis. In his paper on sectoral prices and their movements in the British Economy in an Input–Output Framework', he seeks to quantify disaggregated price and commodity movements in the United Kingdom over the last two decades, and by means of that approach to examine crucial strengths and weaknesses in the economy. And Professor McGilvray, writing on 'Linkages, key sectors and development strategy', demonstrates the use of input–output tables to identify key sectors (with special reference to the case of a small economy highly dependent on foreign trade).

The book then moves from the primarily theoretical to the fundamentally practical. Mr Woodward makes two points in 'Government Policy and the Structure of the Economy'. He argues, firstly, that excessive preoccupation with macroeconomic aggregates conceals the reasons for the poor performance of the British economy in recent years and himself presents disaggregated estimates of employment levels and the overseas trade balance for four groups of industries within the key manufacturing sector. Then, secondly, he proposes government subsidies, both selective (available for all investment by technologically-backward industries, particularly those facing a strong trend growth in demand) and general (available in all industries, but based on past success in expanding capital per worker), because he thinks that adequate stimulus to investment in manufacturing industry will not be forthcoming via the unaided market mechanism with or without aggregate demand policies (which are insufficient to deal with a problem increasingly structural in nature). It is naturally interesting, in the light of Mr Woodward's strictures concerning British economic statistics, to read Mr

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Nankivell's paper on the 'Use of an Input–Output Framework for Monitoring Current Developments in the Economy'. In it he describes some of the difficulties now facing the input–output practitioner in the United Kingdom, notably the lack of data, of spectacular forecasting successes, of theoretical interest within the academic community, of dialogues with businessmen and other policy makers. He is, however, more hopeful about the future in view of improvements in data collection and computer techniques, and also because of the increasing awareness that the Keynesian framework inadequately pictures inter-industry activity. He notes, too, that an input–output matrix is useful for short-run policy purposes (as where it is used, say, to predict the effects on a wide range of industries of a sudden rise in oil prices) as well as for identifying long-term structural changes, a fact which is likely, in the future, to increase substantially the influence of the approach.

Next come three papers concerned with inter-regional flows. Dr Morrison and Dr Broadbent, in 'Controlling Urban Change: Models of the Urban Economy', examine some of the social and economic problems of urban development in the United Kingdom, using new research on activity analysis and input–output techniques. Mr Gordon's paper on 'Regional Interdependence in the United Kingdom Economy' considers flows of labor migrants as well as inter-regional input–output relationships and argues that economists must examine these linkages more explicitly if they are to make a real contribution to regional policy making. Mr Bulmer-Thomas has, in his paper on 'The Scottish Balance of Payments – 1973', constructed the first ever regional balance of payments account for Scotland; the estimate is based on the difference between capital formation and domestic savings. The latter is broken down into the savings of the three domestic sectors: households, Government and business. There is also an estimate of the balance of payments in 1980 based on various assumptions about North Sea oil.

Turning now to more specialized areas of enquiry, the next four papers belong together. Professor Pick's essay on 'Materials, Resources and Production' attempts to bridge the gap between economists and engineers by demonstrating how the use of input–output analysis can help to illuminate inter-industry flows of intermediate products. Inputs and their destination (and, in the view of Professor Pick, inputs of materials in particular) are, after all, as interesting to the student of economic structures as final value added. Dr Taylor's paper on 'Unemployment in Britain' considers the causes of the upward trend in Britain's unemployment rate in the period from 1951 to 1975. He draws attention to the significance of the fall in search costs for unemployed workers engendered by higher unemployment benefits (flat-rate and earnings related); and notes that differential unemployment rates between males and females in the labor force may be explained by this hypothesis. The fall in search costs, it is argued, has permitted the unemployed to study the labor market more carefully and to extend the duration of the spell between jobs. Mr Carter, in his paper on 'Industry and Technical Progress', returns to the work he has done previously on

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the industrial applications of scientific and technical knowledge, and notes the urgent economic necessity to remove existing hindrances to such applications. He argues that a spectrum of types and degrees of specialization ought to be provided so as to ensure that the supply of skilled manpower corresponds to the demands of the economy. His recommendations for streaming and for elitist education aimed at maximizing the productive potential of the gifted are likely to prove particularly controversial. And Dr Cook's paper on 'Energy Policy Formulation' examines the problems of a sector characterized by the need to make vital decisions in conditions of considerable uncertainty. She argues that the market mechanism is inadequate and public policy indispensable if the energy industry sector is to plan ahead; and recommends that a system of decentralized decision making be supplemented by government guidelines for various periods into the future designed in accordance with social valuations of the trade-off between the present and the probable future.

Finally, there is Dr Reisman's paper on 'Adam Smith and Market Capitalism', in which he places Smith firmly in the general rather than the partial equilibrium tradition, and also argues that social, political and psychological as well as purely economic variables are mutually determinant within the context of Smith's large-scale multidisciplinary matrix.

As President of Section F residing on the other side of the Atlantic, I could not have organized the Program of which this volume is a record without the invaluable counsel of Mr E. J. Cleary, the Recorder of the Section; and without the help and generosity of the British Academy and Shell International Limited. Dr Reisman took charge of the preparation of the manuscript for publication.

On behalf of the members of Section F who attended the annual meeting, I express appreciation to Dr Magnus Pike, Secretary of the Association and the University, for the excellent arrangements and friendly hospitality that made our stay in Lancaster so pleasant.

Wassily Leontief

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