

*Report of the*  
*Executive Board to the Governors*  
*of*  
THE ECONOMIC  
RESEARCH INSTITUTE  
*for 1963-64*

# THE ECONOMIC RESEARCH INSTITUTE

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# THE ECONOMIC RESEARCH INSTITUTE

## FOURTH ANNUAL REPORT

For the year ended 30 June 1964

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

1. Publications of the Institute.
2. Lectures in Mathematical Economics and Econometrics.
3. Quarterly Industrial Survey.
4. Conference Activity.
5. Training.
6. Library.
7. Staff.
8. Membership and Finance.
9. Summary Account of Future Research Activities.

### 1. Publications of the Institute

In last year's Report the publications of the Institute since it started were set out in the categories (i) Books, (ii) Publication Series, (iii) Reprint Series, (iv) Articles (other than at (iii) in outside periodicals). In the present Report a different plan has been adopted: in Appendix A the publications which have appeared or are in an advanced stage of preparation are related to items on the Institute Programme, an aspect dealt with briefly by the President in his speech at last year's General Meeting.

The scope of the Programme of the Institute is all-embracing as regards economic and social research in this country; indeed almost any project can be fitted into it, the only requirement being that the work must be on a sufficiently important topic and of high research quality. No papers are published unless they are favourably reported on by professional referees who are recognised authorities on their subjects. The intention of the Executive Board was and is to give the maximum of flexibility to research activity so that, in time, the Institute would autonomously find its level adapted to the needs of the country and scholarship.

The titles alone in Appendix A show that the output has a strong "practical" or applied bias towards Irish problems. All but two of the Programme heads have been tackled, some in a substantial degree, and, as will appear, a beginning will be made with the remaining two heads during the coming year. Theory is not, of course, eschewed but it is subservient to practical utility. The recent trend towards socio-economics, in the work of Kaim-Caudle (social welfare, housing), O'Mahony (labour-management) and Pentony (industrial psychology) will be observed. Concern for the future, in work on short and longer-term forecasting and in other preparatory research for policy-making and legislation, will continue to be characteristic of the Institute's output.

## **2. Lectures in Mathematical Economics and Econometrics**

A course of 20 lectures was conducted by C. E. V. Leser during the Michaelmas and Hilary Terms. Participants in the course were expected to have an acquaintance with elementary properties of determinants and regression analysis, as well as familiarity with economic analysis. The first part of the course was designed to introduce the application of mathematics to economic theory and economic problems. The second part dealt with methods used to obtain numerical relationships between economic variables and with their application to economic problems.

Lectures were given as follows :

Mathematical techniques.

Simple macro-economic models.

Demand theory.

Theory of the firm.

National accounts and input-output analysis.

Statistical methods and problems.

Production functions.

Demand analysis.

Models of the economy.

The role of mathematical economics and econometrics.

Three of the lectures were given by R. C. Geary ; two on national accounts and input-output analysis and one lecture on the role of mathematical economics and econometrics. C. E. V. Leser gave the other seventeen lectures. It is planned to hold a similar course during the year 1964-65.

## **3. Quarterly Industrial Survey**

This survey 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 cooperation is much appreciated. The latest Survey (circulated on 5 May 1964) indicated that sales in all manufacturing industries were higher for the first quarter of the year than for the corresponding quarter last year. Production was higher in all industries as also were prices.

Total Manufacturing production was expected by industrialists to increase by 7% and exports by 2% over the whole year 1964 compared with 1963 ; the largest expected export increase is in Metals, Engineering and Vehicles, the figure for which is 33%.

It should be pointed out, however, that the forecasts, especially of exports, have been below actuality but it must be remembered that the Quarterly Survey is an average of opinions designed to show the mood of industry and allowance must be made for this bias when assessing the Survey results.

