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DEPARTMENT OF APPLIED ECONOMICS

TWELFTH REPORT
ACTIVITIES IN THE PERIOD
OCTOBER 1971 TO SEPTEMBER 1972



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UNIVERSITY OF CAMBRIDGE
DEPARTMENT OF APPLIED ECONOMICS

Director
W.A.H.GODLEY

Committee of Management, July 1972

Professor W.B.REDDAWAY (Chairman)

R.M.BLACKBURN	Professor RICHARD STONE
Professor D.G.CHAMPERNOWNE	C.T.TAYLOR
A.S.DEATON	Professor H.A.TURNER
Professor R.R.NEILD	M.P.WARD

G.WHITTINGTON

Secretary
H.LOSHAK

Miss P.M.DEANE was also a member of the Committee of Management during part of the period under review.

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TWELFTH REPORT OF THE DEPARTMENT OF APPLIED ECONOMICS

(covering the year October 1971 to September 1972)

I. Research Activities

1. This section outlines the work done in 1971-72 on the twenty-two research projects being conducted, and lists the seven new ones which start in the current academic year.

(A) ECONOMICS AND ECONOMIC HISTORY

GROWTH AND FLUCTUATIONS IN THE BRITISH ECONOMY: PROJECTIONS FOR PLANNING

2. This project is under the direction of Professor Stone. The main results of the research are published in the series *A Programme for Growth* (London, Chapman and Hall) in which eleven volumes have appeared, the latest being *The Financial Interdependence of the Economy 1957-1966*, by Alan Roe.

3. The research staff working with Professor Stone during the period covered by this Report were as follows: Mr T.S. Barker, Mr A.S. Deaton, Mr A.W.A. Peterson, Dr L.J. Slater, Mr J.D. Sugden, Mr L.A. Winters, and Mr V.H. Woodward. Two members of the project, Mr M.A. King and Dr D.A. Livesey, were on leave of absence during the year. Also closely associated with the project were Dr K.J. Wigley and Mr A.G. Armstrong. Visitors to the project during the year included Professor W. Hirsch, Professor E. Hope, and Professor G. King.

4. The main research of the project is the investigation and analysis of the present structure and future prospects of the British economy. The approach of the project has been to build a computable, disaggregated model of the economy and use it to demonstrate possibilities for the future. The model provides and maintains coherence and consistency between different proposals and policies. During the year the model was used to analyse the effects of the 1972 budget on the future of the economy with special attention to the effects of inflation. This work was published in the *National Institute Economic Review* (see below).

5. During the year research has concentrated in four areas: consumers' expenditure behaviour, investment and employment functions, export functions, and the links between personal incomes and expenditures.

6. The project also continues to work on developing disaggregated statistics for the British economy. A complete set of accounts at current and constant prices, consistent with *National Income and Expenditure* totals, yet distinguishing 45 commodities and 35 industries, has been estimated for the years 1954-68.

7. Members of the project attended two conferences during the year, one at the London Business School on 'The Modelling of the U.K. Economy' and the other, the European Meeting of the Econometric Society, held in Budapest, Hungary. M.A. King presented a paper at the Budapest conference on 'The Role of Expectations in a Model of Taxation and Firm Behaviour'.

8. The following articles by members of the project were published during the year 1971-72: 'Imports in Multisectoral Models', by T.S. Barker (*Input-Output Techniques*, edited by A. Carter and Brody, North Holland, Amsterdam 1972). 'Inflation Growth and Economic Policy in the Medium-Term', by T.S. Barker and V.H. Woodward (*National Institute Economic Review*, No. 60, May 1972). 'The F-test and R^2 : a Further Comment', by A.S. Deaton (*The American Statistician*, June 1972). 'Taxation and Investment Incentives in a Vintage Investment Model', by M.A. King (*Journal of Public Economy*, Vol. 1, No. 1, April 1972). 'Corporate Taxation and Dividend Behaviour: a Further Comment', by M.A. King (*The Review of Economic Studies*, Vol. xxxix(2), April 1972). 'Control Theory and Input-Output Analysis', by D.A. Livesey (*International Journal of Systems Science*, Vol. 2, No. 3, November 1971).

EFFECTS OF ECONOMIC POLICY

9. Work in this related group of projects, which had been accepted as a programme by the Social Science Research Council, continued throughout 1971-72 under the general direction of Mr W.A.H. Godley. Research staff working on the project during part or all of the period covered were as follows: Mr C.T. Taylor, Mr J. Rhodes, Mr B.C. Moore, Mr R.J. Tarling, Mr J. Llewellyn, Dr M.H. Pesaran, Mr T.F. Cripps, Mr K.J. Coutts, and Mrs J.M. Marquand.

10. The initial stages of this programme were described in the Eleventh Report. So far as that part of the programme which deals with medium term policy is concerned, the publication in November 1971 of the Government's White Paper, *Public Expenditure to 1975/6*, Cmnd. 4829, was made the occasion for a new macro-economic assessment, as a result of which two articles were published in *The Times Business News* by Messrs Godley, Taylor, and Cripps. In the following months another medium term assessment going into considerably greater detail was prepared, and the results entered as evidence given to the Public Expenditure Committee and published with their seventh Report. In addition to submitting this memorandum, Messrs Cripps and Taylor gave evidence orally to the Public Expenditure (General) Sub-Committee.

11. The preparation of these medium term assessments has generated a substantial amount of back-up research and papers, particularly on productive potential and U.K. balance of payments, which will shortly be forthcoming.

