

Report of the
Executive Board to the Governors
of
THE ECONOMIC
RESEARCH INSTITUTE
for 1962-63

THE ECONOMIC RESEARCH INSTITUTE

EXECUTIVE BOARD, 1962-63

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THE ECONOMIC RESEARCH INSTITUTE

THIRD ANNUAL REPORT

For the year ended 30 June 1963

In this Third Annual Report the following matters are dealt with :—

1. Publications of the Institute ;
2. A summary account of research work by staff members ;
3. Quarterly Industrial Survey ;
4. Conference activity ;
5. Lectures by visiting lecturers ;
6. Seminar ;
7. Training ;
8. Library ;
9. Staff ;
10. Membership and finance.

1. Publications of the Institute

The results of research by the Institute staff are produced in the following forms :—

- I Books ;
- II Publications Series ;
- III Reprint Series ;
- IV Articles (other than at III) in outside periodicals.

These are listed in Appendix A. As regards books (Series I), R. C. Geary acted as editor of I 1 on behalf of the European Association for Medium and Long-term Forecasting (ASEPELT). Contributors comprised a group of European scholars. Geary's contribution took the form of a summary and appraisal of the methods used by his colleagues and a forthright criticism of the present-day content of economics, literary, mathematical and statistical, as the subject is conceived and taught in European universities: it was issued in the Institute Reprint Series (as III 1) and is now out of print. He questioned the usefulness of the approaches at present used from the viewpoint of improving the condition of mankind, which he conceived to be the main objective of economics, and made suggestions for improvement of university courses.

Edward Nevin's book (I 2) is an Irish edition of an earlier work (now in its second edition) which had sold very well in England and

America. In the new version he derives his illustrations largely from Irish statistical sources and the text has been rewritten and extended from the Irish point of view. The book is designed for use by Irish university students.

Geary and M. D. McCarthy have written a monograph on the elements of linear programming (I 3) which should be published before the end of the year. This technique is one of the most significant additions to statistical and economic methodology in recent years. The work is specifically intended for students, especially students of economics. Though there is a large literature on the subject the authors consider that, especially in the economic context, the economics tend to be mixed up with the mathematics obscuring both for the student. "So here is yet another attempt in which any merit it possesses can be only in the manner of presentation".

It has been judged expedient to give in Appendix A a full list of titles of works produced in the Institute since it became operational some two years ago, including unpublished works in an advanced stage of preparation likely to be available before the end of the year. Series II, the principal activity of the Institute, comprises works in applied economics specifically relating to Ireland. Series III consists of papers published in scientific journals etc., reprinted by the Institute. These papers are of more abstract character (with only incidental reference, if at all, to Ireland) and therefore have a wider interest than those of Series II which, of course, may also contain original abstract work in economic and statistical theory and methodology.

Series IV papers are generally more "popular" in character being intended for a wider public than is the case with the other series.

In addition to the various publication series, staff members have produced a number of memoranda mainly for the use of Irish Government Departments concerned with economic planning. They are experimental or tentative in character in their present stage but some may be published later in revised and extended form.

2. A Summary Account of Research Activities by Staff Members

Textual references (usually in brackets) are to works listed in Appendix A.

Demand Analysis and Cognate Matters

These problems engaged the attention of C. E. V. Leser under the following heads :

Analysis of consumer's expenditure: Changes in distribution of Irish personal expenditure over major commodity groups since 1953 were studied, with a view to estimating income and price effects and to forecasting further expenditure patterns. A paper to be read to the Statistical and Social Inquiry Society of Ireland in the 1963-64 Session

has reached an advanced stage of preparation (III 7). The results of this paper have also been utilised in the decision model constructed for the Irish economy—see later.

Further work on the project is not envisaged until the results of the new Household Budget Inquiry become available. These data, however, should provide material for a comprehensive analysis.

Imports and their determinants: A study was started of various categories of imports and the extent to which they were influenced by different factors. A study based on the period 1947–61 appeared as II 14. The results suggest that the ratio of total imports to gross national product, which showed little change in the long run, was influenced by the growth rate and by price factors in the short run.

It is felt that the subject deserves further study, to some extent on the lines of *A Study of United Kingdom Imports* by M. F.G. Scott, a book which, incidentally, Leser was asked to review for the *Journal of the Royal Statistical Society*. Whilst not necessarily going to the lengths of Scott's analysis, the project would be on a comparatively long-term basis.

Short-term forecasting: The work previously carried out by A. Kuehn was recently resumed by Leser, who studied the main lessons of 1962 for the Irish economy and the economic prospects for 1963 and the near future. A paper (II 15) will be published in July 1963. In this paper, a first attempt at using a mathematical short-term forecasting model for Ireland is made. It is hoped in the future to make a more systematic study of the suitability of alternative economic models for short-term forecasting.

Statistical methods: Some work, begun in Australia, on devising a new method of estimating trend and seasonal variation in time series, was completed. As a result, a paper "Estimation of Quasi-linear Trend and Seasonal Variation" has been prepared and accepted for publication in the December 1963 issue of the *Journal of the American Statistical Association* (III 3).

It is hoped to make from time to time further studies in statistical methods and their application to economic data and econometric problems.

Public Debt

As a result of an invitation from the Spanish Ministry of Finance, Edward Nevin prepared a paper on "Public Debt and Economic Development" for publication in a volume devoted to various aspects of economic growth. At the Director's suggestion this was developed with particular reference to Ireland and ultimately published (II 11).

The Irish public debt has in fact grown very considerably in recent years—by 1961 it was more than five times as large as in 1945, although in relation to the national income it was something less than three times as large in 1961 as in 1945. Very little of this is external debt,

however, and the paper examined the ways in which an expansion of the internal debt could contribute to economic growth in a country of Ireland's situation.

The evidence suggested that until recent years the main factor in the growth of the Irish public debt had been the financing of official and semi-official development expenditures; in recent years, however, the stress had moved more towards the indirect provision of capital finance for the non-government sector. Current budget deficits have accounted for little more than 10 per cent of the accumulated debt.

Wages

The comparative cost position of Irish industry is a matter of crucial importance in relation to policy issues such as the Common Market. An investigation was therefore carried out by Nevin into wage-rates and earnings in Irish industry, the results of which were published (II 12).

In general, wages have followed in Ireland a pattern similar to that of Western Europe as a whole, a fact which was only to be expected in view of the openness of the economy. By 1962 they were, on average, around three-quarters of the comparable wages in the United Kingdom, although during 1953-57 a wider gap was opened up between the two countries.

Perhaps the most striking feature of the Irish wage situation is the suggestion of a tendency for money wages to experience an annual rise of around 5 per cent irrespective of contemporaneous changes in either productivity or the cost of living. In the absence of a conscious and effective control over wages, therefore, unit costs in Irish industry will tend to be determined by the rate of growth of output rather than by variable cost factors.

Capital Stock

Although relative wage-levels are of considerable importance in determining the competitive position of Irish industry, a complete examination of industrial costs must make some allowance for capital charges.

Unfortunately none of the readily available data can yield even a satisfactory approximation to an indicator of capital stock, and a special investigation is necessary to attempt some remedy to this deficiency.

A questionnaire inquiry carried out by the Central Statistics Office has provided some data on the valuation of assets for insurance purposes by Irish industry. Using these basic data, Nevin has made an estimate of the fixed capital stock of all enterprises at the end of 1958. These suggest that at that time the average value of fixed assets per person engaged amounted to about £1,500 for manufacturing as a whole, this average standing within a range of just over £3,000 a head in the drink and tobacco industries to about £750 a head in wood manufactures.