#### 4. Conference Activity

Staff members attended conferences, etc., as follows :—

- R. C. Geary : lectured to the Drogheda Chamber of Commerce, February 1964 ; to the Institute of Chemistry, March 1964 ; he attended a seminar of the Irish National Productivity Committee, February 1964, and presented a paper ; lectured to the Staff and senior students of The Queen's University, Belfast ; attended U.C.D. Staff Association, Greystones, November 1963 and read a paper on "The University as an Organ of Society".
- R. H. Barback : was Joint Chairman at a seminar of the Irish National Productivity Committee, February 1964.
- C. E. V. Leser : attended the following meetings : Econometric Society, Copenhagen, July 1963 ; L'Association d'Instituts Européen de Conjoncture Economique, Paris, October 1963, and Liège, May 1964 ; Symposium on Econometric Analysis for National Economic Planning, University of Bristol, April 1964.
- D. O'Mahony : gave the Barrington Lectures for Munster, January-March 1964 ; attended C.I.E. week-end Management Conference, Killarney, December 1963.
- A. Lancaster : read a paper to the Economics Seminar at Nuffield College, Oxford, May 1964.

All staff members and post-graduate students attended the Conference of Economists in Irish Universities, Dundalk, March 1964. D. O'Mahony and R. H. Barback read papers.

#### 5. Training

The bursary and scholarship holders during the year were :

- F. D. Morrin : whose bursary finished in November 1963. He is on the Staff of the Economics Department at University College, Dublin.
- J. Guinan : whose scholarship finished in November 1963. He joined the Staff of the Irish Sugar Company as an economist.
- D. McAleese : was granted a scholarship for a second year. His thesis on "Some Aspects of the Pure Theory of International Trade" will be presented for a M.Econ.Sc. degree in Autumn 1964. He has been invited to join the staff of the University of Ghana for the next academic year.

D. McCormack : was awarded a second year scholarship also. His thesis is on " Aspects of Regional Development in Ireland " and will be presented for the Autumn M.A. He has been awarded a scholarship to Harvard University.

## 6. Library

There was a total of 4,464 volumes in the library at 30 June 1964. A large proportion of these has been acquired free of charge on an exchange basis. Staff and students of the Institute have received full cooperation from other libraries. In this connection it will not be invidious to record a special word of thanks to the Library of Trinity College, Dublin.

## 7. Staff at 30 June 1964

*Director* : R. C. GEARY

*Secretary* : MRS. M. DEMPSEY

*Senior Research Officers* :

C. E. V. LESER

R. H. BARBACK

*Temporary Research Officers* :

D. O'MAHONY

J. L. BOOTH

A. CUNNINGHAM

*Assistant Research Officer* :

A. LANCASTER

*Scholarship Holders* :

F. BOLAND

D. MCALEESE

D. MCCORMACK

*Visiting Scholars* :

P. PENTONY, *Associate Professor of Psychology, The Australian National University, Canberra.*

C. ST. J. O'HERLIHY, *Lecturer, Department of Economics, The Queen's University, Belfast.*

P. R. KAIM-CAUDLE, *Lecturer, Department of Social Studies, University of Durham.*

There is a clerical staff of seven.

## 8. Membership and Finance

There are 208 Individual and 84 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 1964. The fourth instalment of \$56,000 (£19,981) of the generous Ford Foundation grant, which makes the work of the Institute possible, was received during the year. Subscriptions from Governors amounted to £3,006.

The Institute is grateful to the Government for a grant of £1,488 (consisting of £359 for furniture and equipment and £1,129 for rent of premises).

Total expenditure for the year, including depreciation, was £30,477 which is an excess of £5,324 over income.

## 9. Summary Account of Future Research Activities

In his speech last year the President stated that this section of this year's Report would be forward-looking, dealing mainly with current thinking and work anticipations during the current year. As regards past work Appendix A will be allowed to speak for itself, except where reference is necessary. The notes which follow represent the preliminary views of the Director and of the staff of the Institute on a number of topics on which they are either working at present or on which they hope to work in the near future.