12. An evaluation of the effects of U.K. regional economic policy, with special emphasis on the effectiveness of the Regional Employment Premium (R.E.P.), is also in progress. The first stage of the evaluation has been completed during the year and interim results have been prepared for publication. Work has started on a series of interviews with manufacturing companies receiving R.E.P. The results of this industrial enquiry combined with other investigations into how firms have used the subvention will form the empirical basis for a full economic analysis of the effects of R.E.P. and other instruments of regional policy.

13. A paper entitled 'Evaluating the effects of British Regional Economic Policy' was presented at the 1972 Urban Studies Conference at Christ Church College, Oxford, and at a conference on 'Regional Policy in the E.E.C.' organized by the Federal Trust for Education and Research.

14. Messrs Cripps, Llewellyn, and Tarling continued research on growth potential which had been started under the direction of Professor Kaldor. The earlier cross-country study of growth in broad sectors was brought up to date, revealing an important change in the pattern of productivity growth in manufacturing industry. A study of labour supply and unemployment in the U.K., paying special attention to gross flows on and off the unemployment register, is now almost completed; preliminary work has been done on gross inter-industry movements of labour, again using U.K. data. More attention has been paid to the growth of demand - investigations being conducted into the relative importance of different exogenous factors contributing to the growth of real demand in individual countries, into changes in shares of major industrial countries in domestic and export markets for manufactures, and into the determinants of real demand in the world economy as a whole.

CURRENT ECONOMIC ASSESSMENTS

15. The London and Cambridge Economic Bulletin, which is published in *The Times Business News*, became a half-yearly report from January 1972. It is mainly concerned with the current economic situation in the United Kingdom.

16. The number of subscriptions for the reprint of the Bulletin was well maintained during the year despite the changeover from being a quarterly report. Mr E. Bougourd has replaced Miss S.D. Seal as Subscriptions Secretary. Mrs T. Liesner was the Secretary and Mr R.F. Harris the Statistician until September 1972, when both posts were combined into one. Mr L.M. Mackie is the present holder of this joint post.

ECONOMIC EFFECTS OF THE SELECTIVE EMPLOYMENT TAX

17. *The Effects of the Selective Employment Tax: First Report, the Distributive Trades*, by W.B. Reddaway, was published by H.M.S.O. in March 1970. During the year under review, although most of the staff left in September 1971, work continued on the sequel, and a first draft of the final report was sent to H.M. Treasury in October 1972.

18. This final report deals with trades allied to distribution, on which sample surveys were undertaken. On the basis of official statistics it also updates the previous results on the distributive trades, and it considers the S.E.T. field as a whole. The size and incidence of the tax; its effects on prices, productivity, and national income; and the various anomalies which arose in its operation (particularly in the construction industry) are discussed.

19. Publication of the final report, in the form of an Occasional Paper, by W.B. Reddaway and Associates, should take place just before the tax is abolished.

PRODUCTIVITY IN DISTRIBUTION

20. Research on this project has been undertaken by Mr T.S. Ward under the direction of Mr K.D. George, with Professor W.B. Reddaway exercising general supervision. A description of the aims, scope and methods of investigation is contained in previous Reports. During the academic year 1971-72, work continued on the statistical analysis of inter-town variations in retail productivity performance over the period 1961-66. An article containing some of the most interesting results has been jointly prepared by Mr K.D. George and Mr T.S. Ward; it is hoped that this will be published in the near future. A draft of a report on the full findings of the productivity analysis and of the study into recent developments in the distribution of consumer goods is at the moment in the final stages of completion and is intended for publication in the Department's Occasional Paper series in 1973.

21. A final report on the project, covering the period 1966-72, was submitted in June 1972 to the Social Science Research Council, which financed the research.

PRICING IN THE TRADE CYCLE

22. Work on this project started early in 1971 as a collaborative effort between Professor W.D. Nordhaus of Yale University and Mr W.A.H. Godley. The initial objective was to review the statistical evidence relating to costs and prices in manufacturing industry and to test the 'normal' price hypothesis first investigated by Professor Neild in 1963. A grant for the project was obtained from the Social Science Research Council to start from the beginning of the calendar year 1972, and since then Dr M.H. Pesaran and Mr Ken Coutts have spent part of their time on it. The results of the preliminary investigation were written up in a paper which was published by the *Economic Journal* in September. This paper, which treated non-food manufacturing industry as an integrated whole, concluded tentatively that the normal price hypothesis was confirmed. Work has been started on the next stage of the project which will consider (in particular) the price behaviour of individual industries and the extent to which company taxation is passed on in wholesale prices.

INTERNATIONAL FREIGHT TRANSPORT AND SHIPPING CONFERENCES

23. This research has been undertaken by Mr B.M. Deakin and Mrs T. Liesner (*née* Seward) under the general direction of Professor W.B. Reddaway.

24. Earlier phases of this work were described in the Ninth, Tenth, and Eleventh Reports. During the past academic year, work on the project was completed and the results were written up in draft form. A series of discussions were held with shipowners and others to discuss the drafts and to check various points. The results of this research are to appear as an Occasional Paper, entitled, *Shipping Conferences. A Study of their Origins, Development, Economic Practices and Consequences*, by B.M. Deakin in collaboration with T. Seward (Occasional Paper No. 37).