In order to proceed to annual totals of capital stock so as to examine changes in capital usage through time, it was necessary to arrive at some estimate of the average working life of assets in Irish industry, so that allowance for depreciation could be made and estimates deduced for annual changes in the net capital stock. The method finally arrived at is the subject of an article by Nevin which will be published by *Oxford Economic Papers* early in 1964 (III 6). It suggests that the working life of assets in Irish industry may be considerably longer than is conventionally assumed—some 99 years for buildings and 43 years for plant and machinery—again with considerable variations from industry to industry.

With the aid of these asset-lives, and the annual depreciation totals implied by them, annual totals of capital stock have been arrived at for 1947–59, and various preliminary calculations of productivity and profitability have been made from them. The results will be shown in detail in a forthcoming Institute paper (II 17).

Cost Structure

Both the investigation of wages and the construction of capital-stock estimates have in a sense been merely the preparatory groundwork for an examination of the total cost-structure of Irish industry.

Primarily to assess its practicability, a pilot study of this kind was carried out by Nevin for British manufacturing industry. Using national income data, input-output studies and indicators from foreign trade, production and consumption statistics, a detailed reconstruction was made of the total final costs of manufactured products in the United Kingdom during 1948–61. This pilot study has been embodied in an article accepted for publication by the *Economic Journal* late in 1963 (III 5).

Work is now proceeding on a similar study of Irish industry. The object of this study will be to examine the contribution made by different elements—imports, home materials, labour, taxes and so on—to changes in total industrial costs during recent years. This will throw some light on the inflationary process in Ireland—the influence of different cost-elements, for example, and the extent to which changes are passed on to final purchasers or absorbed in varying profit margins. It is hoped to publish the results in a future Institute paper (II 20).

Local Government Finance

The task of investigating the economic aspects of the incidence of local taxation in Ireland was assigned to the Institute by the Taoiseach, Mr. Seán F. Lemass T.D., at the Opening Ceremony of the Institute on 6 June 1961. To date, two papers have been prepared by D. Walker (II 5 and II 18). In the earlier paper it was found that in Ireland Local Authorities were much more than “executive agencies” of the Central Government; that certain principles could be applied to help assess which public services should be operated by Local Authorities; that it

was desirable that Authorities should be financed both by resources under their own control and from Central Government Grants. As is generally believed the present system of rating is out-of-date and inadequate; in certain instances the Local Rate is an inequitable tax in that it can so affect the overall tax burden as to bring about a conflict with the principle of ability to pay. As to services, it was found that the level provided varied considerably from one Authority to another; that a relatively high level of services seemed to be associated with a relatively low burden of taxation and *vice versa*; that it did not seem that State support particularly helped the poorer counties rather than the better-off ones.

The conclusions in the first paper, though tentative, were far-reaching and the author's approach in the second paper (II 18) has been to reconsider his earlier findings in the light of the study on county income (II 16). On the whole the new material supports the relevant conclusions in the first paper. There are considerable differences in the average income or wealth in the various counties and this has important implications when Authorities are asked by the State to provide important services. The rate burden tends to bear heavily on the non-agricultural sectors of poorer counties. Though the burden with respect to personal incomes is roughly similar across the State some of the poorer counties are getting a lower level of services for the same burden of taxation.

In both papers there is a considerable amount of analytical statistical data which cannot easily be summarized. This author, who left the Institute in April 1963, often conferred with officers of the Department of Local Government and with certain Local Authorities.

Public Funds for Economic Development

D. Walker prepared a paper broadly on this topic at the request of the United Nations for a conference in Beirut in November 1961 organised by the UN Regional Social Affairs Office for the Middle East. Although the paper was designed for delegates from Arab States the Director of the Institute considered that the principles and their local application would be of considerable interest in Ireland. Paper II 8 was the outcome.

Economic development is the creation in a country of the capacity to create wealth rather than the creation of wealth in the form of tangible assets itself, and this capacity depends in the last resort upon the quality of the people and the country, and that in turn can be influenced, if not determined, by expenditure—particularly expenditure on the social services—though by no means all such expenditures are productive in this sense. The major problem involved here is this: how, with given resources available for investment, should such resources be allocated, in particular with reference to the division between social and other investment, so as to contribute best to economic growth? A second point made in the paper is that ex-

penditures on social development need to be planned with at least the same care that is given to the planning of a large new dam or the building of a new major port or railway line. Risks of wasting resources are as great, and as much care in making projections and having "forward looks" and seeing whether a new project fits into the economy, as a whole, is required.

A considerable amount of analytical statistics is furnished in the supplement of the paper relating to Ireland. The main feature of the paper was the need for careful research as a background to the consideration of what is the appropriate allocation of money to the various social services. Little such work has yet been done in Ireland and until it is done it would be wrong to offer an opinion as to the present adequacy of public spending on the provision of social services. By international standards, overall spending by public authorities in Ireland does not seem unreasonable, though a few differences in composition are suggestive. There is an indication for example that expenditure on education may be a little low and on housing a little high. International comparisons of this type are interesting and stimulating but they do not of themselves provide the basis for conclusions with respect to the allocation of government monies. Research and investigation into this topic is particularly important in Ireland as, due to the way the various social services are organised, there may be considerable scope for improved allocation of public funds. It is thought that the establishment and work of a Social Development Research and Planning Unit might serve to bring about some improvement.

Inland Transport

This set of problems engaged the attention of D. J. Reynolds whose temporary assignment in the Institute has just ended. In his first Institute paper (II 10) the factual background was established. It emerged that the Irish road system is one of the least densely populated (or developed) in the world; while car ownership is lowest in the western part of the country, it has been increasing more rapidly in this area than in the more prosperous east and south. Passenger mileage in 1960 was estimated at 5,350 million of which only 350 million (or 7%) was by rail, in comparison with 4,000 million (or 74%) by private cars and taxis and 780 million (or 15%) by public service vehicles and 220 million (or 4%) by motor cycles. Attention is directed to the difficulties of the railways and their response to these difficulties in concentration of the system, modernisation of equipment, specialisation on longer-distance transport and haulage of bulkier freights.

In paper II 13 attention is specifically directed to road transport. While the number of cars per 1,000 population is low in Ireland compared with other west European countries, it is high in relation to income. In fact, outside agriculture the number of cars owned is

about equal to the number of persons with incomes over £525 a year (compared with £850 in Great Britain). In agriculture in 1960 the number of cars, 46,000, approximates to the number of holdings over 70 acres.

The major transport phenomenon in the next ten years is likely to be the growth in the number of road vehicles and in traffic. Growth in numbers will be at about three times the rate of growth in GNP which would mean that the number of cars registered would more than double in ten years.

Reynolds has completed a paper (II 21) on rail transport but has decided to hold over publication until he has had an opportunity of reconsidering his views in the light of additional information on the rail system which is likely to become available later in the year. He acted as a consultant to Government officials considering problems of roads and road transport.

Labour-Management Relations

David O'Mahony, who joined the staff of the Institute in October last, is engaged in a study of industrial relations. Preliminary investigations are now completed and findings are embodied in a paper which, it is hoped, will be published in the near future (II 19). Beginning with an outline of the general institutional background to labour-management relations in Ireland the paper goes on to deal with trade unions, collective bargaining, industrial disputes and concludes with some observations on industrial relations within the enterprise. In addition a brief survey of the state of labour-management relations in the main sectors of the economy is added by way of an appendix.

Work has begun on the economic aspects of industrial relations with special reference to the so-called "wage-rounds" and to the possibility of pursuing a wages policy under Irish conditions. This investigation is already in an advanced stage of preparation and it is expected that it will be finished shortly.