### Local Government Finance

R. H. Barback is continuing work on this topic initiated by D. Walker (Papers Nos. (9) (i) and (iii)). Topics to be dealt with are as follows:—

- (i) The nature and effects of rates: various ways in which rates as a tax might be classified, whether direct or indirect, *ad personam* or *ad rem*, progressive, regressive or proportional, a charge on income or a cost and the relevance of these groups of ratepayers—householders, business, farmers. Analysis of the impact and incidence of rates on different sections of the community, allowing for income tax reduction where relevant. Are rates a good tax? What place can the benefit principle continue to hold in local taxation?
- (ii) Rateable valuation and the question of a general revaluation. The different basis of valuation as between land and buildings.
- (iii) The development of State grants to the Local authorities. The Agricultural Grant: the case for affording relief to farmers; the extent of relief afforded in the light of the most recent statistics of agricultural and non-agricultural incomes per head in the various counties. Equalisation Grants: their implications for and potential clash with general domestic economic policy. This topic to be viewed against the background of the theoretical analysis of State grants and resource allocation.
- (iv) The level of expenditure as between authorities and the level of services. Efficiency in the provision of services.

- (v) Borrowing. The rise of the Local Authority Loans Fund of central government.
- (vi) The future growth of Local Authority expenditure (e.g. under the Planning Act). The future of State grants and of independent sources of Local Authority revenue, including possible new sources. The question of transfer of certain functions to the State to be raised and examined, with the question of the continued independence of the authorities.

### Quarterly Economic Series

Experiments are being made with a view to setting up a quarterly series of indicators using data mainly from the Economic Series of CSO and from the Quarterly Bulletin of the Central Bank. It is intended that this series should be published in the mid-day of each quarter giving an up-to-date appraisal of the state of the economy with a very short-term forecast of the months ahead. One paper for the unpublished Memorandum Series has in fact been prepared and circulated for expert criticism. With the Irish economy changing so rapidly yearly appraisals are no longer sufficient if remedial action on economic phenomena "going wrong" is to be taken in time.

The principal problem here is seasonality correction of the various series, whereby statements can be made about trends between consecutive quarters as distinct from the familiar but sometimes misleading comparisons of current quarter with corresponding quarter last year. Almost all Irish economic series are prone to wide seasonal fluctuation but the series in general exhibit remarkably regular features which means that they lend themselves to correction with considerable accuracy. Much research work has been done in the Institute to discover the best method. We have been trying out the corrected moving average as trend, the method of dummy variables and an entirely new approach due to C. E. V. Leser.

Incidentally, Leser's method has been put to use in the Forecasting Department of the U.S. IBM's General Product Division; and in a letter received from this company, the "Leserend" (as it is there termed) is described as promising to be "a powerful tool for short-term forecasting".

Using dummy variables with trend terms Geary has fitted a regression curve to log quarterly electricity outputs in the five years 1959-1963 to find an  $R^2$  of .9931 with 13 d.f. Since  $R^2=1$  would mean that the formula would exactly represent the data, it is unnecessary to point out that the formula is very accurate, not only for deriving seasonality correction factors but for short-term forecasting. Using the formula for the four quarters of 1964 we find (in million KWH) March 887 (885), June 659 (676), September 632, December 892. The figures in brackets are the actual figures for the first two quarters.

There has been a tradition in Ireland that, because Irish economic series were so highly seasonal, the production of quarterly national



accounts in summarised form was not to be thought of. Though Geary had been critical of the U.S.A. and Canadian quarterly accounts at the meeting of IARIW in Corfu as lately as June 1963, strictly on the showing of the figures, he does not now hold these views in the Irish context. In his opinion, if additional quarterly macro-series could be estimated, namely (i) gross agricultural output (much data is already available for output of individual products) and (ii) stock changes, it should be possible to produce reasonably reliable estimates of quarterly GNP corrected for seasonality and showing principal constituents. There can be no doubt that if reliable quarterly statistics of GNP and other national accounting data would be produced they would be very useful: only experience will show if this project is feasible.

### **Housing in Ireland**

P. R. Kaim-Caudle is working on an economic evaluation and quantitative assessment of the benefits received and the burdens borne by occupiers of dwelling houses. The paper will give the results of a study of the effects of State and local authority grants, of rate and tax remissions, of loans to encourage owner-occupation and of rent restriction legislation. The incidence of these measures on different types of occupiers, different income groups and different regions of the country will be examined. An attempt will be made to assess the impact of housing policy on capital investment, savings, wage levels and emigration.