ECONOMIC IMPACT OF THE BRITISH PATENT SYSTEM

25. A comprehensive study of the economic consequences of patenting and licensing, including a full report of the industrial enquiry, four major industry case studies, and a review of previous literature and research, was completed in August, and has gone to press. This will be published as *The Economic Impact of the Patent System*, by C.T. Taylor and Z.A. Silberston, in the Monograph Series, probably in August 1973.

COMPARATIVE STRUCTURE AND SCALE

26. This enquiry, which is nearing completion, is being carried out by Mr T.A.J. Cockerill under the general direction of Mr A. Silberston. Its objectives, content, and progress have been described in the Tenth and Eleventh Reports.

27. At the beginning of the year to which this Report relates, owing to limitations of both data and time, it was decided to concentrate the research upon three industries – steel, man-made fibres, and brewing – but to expand the analysis of the relationship between international differences in structure and performance.

28. During the year the remaining programme of field-work was completed, with a series of interviews being held with respondents in industry and government in France and Belgium. In addition, discussions were held at the Battelle Institute in Geneva in November 1971.

29. The bulk of the work undertaken has, however, consisted of the preparation of drafts of the studies on steel and man-made fibres. These provide a very detailed analysis of structural differences between the countries of the enquiry, and the results indicate – for steel at least – a strong connexion between structural differences and variations in performance, as indicated primarily by the rate of change of each nation's share in the total exports of the entire sample of countries.

30. The study on steel was prepared for restricted circulation (*International Comparisons of Industrial Structure and Performance, I: The Steel Industry*, University of Cambridge, Department of Applied Economics, mimeo., 1972), and the comments received will be of assistance in the preparation of the final text. A similar distribution of the initial draft of the enquiry into man-made fibres is being planned. Work is still in progress on the preparation of a draft on the brewing industry, and it is hoped to publish the results of the whole enquiry as an Occasional Paper, in 1973.

COMPANIES IN THE SIXTIES

31. This project was started in January 1972, with the aid of a grant from the Esmée Fairbairn Charitable Trust. The work was carried out by Dr G. Whittington, with programming assistance from Dr Joyce Wheeler, and statistical assistance from Miss M.V. Clark.

32. The first aim of the project was to extend some of the data relating to published accounts of quoted companies, which had been prepared in an earlier project in the Department, to cover the period 1961-68. The ultimate aim of the project was to use this set of data to analyse three particular problems: the special characteristics of giant companies, the relationship between the degree of external financing and the future profitability of companies, and the determinants of dividend pay-out rates.

33. During the first seven months of 1972, the following progress was made. First, a historical index of each individual company in the population to be studied was prepared. A by-product of the work was a paper on 'Changes in the Top Hundred Quoted Manufacturing Companies in the United Kingdom, 1948 to 1968', by Dr Whittington, which is to appear in the *Journal of Industrial Economics*, November 1972. Secondly, the data for the period 1961 to 1963 was obtained from the Department of Trade and Industry and the University of Stirling, and the work necessary to add this set of data to the earlier set of data, in comparable format, was completed.

34. On 1 August 1972 Dr Whittington left the Department to take up the Chair of Accountancy and Finance at the University of Edinburgh, and the project and grant were transferred to Edinburgh with effect from 1 October 1972.

35. Dr Whittington's publications over the past year include the following: 'The Profitability of Retained Earnings' (*The Review of Economics and Statistics*, May 1972). *The Prediction of Profitability and other Studies of Company Behaviour*, C.U.P., 1971 (D.A.E. Occasional Paper No. 22).

THE SOVIET ECONOMIC MECHANISM

36. The aim of this project, which is being carried out by Dr M.J. Ellman, is to enhance understanding of the functioning of the planning system and of the problems and nature of economic reform, by means of an analysis of the working of particular parts of the economic system.

37. Questions examined in this period included the difficulties caused by the absence of rent payments in the U.S.S.R. and the measures being adopted by the authorities to overcome them, the social basis of economic reform, and the use of opportunity costs to measure fuel costs in the electricity supply industry.

38. Some of the work done for this project will be included in the forthcoming D.A.E. Monograph *Planning Problems in the U.S.S.R.*

39. During the year Dr Ellman lectured at the Institute of Development Studies (Sussex); spoke at a symposium on 'Industrialization: experiences, problems and strategies' at the School of Oriental and African Studies (London); was a U.K. representative at the Anglo-Bulgarian Colloquium at Winston House (near Brighton); read a seminar paper at the London School of Economics; gave a talk at Glasgow University; and attended an East-West conference of economists at Algeciras (Spain).

DIFFERENTIATION AND STRUCTURAL CHANGE IN PEASANT AGRICULTURE

40. The aim of the project, which is being carried out by Mr M. Cowen under the direction of Mr D. M. G. Newbery, is to study the process of differentiation in a peasant economy in Kenya, by focusing on the emergence and determinants of the rural labour force and, in particular, testing Chayonov's theory of labour supply. The field work started in February 1971 supported by a grant from the D.A.E., since which time statistical and historical data for twenty larger farmers and sixty agricultural labourers involved in tea growing have been collected over a complete cycle. Although a small amount of fieldwork remains to be done, records are being checked, and the task of preparing and coding the data before testing the various hypotheses is now in progress. The most interesting result that has emerged to date is that the Chayonov theory (based on the relation between productive capacity and consumption needs of the family) is incapable of explaining the present pattern of production and employment, whilst a historical and social study of the development of the area over the past fifty years appears to be crucial in understanding the present position. Two seminar papers have been prepared and given, and considerable interest was expressed in the work by the recent International Labour Office Employment Mission to Kenya.