During the coming year it is hoped to conduct at least three further inquiries which will be very largely based on personal interviews with trade union officials, managers and others directly concerned with labour-management relations. One of these will deal with the internal structure and organisation of the trade unions and employers' organisations; the second will deal with labour-management relations in certain selected enterprises in the public sector; while the third will be concerned with the private sector. Particular attention will be paid to the impact of labour-management relations on productivity in the second and third of these inquiries.

County Incomes

This purely statistical compilation (II 16) was undertaken primarily in connection with D. Walker's researches into the incidence of local taxation in Ireland (II 5 and 18). As the results were likely to be useful

for market research, for studies into rural economy (in particular in the interaction of agriculture and non-agriculture), siting of industry etc., as well as the primary purpose, the paper seemed to merit separate publication. The Central Statistics Office very particularly, all other Government Departments, and many other bodies co-operated in the required degree in furnishing particulars which the authors, E. A. Attwood and R. C. Geary, required. The year of reference is 1960.

The estimates were made in considerable sub-sectoral detail, the principal results being presented in a table which shows for each county and for each sector (1) Agriculture, forestry, fishing (2) Industry (3) Distribution, transport (4) Public administration, defence (5) Other domestic (6) Total income arising, in the categories (a) employee remuneration (b) other income (profits etc.) arising (c) total income arising. "Income arising" purports to be the income created within the borders of each county to be distinguished from personal income enjoyed by residents in each country, in consequence of income redistribution with the county (distribution of dividends, social welfare payments etc.) as well as interest from investments abroad and emigrants' remittances netted for profits paid abroad etc. A county table showing estimates of personal incomes is also given. Personal incomes per head of population in 1960 are found to range from £231 for Dublin (City and County) to £153 for Mayo and Donegal.

The general method of estimation consisted in using county *distributors* applied to each constituent of income for the county as a whole officially estimated by the Central Statistics Office and the general results of which are published in the annual series *National Income and Expenditure*. These distributors ranged through the whole spectrum of statistical reliability, in general those pertaining to the larger flows being good. As regards the smaller flows, these were so numerous that, if in general the distributors used were more dubious, on aggregation the errors of estimation might be compensatory. Nevertheless it seemed necessary to attempt a statistical appraisal of the results. For this appraisal a special feature was made of component analysis of seven series, with reassuring results, in the sense that the test showed that the estimates of personal income were probably within 5% of the truth for most counties. The test was also useful in calling attention to the few counties in which the estimates were probably too large or too small.

Decision Models

R. C. Geary elaborated an Input-Output decision model for Ireland. The question which this model purported to answer was the following: assuming various rates of increase in the economy (taken as the gross domestic product) between base year and future year of reference, what are the implications for each sector of the economy on various assumptions with regard to economic behaviour? The basic data were two Input-Output tables, for 1956 and 1960 (partial), made

available by the Central Statistics Office. With the help of that Office the 1960 table was abridged from the original 1956 table of dimension 35×35 to 9×9 to speed up availability of results and to bring the system within the compass of the Elliot electronic computer to which the Agricultural Institute kindly gave access, together with the invaluable services of F. M. O'Carroll. The primary (or factor) input part of the table was recast in such a way that there emerged from it, not only (i) the usual single income-expenditure accounting identity, but a series of four additional macro-economic identities as follows :—

- (ii) Household income = Household expenditure + saving
- (iii) Government income = Government expenditure + saving
- (iv) Saving + net investment from abroad = capital formation
- (v) Imports = Exports + net investment from abroad.

The equation system ultimately consisted of 19 linear equations between 29 variables (including output of the nine sectors, household expenditure, exports, net investment from abroad etc.). This system meant that predetermined values (or linear relationships) could be assigned to any 10 (=29-19) variables or coefficients. Once these are assigned the whole system can be solved, i.e. the values of all 29 variables determined for the year of reference, which was taken to be the year 1970.

Naturally a considerable choice can be made with 10 degrees of freedom, even if the predetermined values seemed *a priori* reasonable, in past experience. The method used consisted of feeding various sets of assumptions into the computer; for each set there emerged the full answer in the form not only of the values of the 29 variables in 1970 but also the full set of five accounting identities properly set out with percentage change in each variable since 1960. For each set of assumptions a full set of solutions emerged from the computer in a period of a few minutes. Upwards of 60 sets of solutions were obtained. It is the efficiency of the computer which renders practicable this rather "extensive" approach which would be inconceivable by any other means.

It happens that the great majority of assumptions which at first sight appeared feasible proved not to be so on even cursory scrutiny of the computer sheets for such reasons as there emerging too large a current balance of payments (or import excess), too small a rate of saving, too large demands by way of output and exports in the sector Agriculture, forestry, fishing. The whole exercise, while it involves many assumptions more or less likely to be fulfilled, is realistic in showing on the basis of existing knowledge the efforts and sacrifices entailed for different sectors of the community in giving effect to a prescribed rate of increase in the economy, planning for which must begin with the least delay.

In the first set of exercises it was assumed that the inter-industry set of unitary coefficients would be the same in 1970 as in 1960. Unitary coefficients for household consumption and for exports (both supplied by C. E. V. Leser—see above) were also required for this model.

Work is now proceeding on *sensitivity* aspects : what would the effect on the answers be if changes of defined magnitude were made in the coefficients? Also the linear programming aspect is being examined in the following form : what exports would it be most profitable for the country to promote? That is, per £1 million increase in the exports of each sector, what exports would be conducive to the largest increase in gross national product?

So far all the analysis has been conducted on the assumption that prices ruling in 1960 will be those of 1970. The price aspect will be examined later.

It is likely that the results of this research will be presented in the form of a paper to the Statistical and Social Inquiry Society of Ireland during its 1963-64 Session (III 8).

3. Quarterly Industrial Survey

This Survey in its extended form was continued and the results circulated to Governors. The Survey entails the issue of forms at the end of each quarter to upwards of 100 Correspondents in Industry, whose co-operation is very much appreciated.

The latest Survey (circulated on 3 May, 1963) indicated that sales and production in the food, drink, and tobacco industries were approximately the same in the first quarter of 1963 as in the same period of 1962, while sales and production in all other manufacturing industries were higher than in 1962. Manufacturers considered that for the first half of 1963 sales will be higher than in 1962, and exports will remain approximately the same. Total production for the year 1963 is expected to increase by 6% compared with 1962, and it is expected that total exports for 1963 will show a slight decrease compared with 1962.

4. Conference Activity

The Institute acted as host to a Joint European Conference of The Econometric Society, The Institute of Mathematical Statistics and The Institute of Management Sciences which was held at University College, Dublin, by kind permission of the President, from 3-7 September 1962. The Conference was attended by 279 participants and about 90 family members. Most European countries including Poland were represented and people came also from U.S.A., Canada, Israel, South Africa. Altogether 78 papers were read at the conference, covering Mathematical Programming, Stochastic Processes in Management Sciences, Regression Methods, Applied Econometrics, Production Management, Technical Change and Aggregation, Industrial Applications and their Theoretical Aspects, Economic Models in Management Science. R. C. Geary and C. E. V. Leser presented papers (to appear as Institute reprints III 2 and 4) to the Conference. Leser also acted as Rapporteur for the Econometric Society for which he prepared a report.