DEVELOPMENT OF IMPROVED METHODS OF TEACHING MATHEMATICS TO ECONOMISTS

41. The programme described in the last D.A.E. Report was carried out during the Michaelmas Term of 1971. A large amount of new teaching material was developed, including a complete set of elementary programmed learning texts, and an attempt was made to evaluate the three teaching methods used. A paper written by Mrs M. Nickson and Mr R. P. Smith giving the results of the exercise was presented to a conference sponsored by the S.S.R.C. at Sussex University during the summer of 1972, and this paper will be published in the *International Journal of Mathematical Education*, Vol. 4, No. 1, in 1973.

(B) INDUSTRIAL RELATIONS AND SOCIOLOGY

MANAGEMENT ORGANIZATION AND INDUSTRIAL RELATIONS

42. The aims and objectives of this enquiry, which is being conducted by Mr D. J. Roberts under the direction of Professor H. A. Turner, were outlined in the previous Reports of the Department.

43. In previous Reports reference was made to the difficulties caused by interviews being cancelled at the last minute because of industrial disputes (or economic disasters) at the establishments concerned. Despite some recent reduction in the general frequency of strikes, these difficulties have continued throughout the research. However, the programme of in-depth interview has finally been completed.

44. Since completing the programme of interviews Mr Roberts has left the University and is now analysing the results of the research whilst in his new employment. The first results obtained from the analysis have been very encouraging, and suggest that an interesting report will result from the enquiry.

WAGE DETERMINATION AND WAGE DRIFT IN THE CONSTRUCTION INDUSTRY

45. This project, the background to which has been explained in previous Reports, started with an examination, by Mr L. J. Handy, of the relative impact of wage drift, as measured by various official bodies, and of contractual wage rate changes, on the general wage movement in the construction industry, as well as the determination of particular wage change components. Points of detail, such as the impact of local wage incentive schemes and bargaining on the wage drift, the relative magnitude of drift in different areas and between different construction types, and, most interesting of all, the impact on the general wage movement of the development of labour-only sub-contracting, and the increase in self-employed personnel in the industry, were examined in a series of case studies. Problems of gaining co-operation, exacerbated more recently by a widespread building strike, have meant however, that the case studies are not as far advanced as could be wished.

46. In January 1972 Mr Handy visited the University of Bombay, India, as a visiting scholar for four months, and then went on to study certain problems of labour relations in Africa, returning to Cambridge towards the end of June. During that time Mr S. F. Wilkinson and Mr D. J. Roberts were responsible for work on the research project, which is being conducted under the direction of Professor H. A. Turner.

LABOUR PROBLEMS IN UNDERDEVELOPED COUNTRIES

47. This study has been undertaken by Mr D. A. S. Jackson under Professor H. A. Turner's direction; the aims and methods have been outlined in previous reports.

48. The paper by Mr Jackson on 'Social Planning and the Poverty of Nations' has been extended and is now to appear under the title 'An accounting system for the current expenses of social welfare and its use in social planning' in *Social and Economic Administration*. A book by Mr Jackson, *Poverty*, has been published by Macmillan.

49. Professor Turner and Mr Jackson visited Morocco in December 1971 to January 1972, and, resulting from research work done in co-operation with the United States Agency for International Development, the United Nations Development Programme, and the Moroccan Government, a paper, 'How to provide more employment in a labour surplus economy' is to be published in 1973 in *The International Labour Review*. Much of the material in Occasional Paper No. 36 by Jackson, Turner, and Wilkinson, also arises from studies made in connexion with this project.

50. The final draft of a book on the results of the whole project is now being completed.

LIFETIME EARNINGS PATTERNS

51. This project is being undertaken by Mrs J. C. Craig under the direction of Professor H. A. Turner. Its aim was outlined in the Eleventh Report.

52. The first stage of the project has been the collection and analysis of published and unpublished age-earnings data, mainly from various specialized earnings surveys in the white-collar field, with some from Government Departments, including the Department of Education and Science, the Civil Service Pay Research Unit, and the Civil Service Department. Data from the steel industry have been used to illustrate the effect on lifetime earnings of different systems of pay progression for manual workers.

53. The next stage will be the collection of empirical data to elucidate factors affecting lifetime earnings patterns.

54. A paper has been prepared for publication showing some of the consequences of inflation for salaried workers and their earnings expectations.

PRICES AND INCOMES POLICY

55. During the year Mr D. A. S. Jackson has been assisting the Rt Hon. Aubrey Jones in completing his book, *The Politics of Prices and Incomes*, which is to be published by Andre Deutsch in May 1973.

56. A joint book, using the results of various research enquiries, by D. Jackson, H. A. Turner, and S. F. Wilkinson, *Do Trade Unions Cause Inflation?*, is to be published by the Cambridge University Press as Occasional Paper No. 36 in November 1972.

VARIATIONS IN TRADE UNION ORGANIZATION AMONG WHITE-COLLAR WORKERS

57. This project, carried out by Dr R. M. Blackburn, Dr K. Prandy, and Mr A. Stewart, was started in October 1967. The work is now substantially completed and several publications are being prepared, including a book discussing the main results.

SOCIAL AND INDUSTRIAL DETERMINANTS OF WORKERS' ATTITUDES

58. The aims and methods of this project, which began in October 1968, were described in earlier Reports. The project is being carried out by Dr R. M. Blackburn and Dr J. M. Mann (University of Essex), who are preparing the findings for publication.

59. At a conference sponsored by the S.S.R.C. at Durham University in September 1972 the following papers were given:

J. M. Mann, 'The Ideologies of Non-skilled Industrial Workers'.
R. M. Blackburn, 'Working Class Ideology'.

SOCIAL STATUS IN GREAT BRITAIN

60. An outline of this project, which is being carried out by Dr R. M. Blackburn and Mr A. Stewart, is contained in the Eleventh Report. Professor J. A. Banks, University of Leicester, Mr K. Dixon, University of York, and Mr M. Green, University of Strathclyde, continued to collaborate on this project and have been joined by Mr D. Donald of the Glasgow College of Technology. Through Mr Donald the College has agreed to provide extensive facilities for the conduct of the interviewing programme in Glasgow.

61. Organization of interviewing programmes in four regions, around Leicester, Glasgow, York, and Cambridge, is now well advanced, and interviewing should begin in Spring 1973.

62. The analysis of data on social interaction collected in two other Departmental projects, 'Variation in Trade Union Organization among White-Collar Workers' and 'Social and Industrial Determinants of Workers' Attitudes', is now complete. A scale of social status has been created from these data and has been used in both projects mentioned above.

ELITES IN THE BRITISH CLASS STRUCTURE

63. This project has been in progress since 1 October 1971. The intention is to examine changes that have occurred at the upper levels of British class structure since the turn of the century. In particular the aim is to clarify the relationship between elite formation and class structure.

64. The research team consists of Anthony Giddens, director of the project, Geoffrey Ingham, and Philip Stanworth. Dr Lucy Slater has given considerable help and advice in the preparation of programmes for the computer analysis of the collected data.

65. The principal objective of the first year's work has been to assemble data relevant to the study of elite recruitment. This has included information on office holding and the compilation of biographies on a large number of holders of elite positions. These data will indicate the patterns of flow into, and out of, elite positions, as well as revealing the changing extent of 'multiple-position holding'.

66. The project will also involve considerable research into the moral and structural solidarity of elite groups through a study of elite ideologies, wealth and property holding, and kinship links and marriage ties between elite members. The third and final stage of the project will focus on elites and distribution of power, and will concentrate on the analysis of certain 'typical' policy conflicts involving the political and economic elites.

67. A conference, financed by the Nuffield Foundation, on *Elites and Power in Britain*, at which some preliminary results of the project will be discussed, will be held at King's College during Easter 1973.

(C) NEW RESEARCH PROJECTS

68. The following new research projects were planned to begin in 1972-73, the principal investigators being given in brackets:

Comparative Economic Studies of Various 'Codes of Practice' Proposed for Shipping Conferences (Mr B. M. Deakin).

Anti-Trust and Industrial Policy: U.K. and E.E.C. (Mr K. D. George).

Growth in Industrialized Capitalist Economies (Mr T. F. Cripps).

Comparative Labour Productivity (Mr C. F. Pratten).

Labour Restrictive Practices (Professor H. A. Turner).

Some Economic and Social Implications of Immigration into Britain (Mr B. M. Deakin and Dr K. Prandy).

Deprivation, Work Experience and the Legitimation of Authority (Dr K. Prandy).

II. Publications

MONOGRAPH SERIES

69. This series, which is published by the Cambridge University Press, contains reports of investigations which have been carried out by members of the Department's research staff and others directly collaborating in its work. The following appeared during 1971-72:

No. 17. *Abstract of British Historical Statistics*, by B. R. MITCHELL and PHYLLIS DEANE (reprint of original 1962 publication).

No. 19. *Take-overs: Their Relevance to the Stock Market and the Theory of the Firm*, by AJIT SINGH.

No. 20. *New Commodities and Consumer Behaviour*, by D. S. IRONMONGER.

No. 21. *British Monetary Policy 1924-1931: The Norman Conquest of \$4.86*, by D. E. MOGGRIDGE.

Forthcoming titles include:

The Economic Impact of the Patent System, by C. T. TAYLOR and Z. A. SILBERSTON.

Programming and Interregional Input-Output Analysis, by A. GHOSH in collaboration with A. CHAKRABARTI.

Planning Problems in the U.S.S.R., by M. J. ELLMAN.

OCCASIONAL PAPERS

70. This series, published for the Department by the Cambridge University Press, is designed primarily for the rapid publication of research results which have topical interest. The following titles were added to those listed in previous Reports:

No. 22. *The Prediction of Profitability and Other Studies of Company Behaviour*, by GEOFFREY WHITTINGTON.

No. 26. *The Role of Investment in the Development of Fiji*, by MICHAEL WARD.

No. 28. *Economies of Scale in Manufacturing Industry*, by C. F. PRATTEN.

No. 29. *The British Prices and Incomes Board*, by ALLAN FELS.

No. 30. *Office Dispersal and Regional Policy*, by JOHN RHODES and ARNOLD KAN.

No. 31. *The Pattern of Ordinary Share Ownership 1957-1970*, by JOHN MOYLE.

No. 34. *More Fortran Programs for Economists*, by LUCY JOAN SLATER.

Forthcoming titles include:

Do Trade Unions Cause Inflation? by DUDLEY JACKSON, H. A. TURNER, and FRANK WILKINSON (published November 1972).

Effects of the Selective Employment Tax: Final Report, by W. B. REDDAWAY and Associates.

Production Conditions in Indian Agriculture, by KRISHNA BHARADWAJ.