Staff members attended conferences etc. as follows :—

- R. C. Geary: attended the ASEPELT Conference on middleterm forecasting, April 1963; lectured by invitation to the Akademiske Kollegium of the University of Oslo, May 1963; attended conferences in Palermo on operational research in industry, May 1963 and the biennial meeting of the International Association for Research in Income and Wealth in Corfu, June 1963 where he acted as official discussant on U.S.A. and Canadian papers on quarterly national accounts.
- C. E. V. Leser : attended the following meetings: Royal Statistical Society (Research and Industrial Applications Section) Cambridge, September 1962; Economists in Irish Universities, Dundalk, April 1963 (also attended by E. Nevin, D. O'Mahony and D. J. Reynolds); L'Association d'Instituts Européens de Conjoncture Economique, Liege, April 1963.
- E. Nevin: attended the Conference of the Association of Teachers of Economics, Swansea, March 1963.
- D. Walker attended the Congress of the International Economic Association in Vienna, August 1962, where he read a paper on "Marketing Boards".

These staff members took an active part in the discussions at these meetings and were afforded an opportunity of keeping in touch with the work done by other research workers and organisations.

5. Lectures by Visiting Lecturers

Professor J. R. Hicks, F.B.A., Fellow of All Souls College, Oxford and Mrs. Ursula Hicks, Lecturer in Public Finance, University of Oxford, visited the Institute during March 1963 and lectured in the Institute Lecture Hall. Professor Hicks lectured on "Growth and Planning—Some Theoretical Questions" and the subject of Mrs. Hicks's lecture was "Choice, Efficiency and Control in Public Services".

6. Seminar

A Seminar was held in the Institute Lecture Hall in 1963 between about 30 members of the Federation of Irish Industries and Institute staff members. This was an experimental effort to establish common ground between academic economics and business interests. There were six weekly meetings. The subjects discussed were :—

1. Rational Investment Decisions;
2. Depreciation;
3. Overall Planning and the Individual Firm;
4. Productivity Measurement;
5. Usefulness of National Statistics and Statistics in the Firm
6. Some Notions of Operation Research.

Each meeting was opened by a short address by a staff member. A report of this Seminar has been prepared including these addresses and summaries of discussions, mainly to appraise results with a view to continuation and development.

7. Training

One part-time bursary holder and three scholarship holders, all university graduates, are working for higher university degrees under the direction of their professors and of Institute staff members. Particulars are as follows :—

- F. D. Morrin: was awarded a part-time Bursary at the Institute. He is engaged in a study of the sources and uses of finance in Irish industry and is surveying Balance Sheet data and published reports of a large number of companies. He went to New York during June to attend a Summer Course on the Economics of Capital Formation organised by the University of Vermont and the New York Financial Community.
- J. Guinan's scholarship was renewed for a second year. This student is engaged in writing a thesis on "The Future of Irish Agriculture" for a higher degree. He was awarded a special Ford Foundation Scholarship to the Institute of Social Studies at the Hague for a six month course on Statistics from 1 January to 30 June 1963. He passed his course examination "with credit".
- D. McAleese was awarded a post-graduate economic research scholarship in November 1962. He is studying international trade problems with special reference to Ireland.
- D. McCormack also gained a post-graduate economic research scholarship in November 1962. He is interested in regional economics particularly in the field of location of industry.

At the request of Queen's University and with the agreement of the Economic Research Institute, C. E. V. Leser acted as visiting lecturer in the Department of Economics, Queen's University of Belfast, during the first two terms of the academic year 1962-63. He visited Belfast once a week to give two classes which formed the main part of a special honours course in mathematical economics, econometrics and statistics.

Since the beginning of 1963 an informal class in statistics and econometrics was also conducted by Leser once a week to the bursary and scholarship holders of the Economic Research Institute. It is hoped that a more formal series of lectures in mathematical economics and econometrics—open to a limited number of other interested persons as well—will be given at the Institute from 1963 onwards.

8. Library

There was a total of 3,465 volumes in the Library at 30 June 1963. A large proportion of these has been acquired free of charge on an exchange basis.

9. Staff

Director; R. C. GEARY

Secretary; MRS. M. DEMPSEY

Senior Research Officers :

C. E. V. LESER

E. T. NEVIN

D. WALKER

Temporary Research Officers :

D. O'MAHONY

D. J. REYNOLDS

Bursary Holder :

F. D. MORRIN

Scholarship Holders :

J. GUINAN

D. MCALEESE

D. MCCORMACK

There is a clerical staff of six.

David Walker left the Institute on 31 March 1963 to assume the Chair of Economics at the University of Exeter.

Edward Nevin will leave the Institute on 30 September 1963 to become Professor of Applied Economics in the University College of Wales, Aberystwyth.

D. J. Reynolds returned to England at the end of June 1963, having completed the study of transport problems in Ireland.

R. H. Barback, Professor, Head of the Department of Economics and Social Studies, the University College, Ibadan and Director of the Nigerian Institute of Social and Economic Research will join the Institute as a Senior Research Officer on 1 August 1963.

A. Lancaster will commence as an Assistant Research Officer in September 1963. He is at present working in Cambridge University on a doctoral dissertation on business saving.

P. R. Kaim-Caudle, Lecturer in Economics, Department of Social Studies, University of Durham, has been associated with the Institute since April 1963 while working on a sabbatical leave study of social security problems in Ireland.

10. Membership and Finance

There are 179 Individual and 82 Corporate Governors of the Institute. Their names and addresses are listed in Appendix B.

Appendix C gives the Balance Sheet and the Auditors' Report for the year ended 30 June 1963. The third instalment of \$56,000 (£19,964) of the generous grant by the Ford Foundation, which makes the work of the Institute possible, was received during the year. An important, if secondary, source of income was subscriptions by Corporate Governors, amounting to £2,730. While this sum is a tribute to the enlightened generosity of the contributors, these are few in number and it is disappointing to have to state that a second widely dispersed invitation, issued during the year to the larger industrial and business concerns, evoked a negligible response.

The Institute is grateful to the Government for a grant of £1,912 (consisting of £1,166 for furniture and equipment, and £746 for rent of premises).

Total expenditure for the year, including depreciation, was £29,392, which is an excess of £5,050 over income.

GEORGE O'BRIEN, *Chairman.*

R. C. GEARY, *Director.*

APPENDIX A

List of Publications etc. of The Economic Research Institute

I Books

- | | |
|---|---|
| 1. <i>Europe's Future in Figures</i> (North-Holland Publishing Co., Amsterdam. 1962) | R. C. GEARY
(Editor and contributor) |
| 2. <i>Textbook of Economic Analysis. Irish Edition</i> (To be published by Macmillan and Co., London) | EDWARD NEVIN |
| 3. <i>Elements of Linear Programming with Economic Illustrations.</i> (To be published by Charles Griffin & Co. Ltd., London) | R. C. GEARY
and
M. D. MCCARTHY |

II Publication Series

- | | |
|--|---|
| 1. The Ownership of Personal Property in Ireland (October 1961) | EDWARD NEVIN |
| 2. Short Term Economic Forecasting and its Application in Ireland (November 1961) | ALFRED KUEHN |
| 3. The Irish Tariff and The E.E.C.: A Factual Survey (January 1962) | EDWARD NEVIN |
| 4. Demand Relationships for Ireland (April 1962) | C. E. V. LESER |
| 5. Local Government Finance in Ireland: A Preliminary Survey (May 1962) | DAVID WALKER |
| 6. Prospects of the Irish Economy in 1962 (June 1962) | ALFRED KUEHN |
| 7. The Irish Woollen and Worsted Industry, 1946-59: A Study in Statistical Method (July 1962) | R. C. GEARY |
| 8. The Allocation of Public Funds for Social Development (August 1962) | DAVID WALKER |
| 9. The Irish Price Level: A Comparative Study (September 1962) | EDWARD NEVIN |
| 10. Inland Transport in Ireland: A Factual Survey (November 1962) | D. J. REYNOLDS |
| 11. Public Debt and Economic Development (December 1962) | EDWARD NEVIN |
| 12. Wages in Ireland, 1946-62 (February 1963) | EDWARD NEVIN |
| 13. Road Transport: The Problems and Prospects in Ireland (May 1963) | D. J. REYNOLDS |
| 14. Imports and Economic Growth in Ireland, 1947-61 (June 1963) | C. E. V. LESER |
| 15. The Irish Economy in 1962 and 1963, with Appendix Forecast of Agricultural Output 1963 (July 1963) | C. E. V. LESER,
E. A. ATTWOOD
& M. ROSS |