Company Finance and the Capital Market, by EDWARD DAVIS and KEITH YEOMANS.

The Distribution of Consumer Goods, by T. S. WARD.

Shipping Conferences: a Study of their Origins, Development, Economic Practices and Consequences, by B. M. DEAKIN in collaboration with T. SEWARD.

A PROGRAMME FOR GROWTH

71. This series published by Chapman and Hall Limited, describes the progress of work on economic growth undertaken at the Department under the direction of Professor Richard Stone. The eleventh volume was published in November 1971:

The Financial Interdependence of the Economy, 1957-1966, by ALAN ROE.

STUDIES IN THE NATIONAL INCOME AND EXPENDITURE OF THE UNITED KINGDOM

72. This series is published by the Cambridge University Press under the joint auspices of the Department and the National Institute of Economic and Social Research. It contains the results of research undertaken in both institutions under the general direction of Professor Richard Stone. Five volumes have appeared and were listed in previous Reports. The sixth and final volume was published during the year, under the title:

National Income, Expenditure and Output of the United Kingdom, 1855-1965, by CHARLES FEINSTEIN.

CAMBRIDGE STUDIES IN SOCIOLOGY

73. The Cambridge University Press publishes this series of Monographs on subjects of both theoretical and social interest and based on the findings of empirical sociological investigations. The following publication appeared in 1971-72:

No. 5. *Family Structure in Nineteenth Century Lancashire*, by MICHAEL ANDERSON.

It is hoped to publish the following in the coming year:

Workers on the Move, by J.M. MANN.

CAMBRIDGE PAPERS IN SOCIOLOGY

74. This series, published by the Cambridge University Press, is intended to provide rapid publication of works which are between Journal articles and Monographs in length. The following were published during 1971-72:

No. 2. *Workers' Attitudes and Technology*, by DOROTHY WEDDERBURN and ROSEMARY CROMPTON.

No. 3. *Perceptions of Work: Variations within a Factory*, by H. BEYNON and R.M. BLACKBURN.

REPRINT SERIES

75. These are selected papers which members of the Department's research staff and others working in direct collaboration with the Department have contributed to learned journals and other publications.

The following titles were added in 1971-72:

No. 323. 'Corporate Taxation and Dividend Behaviour', by G. WHITTINGTON, M.A. KING, and MARTIN S. FELDSTEIN (*The Review of Economic Studies*, January 1971, July 1971, and April 1972).

No. 353. 'British Controls on Long-term Capital Movements 1924-1931', by D.E. MOGGRIDGE (*Essays on A Mature Economy: Britain After 1840*, Methuen, October 1971).

No. 354. 'How Higher Wages Can Cause Unemployment', by C.F. PRATTEN (*Lloyds Bank Review*, No. 103, January 1972).

No. 355. 'Rising Prices - Who's to Blame', by MICHAEL WARD (*The Business Economist*, Vol. 3, No. 3, 1971).

No. 356. 'Assets, Liabilities and Poverty', by DUDLEY JACKSON and ANN FINK (*Social and Economic Administration*, Vol. 5, No. 4, October 1971).

No. 357. 'On the Proposed Reform of Corporation Tax', by JOHN EATWELL (*The Bulletin of the Oxford University Institute of Economics and Statistics*, Vol. 33, No. 4, 1971).

No. 358. 'Wage Policy and Industrial Relations in India', by DUDLEY JACKSON (*The Economic Journal*, Vol. 82, March 1972).

No. 359. 'An Analysis of Take-overs', by W.B. REDDAWAY (*Lloyds Bank Review*, April 1972).

No. 360. 'Control Theory and Input-Output Analysis', by D.A. LIVESEY (*International Journal of Systems Science*, Vol. 2, No. 3, 1971).

No. 361. 'The International Corporation in the Third World', by DUDLEY JACKSON (Paper presented at Society of Business Economists Conference at Churchill College, Cambridge, April 1971, and subsequently published by S.B.E. in the Conference Proceedings).

No. 362. 'Economic Development and Income Distribution in Eastern Africa', by DUDLEY JACKSON (*Journal of Modern African Studies*, Vol. 9, No. 4, 1971).

No. 363. 'The Brussels Tariff Nomenclature and Developing Countries', by MICHAEL WARD (*The Journal of the Economic Society of Australia and New Zealand*, Vol. 51, No. 120, December 1971).

No. 364. 'Job Evaluation or Job Devaluation?', by FRANK WILKINSON (*The Cambridge Review*, 2 June 1972).

No. 365. 'The Profitability of Retained Earnings', by G. WHITTINGTON (*The Review of Economics and Statistics*, Vol. LIV, No. 2, May 1972).

No. 366. 'Stocks and "Stagflation"', by MICHAEL WARD (*The Business Economist*, Vol. 4, No. 2).

No. 367. 'Pricing in the Trade Cycle', by WYNNE GODLEY and WILLIAM D. NORDHAUS (*The Economic Journal*, Vol. 82, September 1972).

III. Other Activities

SEMINARS

76. During the year six research papers, of which three were given by visiting economists, have been read at seminars held under the joint auspices of the Department and of the Faculty of Economics and Politics.

77. Ten papers were given in the series of seminars on Mathematical Economics and Econometrics. Visiting economists contributed nine of these.

UNIVERSITY RELATIONSHIPS

78. Many teaching officers of the Faculty of Economics and Politics have directed, or otherwise taken part in, the research projects carried out by the Department. Members of the Department's staff have given lectures or taken classes for the Economics Faculty, and for the Social and Political Sciences Tripos, and nearly all of them are engaged in undergraduate and post-graduate teaching. The Department has provided Faculty teaching officers with secretarial and computing assistance, as well as advice on electronic programming and data analysis. It has also assisted research students attached to the Faculty.

79. Several of the Department's research staff are members of University committees, including the Faculty Boards of Economics and Politics, and of Social and Political Sciences.

RELATIONSHIPS WITH OTHER BODIES

80. Financial assistance which the Department has received from outside bodies is dealt with in Section IV. Help of other kinds has come from many sources, including the Central Statistical Office, H.M. Treasury, the Overseas Development Administration, the Department of Employment and Productivity, the Department of Trade and Industry, the Social Science Research Council, the Bank of England, and a large number of industrial, shipping and business firms, trade and professional associations, and trade unions.

VISITORS

81. The following visiting economists and sociologists have worked in the Department during the year under review:

Mr L. Adamis, Computing Research Centre of the United Nations, Bratislava.

Mr K. Dixon, University of York.

Professor E. Hope, Norwegian School of Economics and Business Administration, Bergen.

Mr A.N.E. Jolley, University of Melbourne.

The Rt Hon. Aubrey Jones, P.C., B.Sc. (Econ.) (London), formerly Chairman of the National Board of Prices and Incomes.

Professor G.A. King, University of California.

Mr V. Santoro, University of Naples.

IV. Finance

82. The Department's annual expenditure, which is mainly covered by outside grants, rose from £172,340 in 1970-71 to £190,014 in 1971-72. Eighty-five per cent of the expenditure was, as in 1970-71, on stipends, wages, and related payments.

83. The annual grant which the University makes to the Department is not increased to take account of increased activities or higher costs generally. It is increased to allow for higher scales of stipends and wages, but only to the extent of eleven-eightieths of the additional cost of a notional establishment based on that which existed in 1956. Accordingly the University grant rose from £56,056 in 1970-71 to £62,623 in 1971-72, an increase of £6,567. Expenditure, on the other hand, rose by £17,674.

84. The following are the principal new or additional payments by outside bodies which have been accepted during the year, for payment over various periods:

	£
Social Science Research Council	39,196
Ford Foundation	14,655
Overseas Development Administration	1,300
TOTAL	£55,151

V. Staff

85. The research staff employed during the year 1971-72 was as follows:

Director: Mr W.A.H. GODLEY, M.A. (Cantab.), M.A. (Oxon.), Fellow of King's College.

Assistant Director: Mr C.T. TAYLOR, M.A. (Cantab.), M.A. (McGill), Fellow of University College.

Special Appointment: Miss L.J. SLATER, Sc.D., Ph.D. (Cantab.), D.Litt., Ph.D., M.A. (London), Head of Computing, Fellow of Lucy Cavendish College.

Senior Research Officers: Mr R.M. BLACKBURN, M.A. (Cantab.), Ph.D. (Liverpool), Fellow of Clare College; Mr B.M. DEAKIN, M.A. (Cantab.), M.A. (Oxon.), Fellow of Magdalene College; Mr A.T.K. GRANT, C.B., C.M.G., M.A. (Cantab.), M.A. (Oxon.), Fellow of Pembroke College; Mr K. PRANDY, M.A. (Cantab.), Ph.D. (Liverpool), B.Sc. (Econ.) (London), Fellow of Fitzwilliam College; Mr G. WHITTINGTON, M.A., Ph.D. (Cantab.), B.Sc. (Econ.) (London), Fellow of Fitzwilliam College.

Research Officers: Mr T.S. BARKER, M.A. (Cantab.), M.A. (Edin.), Fellow of Downing College; Mr T.A.J. COCKERILL, B.A. (Leeds); Mrs J.C. CRAIG, M.A. (Cantab.), B.Sc. (London); Mr T.F. CRIPPS, B.A. (Cantab.); Mr A.S. DEATON, M.A. (Cantab.), Fellow of Fitzwilliam College; Mr M.J. ELLMAN, Ph.D., M.A. (Cantab.), M.Sc. (Econ.) (London), Fellow of Fitzwilliam College; Mr L.J. HANDY, M.A. (Cantab.), B.A. (Leeds); Mr D.A.S. JACKSON, M.A. (Cantab.), M.A., B.Phil. (Oxon.), Fellow of St Catharine's College; Mr D.A. LIVESEY, Ph.D. (Cantab.), B.Sc. (Engineering) (London), Research Fellow of Peterhouse; Mr G.E.J. LLEWELLYN, B.A. (Hons.) (Victoria University of Wellington); Mr B.C. MOORE, M.Sc. (Econ.) (London); Mr C.F. PRATTEN, M.A. (Cantab.), B.A. (Bristol), Fellow of Trinity Hall; Mr J. RHODES, M.A. (Cantab.), B.A. (Liverpool); Mr A.R. ROE, M.A. (Cantab.), M.Sc. (Wales), B.Comm. (Leeds); Mr P.H. STANWORTH, M.A. (Leicester); Mr A. STEWART, M.A. (Cantab.), B.Sc. (Econ.) (London); Mr J.D. SUGDEN, B.A. (Newcastle); Mr R.J. TARLING, M.A. (Cantab.); Mr M.P. WARD, M.A. (Cantab.), B.A. (Exeter), Dean and Fellow of Selwyn College; Mr S.F. WILKINSON, M.A. (Cantab.); Mr V.H. WOODWARD, B.A. (Nottingham).