To be published shortly :—

- | | |
|----------------------------------|--------------------------------|
| 16. Irish County Incomes in 1960 | E. A. ATTWOOD
& R. C. GEARY |
|----------------------------------|--------------------------------|

In preparation :—

- | | |
|---|----------------|
| 17. The Capital Stock of Irish Industry | EDWARD NEVIN |
| 18. Local Government Finance and County Incomes | DAVID WALKER |
| 19. Industrial Relations in Ireland: The Background | DAVID O'MAHONY |
| 20. The Cost Structure of Irish Industry, 1948-60 | EDWARD NEVIN |
| 21. The Future of Rail Transport in Ireland | D. J. REYNOLDS |

III Reprint Series

- | | |
|---|-------------|
| 1. Commentary on Europe's Future in Figures (July 1962) | R. C. GEARY |
|---|-------------|

To be published later:—

- | | |
|---|----------------|
| 2. Some Remarks about Relations Between Stochastic Variables: A Discussion Document (Accepted for publication by <i>The Review of the International Statistical Institute</i>) | R. C. GEARY |
| 3. Estimation of Quasi-linear Trend and Seasonal Variation (accepted for publication by the <i>Journal of the American Statistical Association</i>) | C. E. V. LESER |
| 4. Forms of Engel Functions (accepted for publication by <i>Econometrica</i>) | C. E. V. LESER |
| 5. The Cost Structure of British Industry, 1948-61 (accepted for publication by the <i>Economic Journal</i>) | EDWARD NEVIN |
| 6. The Average Life of Capital Assets: An Empirical Approach (accepted for publication by <i>Oxford Economic Papers</i>) | EDWARD NEVIN |

To be read before the Statistical and Social Inquiry Society of Ireland:—

- | | |
|---|----------------|
| 7. The Pattern of Personal Expenditure in Ireland | C. E. V. LESER |
| 8. A Forecasting Decision Model for Ireland | R. C. GEARY |

IV Articles (other than at III) in Outside Periodicals

- | | |
|---|----------------|
| 1. The Irish Economy in 1960 (<i>Irish Banking Review</i> , September 1961) | EDWARD NEVIN |
| 2. Ireland and the Common Market: Some Basic Issues (<i>Studies</i> , Autumn 1961) | EDWARD NEVIN |
| 3. Short Term Aspects of Growth in the Irish Economy, 1948-61 (<i>Irish Banking Review</i> , December 1962) | ALFRED KUEHN |
| 4. Productivity (<i>Irish Banking Review</i> , March 1963) | DAVID WALKER |
| 5. Some Aspects of Inland Transport in Ireland (<i>Statistical and Social Inquiry Society of Ireland</i> , March 1963) | D. J. REYNOLDS |

APPENDIX B

SCHEDULE OF GOVERNORS

INDIVIDUAL

- Aliaga-Kelly, C., Barnavara House, Glanmire, Co. Cork.
Andrews, C. S., B.Comm., D.Econ.Sc., Ardcath, Dundrum, Co. Dublin.
Barrington, T. J., B.A., Director, Institute of Public Administration,
59 Lansdowne Road, Dublin 4.
Barry, R. G., M.Comm., General Manager, Cork Savings Bank,
1 Lapps Quay, Cork.
Beddy, J. P., M.Comm., D.Econ.Sc., Chairman & Managing Director,
The Industrial Credit Co. Ltd., 26 Merrion Square, Dublin 2.
Beere, Thekla J., M.A., LL.D., 79 Pembroke Road, Dublin 4.
Black, R. D. C., Ph.D., Department of Economics, The Queen's
University of Belfast, Belfast, Northern Ireland.
Blythe, Ernest, 50 Kenilworth Square, Rathgar, Dublin 6.
Boland, His Excellency F. H., Permanent Representative to U.N.,
333 East 46th Street, New York, 17., N.Y U.S.A.
Bourke, J. V., M.Comm., The National University of Ireland,
49 Merrion Square, Dublin 2.
Bourke, P., Moyala, Bushy Park Gardens, Dublin 6.
Breathnach, Michael, M.A., Department of Finance, Upper Merrion
Street, Dublin 2.
Briscoe, Brendan, Ardearn, 8 Roebuck Crescent, Clonskeagh Road,
Dublin 14.
Broderick, J. B., M.Sc., Central Statistics Office, The Castle, Dublin 2.
Brosnan, W., M.Econ.Sc., 1 Cullenswood Gardens, Ranelagh, Dublin 6.
Buitleur, Padraig de, Silverspring, Clonmel, Co. Tipperary.
Busteed, J., M.Comm., University College, Cork.
Callan, P., B.L., Longfield, Carrickmacross, Co. Monaghan.
Callinan, P., F.R.I.C.S., 15 Mespil Road, Dublin 4.
Cannon, P. F. G., B.A., H.Dip. in Ed., N.U.I., Headmaster, Sandy-
mount High School, 1 Herbert Road, Sandymount, Dublin 4.
Carter, C. F., M.A., Faculty of Economics and Social Studies,
University of Manchester, Manchester 13.
Charleton, J., A.C.A., Kennedy Crowley & Co., Chartered Accountants,
4-5 Westmoreland Street, Dublin 2.
Chubb, F. B., M.A., D.Phil., Professor of Political Science, University
of Dublin, Trinity College, Dublin 2.
Clarke, J. J., LL.M., 3 Jocelyn Place, Dundalk, Co. Louth.
Coe, W. E., M.A., F.C.I.S., 25 Cricklewood Park, Belfast 9, Northern
Ireland.
Coghlan, N. J., B.A., 24 Motham Road, London S.W.15.
Colbert, J. P., B.Comm., M.Econ.Sc., Carysfort House, Grove Avenue,
Blackrock, Co. Dublin.
Colleary, G., 92 Leinster Road, Rathmines, Dublin 6.
Conlon, M. N., County Manager, County Manager's Office, Court-
house, Cork.
Corbett, A. T., B.A., B.Comm., 343 North Circular Road, Phibsboro,
Dublin 7.

- Costello, Declan, T.D., 8 Clonskeagh Road, Dublin 6.
- Counihan, Rev. T., S.J., Rathfarnham Castle, Dublin 14.
- Cox, P. G., M.A., 83 Ranelagh Road, Dublin 6.
- Cranley, M. J., M.Sc., F.R.I.C., F.I.C.I., Director General, Institute for Industrial Research and Standards, The Industrial Research Centre, Ballymun Road, Dublin 9.
- Crichton, A. C., Rossmore, Silchester Road, Glengageary, Co. Dublin.
- Cromien, S., B.A., Department of Finance, Government Buildings, Upper Merrion Street, Dublin 2.
- Crowley, Niall, F.C.A., 4-5 Westmoreland Street, Dublin 2.
- Cunningham, A. C., B.Comm., M.Econ.Sc., New York State College of Agriculture, Cornell University, Ithaca, New York, U.S.A.
- Cunningham, J. V., General Manager, Donnelly Dublin Ltd., Cork Street, Dublin 8.
- Davy, J. E., Government Stock & Share Brokers, 100/101 Grafton Street, Dublin 2.
- Deeny, J., M.D., M.Sc., F.R.C.P.I., F.R.I.A., Dunkeld, Portmarnock, Co. Dublin.
- Deeny, M., M.Agr.Sc., 221 Avenue Winston Churchill, Uccle, Bruxelles, Belgium.
- Deeny, T. C., B.A.Mod., Dunkeld, Portmarnock, Co. Dublin.
- Dempsey, J. F., B.Comm., A.C.A., General Manager, Aer Lingus, O'Connell Street, Dublin 1.
- Devitt, F. J., B.A., A.C.A., RTV Rentals Ltd., 40 Upper Baggot Street, Dublin 4.
- Dillon, J. M., T.D., Dail Eireann, Leinster House, Kildare Street, Dublin 2.
- Dixon, F. E., B.A., F.R.Met.Soc., 15 Terenure Road East, Rathgar, Dublin 6.
- Donaghy, C.A., B.A., B.Comm., Cherry & Smalldridge Ltd., Seville Place, Dublin 1.
- Donnelly, J., B.A., 8 Nassau Street, Dublin 2.
- Duncan, G.A., S.F.T.C.D., 7 Braemor Park, Dublin 14.
- Dunwoody, A., B.Sc.Econ., 15 Lyndhurst Drive, Belfast 13, Northern Ireland.
- Eason, J. C. M., B.A., M.Comm., O.B.E., 38 Elton Park, Dun Laoghaire, County Dublin.
- Fay, J. M., B.A., M.Sc., B.E., 19 Nutley Park, Ballsbridge, Dublin 4.
- Fennell, R., 114 Merrion Road, Dublin 4.
- Fitzgerald, A., B.A., LL.B., 72 St. Stephen's Green, Dublin 2.
- Fitzgerald, Garret, B.A., H.Dip. in Ed., 75 Eglinton Road, Dublin 4.
- Flynn, J. P., M.Sc., Gortlandrae, Nenagh, County Tipperary.
- Forsyth, Harry H., LL.B., F.C.A., 4 Herbert Street, Dublin 2.
- Foyle, Joseph, M.A., 22 Leeson Park, Dublin 6.
- Freeman, T. W., M.A., Dudley House, Bowden, Cheshire.
- Freyer, Grattan, M.A., Ph.D., Terrybawn Pottery, Bofeenaun, Ballina, County Mayo.
- Gaffney, Maurice P., B.A., H.Dip. in Ed., 61 Sandford Road, Dublin 6.
- Geraghty, J. B. A., M.A., 78 Willow House, Mespil Flats, Dublin 4.
- Gibney, Frank, M.T.P.I., 8 Clyde Road, Ballsbridge, Dublin 4.
- Gibson, N. J., Faculty of Economic & Social Studies, The University of Manchester, Dover Street, Manchester 13.

Gleeson, Neil, B.Comm., M.A., 38 Greygates, Mount Merrion, County Dublin.

Greene, J. N., Levitstown House, Mageney, County Kildare.

Gulick, C. S., 4702 De Russey Parkway, Chevy Chase 15, Maryland, U.S.A.

Harman, J. F., "Medina", Howth, County Dublin.

Haughey, J., B.Comm., 76 Kenilworth Square, Rathgar, Dublin 6.

Healy, R., Commissioner for Oaths, 21 Molesworth Street, Dublin 2.

Herlihy, D., General Manager, The Insurance Corporation of Ireland Ltd., 33-36 Dame Street, Dublin 2.

Hogan, S., Irish Steel Holdings, Haulbowline, County Cork.

Honohan, W. A., M.A., F.I.A., 102 St. Moibhi Road, Glasnevin, Dublin 9.

Horgan, J. J., LL.D., 50 South Mall, Cork.

hUiginn, Pdraig, U.O., 17 Forest Park Avenue, Larchmont, New York, N.Y., U.S.A.

Hussey, D. R., B.Comm., A.C.A., Massey-Ferguson Ltd., Lower Baggot Street, Dublin 2.

Hussey, F. P., A.R.C., Sc.I., 5 Sarto Road, Kilbarrack, Raheny, County Dublin.

Hyland, W., B.Sc., 30 Rathgar Road, Dublin 6.

Jenkins, J. B., B.A., Vice Chairman, W. & R. Jacob & Co., Ltd., Dublin 8.

Johnston, J., S.F.T.C.D., University of Dublin, 39 Trinity College, Dublin 2.

Kehoe, A. J., M.Agric.Sc., Cruagh Cottage, Killaree, Rathfarnham, County Dublin.

Kenny, The Hon. Justice, 69 Nutley Lane, Donnybrook, Dublin 4.

Kinahan, J., B.A., H.Dip. in Ed., The Dugout, Abbeyfields, Killester, Dublin 5.

Lenihan, B., LL.B., Hodson Bay, Athlone, County Westmeath.

Lenihan, J., B.Comm., Hodson Bay Hotel, Athlone, County Westmeath.

Leydon, J., B.Comm., LL.D., 141 Stillorgan Road, Donnybrook, Dublin 4.

Linehan, T. P., B.E., B.Sc., 26 Leinster Square, Rathmines, Dublin 6.

Lowe, J., M.A., B.Comm., A.C.A., 6 Lower Fitzwilliam Street, Dublin 2.

Lynch, P., M.A., 20 Leeson Park, Dublin 6.

Lynch, P. J., B.Comm., 4 Rathfarnham Park, Dublin 14.

Lyon, S., B.A., 62 Leinster Road, Rathmines, Dublin 6.

Maddock, D. J., B.Comm., 51 Skreen Road, Navan Road, Dublin 7.

Meenan, J. F., M.A., B.L., Albany House, Monkstown, County Dublin.

Mill, C. K., B.Sc., Woodside, Howth, County Dublin.

Moran, T. A., B.Arch., Ardahan, Grove Road, Malahide, County Dublin.

Morrison, A., M.B., B.Ch., B.A.O., 21 Weybridge Crescent, Glen Innes, Auckland E.2, New Zealand.

Mulcahy, R. Lissenfield House, Rathmines, Dublin 6.

Muldowney, S. J., 31 Upper Mount Street, Dublin 2.