Junior Research Officers: Mr K.J. COUTTS, B.A. (Cantab.); Mr M.A. KING, B.A. (Cantab.); Mr M.H. PESARAN, Ph.D. (Cantab.), B.A. (Salford); Mr A.W.A. PETERSON, M.A. (Essex), B.A. (Cantab.); Mr G. RENDLE, B.A. (Cantab.); Mr D.J. ROBERTS, B.A. (Cantab.); Mr T.S. WARD, M.A. (Cantab.), B.A. (Wales), M.A. (Econ.) (Manchester); Mr L.A. WINTERS, B.Sc. (Bristol); Mr J.E. WOODS, B.A. (Cantab.).

Research Consultants and Research Fellows: Mr A.H.M. FELS, B.Econ., LL.B. (Western Australia); Mrs J.M. MARQUAND, M.A. (Oxon.); Mrs M.T. NICKSON, B.Sc. (McGill); Mr J.P. MOYLE, B.Sc. (Manchester), F.R.I.C.S.; Mr F.E. TOWNSON; Mrs J.M. WHEELER, Ph.D. (Cantab.), B.Sc. (London).

86. The following, although not formally holding University posts in the Department, were closely associated with the Department's research activities during the period under review:

Professor D.G. CHAMPERNOWNE, M.A. (Cantab.), Fellow of Trinity College, Professor of Economics. Mr M.P. COWEN, B.Sc. (London).

Miss P.M. DEANE, M.A. (Cantab.), M.A. (Glasgow), Fellow of Newnham College, University Lecturer in Economics.

Mr C.H. FEINSTEIN, Ph.D. (Cantab.), B.Comm. (Witwatersrand), Fellow and Senior Tutor of Clare College, University Lecturer in Economics.

Mr K.D. GEORGE, M.A. (Cantab.), M.A. (Wales), Fellow of Sidney Sussex College, University Lecturer in Economics.

Professor N. KALDOR, M.A. (Cantab.), B.Sc. (Econ.) (London), Fellow of King's College, Professor of Economics.

Mrs T. LIESNER, M.A. (Cantab.), B.Sc. (Econ.) (London), Fellow of Girton College, Librarian-Secretary of the Faculty of Economics and Politics.

Mr J.M. MANN, B.A., D.Phil. (Oxon.), Lecturer in Sociology, University of Essex.

Mr B.R. MITCHELL, Ph.D. (Cantab.), M.A. (Aberdeen), Fellow of Trinity College, University Lecturer in Economics.

Mr D.M.G. NEWBERY, M.A. (Cantab.), Fellow of Churchill College, University Lecturer in Economics.

Professor W.B. REDDAWAY, M.A. (Cantab.), F.B.A., Fellow of Clare College, Professor of Political Economy.

Mr Z.A. SILBERSTON, M.A. (Cantab.), Fellow of Nuffield College, Oxford.

Mr A. SINGH, M.A. (Cantab.), Ph.D. (Berkeley), M.A. (Howard), B.A. (Punjab), Fellow of Queens' College, University Lecturer in Economics.

Professor RICHARD STONE, C.B.E., Sc.D., M.A. (Cantab.), F.B.A., Fellow of King's College, P.D. Leake Professor of Finance and Accounting.

Professor H.A. TURNER, Ph.D. (Manchester), M.A. (Cantab.), B.Sc. (Econ.) (London), Fellow of Churchill College, Montague Burton Professor of Industrial Relations.

Mr K.J. WIGLEY, M.A., Ph.D. (Cantab.), Fellow of Corpus Christi College, University Lecturer in Engineering.

87. During the period covered by this Report the following members of the research staff left the Department to take the posts mentioned in brackets.

Mr T.A.J. COCKERILL, B.A. (Leeds) (Principal Lecturer in Economics, Teeside Polytechnic).

Mr P.M. CROXFORD, B.A. (Exeter) (Senior Assistant Statistician, Officer of Manpower Economics).

Mr E.W. DAVIS, M.A. (St Andrews) (Reader in Business Finance, University of Aston).

Mr C.H. FLETCHER, M.A. (Cantab.), B.A. (Exeter) (Senior Economist at Economic Consultants Limited).

Mr C.S. LEICESTER, M.A. (Cantab.) (Senior Research Fellow, Institute of Manpower Studies).

Mr J.M. MANN, B.A., D.Phil. (Oxon.), (Lecturer in Sociology, University of Essex).

Mr J.S. O'DONNELL, B.A. (Cantab.) (Tax Economist, Confederation of British Industry).

Mr D.J. ROBERTS, B.A. (Cantab.) (Organization Planning Analyst, British Leyland Motor Corporation).

Mr A.R. ROE, M.A. (Cantab.), M.Sc. (Wales), B.Comm. (Leeds) (Lecturer in Economics, University of Warwick).

Mr B. SHEAREY, M.Sc. (Leeds) (Computer Officer, Computer Laboratory, University of Cambridge).

Mr G.B. STAFFORD, B.A. (Strathclyde) (Lecturer in Economics, University of York).

Mr J.D. SUGDEN, B.A. (Newcastle) (Reader in Construction Economics, University of London).

Mr G. WHITTINGTON, M.A., Ph.D. (Cantab.), B.Sc. (Econ.) (London) (Professor of Accountancy and Finance, University of Edinburgh).

ASSISTANT STAFF

WALLMAN; Mrs S. V. WOODWARD.