- Murphy, J., 23 St. Catherine's Park, Glenageary, County Dublin.
- Murphy, J., B.L., F.C.I.S., Secretary, Dublin Port & Docks Board, 19-21 Westmoreland Street, Dublin 2.
- Murray, C. H., 6 Washington Park, Templeogue, County Dublin.
- McAodha, B. S., M.A., Roinn na Tíreolaíochta, Colaiste na h-Iolscoile, Gaillimh.
- McCabe, P. J., D.P.A., M.R.I.P.A., Site No. 44, Roncalli Road, Kilbarrack, Sutton, County Dublin.
- McCarran, E. P., B.L., Anerley, 45 Cowper Road, Rathmines, Dublin 6.
- MacCarthy, C. J. F., M.Comm., F.I.I.S., F.A.C.C.A., 29 Washington Street, Cork.
- McCarthy, M.D., M.A., Ph.D., Director, Central Statistics Office, The Castle, Dublin 2.
- McCauley, L. T., M.A., B.L., 5581 North 16th Street, Arlington, Virginia, U.S.A.
- McCormack, A., B.Comm., M.Econ., Shannon Free Airport Development Co., Ltd., Shannon Free Airport, County Clare.
- McCormick, E. P., Dip. Dairy Sc., The Irish Creamery Managers' Assoc., 32 Kildare Street, Dublin 2.
- McElligott, J. J., M.A., LL.D., Oak Lodge, South Hill Avenue, Blackrock, County Dublin.
- McEvoy, P. J., B.Comm., D.P.A., 4 Villa Park Road, Navan Road, Dublin 7.
- McGartoll, J., M.A., 15 Ramleh Park, Milltown, Dublin 6.
- McGuane, M. D., M.A., "Couvercle", Kilteragh Drive, Foxrock, County Dublin.
- McGuire, A., B.A., H.Dip. in Ed., Dept. of Social Science, University College, 86 St. Stephen's Green, Dublin 2.
- McKenna, Rev. L., S.J., The Catholic Workers College, Sandford Road, Dublin 6.
- McKevitt, Very Rev. Canon P., P.P. Parochial House, Termonfeckin, Drogheda, County Louth.
- McKinley, J. G., B.A., B.Comm., Mount Avenue, Dundalk, County Louth.
- Nagle, J. C., M.Comm., 9 Winton Avenue, Rathgar, Dublin 6.
- Nevin, D., Research Officer, Irish Congress of Trade Unions, Lower Merrion Street, Dublin 2.
- Newe, G. B., Secretary Northern Ireland Council of Social Service, Bryson House, 28 Bedford Street, Belfast 2.
- Newman, Rev. J., St. Patrick's College, Maynooth, County Kildare.
- Nolan, N. G., Ph.D., 22 Ailesbury Drive, Ballsbridge, Dublin 4.
- O'Brien, G., D.Litt., Litt.D., 3 Burlington Road, Dublin 4.
- O'Brien, J., Molesworth House, South Frederick Street, Dublin 2.
- O'Broin, C., M.A., 5 Upper Kilmacud Road, Stillorgan, County Dublin.
- O'Brolchain, R., B.A., 1 Seafield Road, Clontarf, Dublin 3.
- O'Buachalla, L., M.Comm., Inis Ealga, Gaillimh.
- O'Carroll, F. M., M.Sc., 12 Dundela Avenue, Sandycove, County Dublin.
- O'Connor, R., Ph.D., Central Statistics Office, The Castle, Dublin 2.
- O'Flynn, D., M.Econ.Sc., "Loyola", Churchtown Drive, Dublin 14.

- O'Keeffe, P., B.Agric.Sc., Editor, The Irish Farmers Journal, 24 Earlsfort Terrace, Dublin 2.
- O'Kelly, N., A.R.I.C.S., A.I.Arb., 133 Lower Baggot Street, Dublin 2.
- O'Loinsigh, D. S., 92 Vernon Avenue, Clontarf, Dublin 3.
- O'Mahony, D., Ph.D., University College Cork.
- O'Muimhneachain, M., B.A., H.Dip. in Ed., The Central Bank of Ireland, Foster Place, Dublin 2.
- O'Neill, D. J., Managing Director, Lunham Brothers Ltd., Cork.
- O'Nuallain, L., D.Econ.Sc., Daimh na Trachtala, Colaiste na hIolscoile, Gaillimh.
- O'Raghallaigh, S., Dun Feannachaidh, County Donegal.
- O'Raifeartaigh, T., M.A., Secretary Department of Education, Dublin 1.
- O'Reilly, P. J., Greyfort, Clonmel, County Tipperary.
- O'Riordan, W. K., M.Sc.Econ., "Lisieux", North Road, Finglas, Dublin 11.
- O'Suilleabhain, M., B.A., B.Comm., Bac.Sc.Oec., (23) Kiel, Bartelsallee 16, Germany.
- O'Sullivan, J. C., B.Comm., A.C.A., Secretary Arnott & Co. Dublin Ltd., 7-15 Henry Street, Dublin 1.
- Palmer, W. H., Oakgates, 45 Shanklin Drive, Leicester, England.
- Park, A. T., Tudor Lodge, Glen Road, Craigavad, Belfast.
- Prince, E. P., U.S. Embassy, 15 Merrion Square, Dublin 2.
- Quinn, M., 23 Sidney Parade Avenue, Ballsbridge, Dublin 4.
- Quinn, P. J., 19 Botanic Road, Dublin 9.
- Reamonn, S., Chairman Revenue Commissioners, Office of the Revenue Comms., Dublin Castle, Dublin 2.
- Reynolds, T., B.C.L., LL.B., Director, The Fed. of Builders, Contractors, and Allied Employers of Ireland, 28 Earlsfort Terrace, Dublin 2.
- Richards Orpen, J., Monksgrange, Enniscorthy, County Wexford.
- Roberts, R., B.Comm., 8 Clarinda Park East, Dun Laoghaire, County Dublin.
- Robinson, H. W., Polden Robinson & Co., Chartered Accountants, 2 Lr. Merrion Street, Dublin 2.
- Roche, J. D., B.Comm., 16 York Road, Rathgar, Dublin 6.
- Rowe, D. N., 4 Herbert Street, Dublin 2.
- Russell, G. E., T.D., Derravoher, County Limerick.
- Ryan, J., "St. Anne's", Dublin Road, Arklow, County Wicklow.
- Ryan, W. J. L., Ph.D., 43 Nutgrove Park, Dublin 14.
- Senior, B. J., D.Sc., St Catherine's, Leixlip, County Kildare.
- Simington, R. C., St. Joseph's, Finglas Road, Dublin 11.
- Simpson, J. V., B.Sc. (Econ.), 352 Merville Gdn. Village, Newtownabbey, County Antrim.
- Smith, C. F., 4 Grafton Street, Dublin 2.
- Somerville-Large, P. T., Vallambrosa, Bray, County Wicklow.
- Spain, A. J., B.Comm., 4 Herbert Street, Dublin 2.
- Stewart, J. T. H., B.Sc. (Econ.), 377 Cregagh Road, Belfast 6.
- Sweetman, G., T.D., 30 Lower Baggot Street, Dublin 2.
- Thompson, G. C. M., Chairman, Hely Group Ltd., Swords Road Santry, Dublin 9.
- S. F. Thompson, 53 MacCurtain Street, Cork.
- Tonge, J. C., Malo, Merrion Avenue, Blackrock, County Dublin.

Toole, O. J., Curran House, 11 Fleet Street, Dublin 2.
 Walls, J., 187 Philipsburgh Avenue, Fairview, Dublin 3.
 Walmsley, J. A., M.A., Harlech, Roebuck, Dublin 14.
 Walsh, J. J., B.A., M.Econ.Sc., Industrial Development Authority,
 14 St. Stephen's Green, Dublin 2.
 Walsh, T., B.Agr.Sc., Ph.D., D.Sc., Director, An Foras Taluntais,
 33 Merrion Road, Dublin 4.
 Wheeler, G. M., F.C.A., A.C.I.S., Forsyth & Co., 4 Herbert Street,
 Dublin 2.
 Whitaker, T. K., M.Sc. (Econ.), D.Econ.Sc., 148 Stillorgan Road,
 Dublin 4.
 Wilson, G., Director, Bank of Ireland, G.P.O. Box No. 9, Dublin 2.

CORPORATE

Aer Lingus, O'Connell Street, Dublin 1.
 The Agricultural Credit Corporation Ltd., Harcourt Street, Dublin 2.
 Bailey Gibson Ltd., South Circular Road, Dolphins Barn, Dublin 8.
 Bank of Ireland, G.P.O. Box No. 9, Dublin 2.
 C. G. E. Banks, Esq., Branch Manager, Thomas de la Rue & Co.,
 Ltd., The Richview Press, Clonskeagh, Dublin 6.
 Bord na Mona, 28 Upper Pembroke Street, Dublin 2.
 Bord Solathair an Leictreachais, 27 Lower Fitzwilliam Street, Dublin 2.
 Browne & Nolan Ltd., Richview Press, Clonskeagh, Dublin 14.
 Cahill & Co., Ltd., 43 Parkgate Street, Dublin 8.
 P. J. Carroll & Co., Ltd., Dundalk, County Louth.
 Cavendish Furniture Co., Ltd., 28/29 Grafton Street, Dublin 2.
 Ceimici Teoranta, 81 Merrion Square, Dublin 2.
 Cement Limited, 19 Lower Pembroke Street, Dublin 2.
 The Central Bank of Ireland, Foster Place, Dublin 2.
 Chivers & Sons (Ireland) Ltd., Beech Hill Factory, Clonskeagh,
 Dublin 14.
 Clondalkin Paper Mills Ltd., Clondalkin, County Dublin.
 Comhlucht na h-Eireann um Arachas Teo., 12 Dawson Street, Dublin 2.
 Coras Iompair Eireann, Organisation and Personnel Department,
 Kingsbridge, Dublin 8.
 Dock Milling Co., Ltd., Barrow Street, Dublin 4.
 Thomas Dockrell Sons & Co., Ltd., South Georges Street, Dublin 2.
 The Dublin Laundry Co., Ltd., Milltown, Dublin 6.
 Dunnes Stores (Georges Street) Ltd., South Georges Street, Dublin 2.
 Eason & Son Ltd., 79-82 Middle Abbey Street, Dublin 1.
 Edenderry Shoe Co., Ltd., Edenderry, County Offaly.
 Esso Petroleum Co. (Ireland) Ltd., Stillorgan, County Dublin.
 Henry Ford & Son Ltd., Cork.
 Gaeltarra Eireann, 34 Westland Row, Dublin 2.
 Gateaux Ltd., Finglas, Dublin 11.
 The General Electric Co. of Ireland Ltd., A.E.T. Works, Dunleer,
 County Louth.
 D. J. Ryan, Esq., General Manager, General Finance Trust Ltd.,
 Ballsbridge House, 176 Pembroke Road, Dublin 4.

W. & H. M. Goulding Ltd., 22 Molesworth Street, Dublin 2.
~~Assistant Trade Manager~~, Arthur Guinness Son & Co. (Dublin), Ltd.,
 St. James's Gate, Dublin 8.
 Guinness & Mahon, 17 College Green, Dublin 2.
 Gypsum Industries Ltd., Clonskeagh Road, Dublin 14.
 The Hammond Land Foundry Co. Ltd., 111 Pearse Street, Dublin 2.
 The Hibernian Bank Ltd., Box 63, College Green, Dublin 2.
 Imperial Chemical Industries (Export) Ltd., 3 South Frederick Street,
 Dublin 2.
 The Industrial Credit Co. Ltd., 26 Merrion Square, Dublin 2.
 The Irish Agricultural Wholesale Society, 151-156 Thomas Street,
 Dublin 8.
 The Irish Cider & Perry Co. Ltd., River House, Clonmel, County
 Tipperary.
 Irish Congress of Trade Unions, Lower Merrion Street, Dublin 2.
 Irish Driver-Harris Co. Ltd., Corn Exchange Buildings, Burgh Quay,
 Dublin 2.
 The Irish Dunlop Co. Ltd., Dunlop House, Lower Abbey Street,
 Dublin 1.
 The Irish Farmers Journal, 24 Earlsfort Terrace, Dublin 2.
 The Irish Glass Bottle Co. Ltd., Charlotte Quay, Dublin 4.
 Irish Life Assurance Co. Ltd., Hammam Buildings, Upper O'Connell
 Street, Dublin 1.
 Irish Metal Industries Ltd., 3 South Frederick Street, Dublin 2.
 Irish National Insurance Co. Ltd., 5/9 South Frederick Street, Dublin 2.
 The Irish Oil & Cake Mills Ltd., Marsh Road, Drogheda, County
 Louth.
 Irish Pensions Trust Ltd., 38 Fitzwilliam Square, Dublin 2.
 Irish Refining Co. Ltd., Whitegate, County Cork.
 Irish Ropes Ltd., Newbridge, County Kildare.
 Irish Steel Holdings Ltd., Haulbowline, County Cork.
 Irish Worsted Mills Ltd., Commercial Buildings, Dame Street, Dublin 2
 W. & R. Jacob & Co. Ltd., Dublin 8.
 John Jameson & Son Ltd., Bow Street Distillery, Dublin 7.
 Johnston Mooney & O'Brien Ltd., Ballsbridge, Dublin 4.
 Peter Kennedy Ltd., 125 Parnell Street, Dublin 1.
 Kingstons Ltd., 9/13 Upper O'Connell Street, Dublin 1.
 Lever Brothers (Ireland) Ltd., P.O. Box 229, 68 Sheriff Street, Dublin 1.
 Lincoln & Nolan Ltd., 57-58 Lower Baggot Street, Dublin 2.
 W. & C. McDonnell Ltd., P.O. Box 231, 68 Upper Sheriff Street,
 Dublin 1.
 McIntyres' Stores Ltd., Belmullet, County Mayo.
 The Munster & Leinster Bank Ltd., General Manager's Office, Cork.
 The Secretary, The National Bank Ltd., 34 & 35 College Green,
 Dublin 2.
 National City Bank Ltd., 10 College Green, Dublin 2.
 Northern Bank Ltd., Belfast.
 O'Donnell, Earl & Partners Ltd., 22 Earlsfort Terrace, Dublin 2.
 John Player & Sons, W. D. & H. O. Wills & Wm. Clarke & Son,
 South Circular Road, Dublin 8.
 John Power & Son Ltd., John's Lane Distillery, Dublin 8.
 Provincial Bank of Ireland Ltd., 5 College Street, Dublin 2.

Roadstone Ltd., Naas Road, Dublin 12.
P. J. Roche & Sons Ltd., The Maltings, Enniscorthy, County Wexford.
Secretary, The Royal Bank of Ireland Ltd., Box 123, Foster Place,
Dublin 2.
Sunbeam Wolsey Ltd., Millfield, County Cork.
Switzer & Co. Ltd., Grafton Street, Dublin 2.
F. H. Thompson & Son Ltd., 53 Mac Curtain Street, Cork.
Ulster Bank Ltd., Belfast.
Urney Chocolates Limited, Tallaght, County Dublin.
Walker Industries Ltd., Shanowen Road, Whitehall, Dublin 9.
Weir & Sons (Dublin) Ltd., 96 Grafton Street, Dublin 2.
Messrs Williams & Woods Ltd., 204 Parnell Street, Dublin 1.

APPENDIX C
 THE ECONOMIC RESEARCH INSTITUTE
 INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 30th JUNE, 1963

1962 £	EXPENDITURE	£	s. d.	£	s. d.	1962 £	INCOME	£	s. d.
17,979	Salaries, Superannuation, Wages	21,033	8 6			19,935	Grant from Ford Foundation in respect of Expenses	19,964	7 0
587	Scholarships and Bursary ...	1,641	10 7			739	Government Grant in respect of Rent ...	746	12 0
739	Rent	746	12 0			2,719	Membership Subscriptions	2,924	9 4
862	Printing	1,629	16 4			994	Interest Receivable	517	17 6
2,663	Other Expenditure ...	3,623	10 2			48	Sale of Publications	188	6 2
644	Depreciation: Furniture, Equipment and Library Books			28,674	17 7	-961	Excess of Expenditure over Income carried to Balance Sheet	5,050	3 0
<u>£23,474</u>				<u>£29,391</u>	<u>15 0</u>	<u>£23,474</u>		<u>£29,391</u>	<u>15 0</u>

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