### **Models of the Economy and External Trade**

It is planned to reexamine the construction of import functions and to integrate them into a macro-economic model of the economy. This model is to be extended from its present form by some disaggregation and by adding on further relationships as they are obtained. The possibilities for export functions are to be examined in this context.

### **Marketing Boards and Economic Development**

The establishment of commodity export marketing boards to assist the agricultural sector appears to be generally accepted in Ireland. The research by A. Cunningham proposes to examine the role of such boards within a macro-framework of the Irish economic environment. The aim of the paper is to stimulate thinking and discussion on a philosophy of marketing in order to assist the development of agricultural marketing policies in Ireland.

The conflicts between policy objectives are looked at and some of the implications resulting from these conflicts are examined.

The development of the current Irish export marketing boards is traced. In Ireland, marketing boards are called on to do more than the marketing function. To a considerable extent they are required to implement income redistribution by price manipulation through commodity support programmes. Such an obligation must, in the long run, militate against the efficiency of marketing organisations operating in a developing market economy.

The paper is still in its formative stage. The marketing arrangements for agricultural products in Denmark and New Zealand are being studied. These two countries, like Ireland, suffer from extrovert economies with a large agricultural export content.

### **Demographic Trends**

Except for some work on the labour force in connection with the economic trend and passing reference in other papers demography proper has not yet seriously engaged the attention of the Institute. It is hoped to make a start during the coming twelve months.

The main characteristics of Irish demography are well known, the great decline in population since the Famine (while the populations of most other countries have more than doubled), the exceptionally low marriage and high fertility rates, a volume of emigration of unique dimensions. How are the unfavourable features of Irish demography likely to be influenced in the future by the steeper gradient of economic advance during the years ahead? It is fully realised that this problem of the interaction of demography and economics is an extremely difficult one. It is not even certain that economics have been the main determinant in the demographic level and trend in Ireland.

To start with, it is proposed to make a full analysis of the demographic position in 1960-62 when all the 1962 data becomes available, together with comparisons for earlier years; thus changes and differentials in nuptiality, fertility and mortality are to be studied. For example, it is already possible to show that the life expectation at birth of both males and females has maintained during the 1950s the substantial advance experienced in the immediate post-war period; and that higher marriage rates tend to offset the effect of a less favourable age structure for population growth. The problem of demographic and economic interrelationships will be examined later. Some relationships of this kind may form part of the econometric model.

### **Socio-economic Psychology**

P. Pentony undertook a study for the Institute on Psychological Barriers to Economic Achievement, to provide information for leaders in industry, and to serve as a basis for the planning of future research into aspects of industrial organisation and management in Ireland.

Ireland's movement towards industrialisation and free trade confronts the country with both opportunities and challenges. Efficient production depends on many components including availability of materials, quality of equipment, scale of production and standard of organisation. This paper is concerned with the aspect of social organisation.

In the earlier part of the paper the emphasis is on organisation in secondary industry and in the latter part attention is given to primary industry. Also, since rural production plays such an important role in the Irish economy, appropriate attention has been given to rural studies which seemed likely to have some local relevance.

## **Labour-Management Project**

Work on the labour-management project continued by D. O'Mahony throughout the year. A draft paper entitled "Economic Aspects of Industrial Relations" has been completed and circulated. This is divided into three parts. The first deals with the general economic setting of industrial relations in Ireland. It shows that the share of national income accruing to wage and salary earners is remarkably stable. This is a universal phenomenon for which, as yet, no really satisfactory explanation is available. The first part also shows that under Irish circumstances a more rapid rise in labour cost per unit of output than in price tends to be associated with a reduction in employment unless prices can be increased also and that the rise in industrial exports experienced in recent years has been accompanied by an improvement in unit labour costs in Ireland as compared with Britain. The second part describes the wage rounds and national wage agreements and includes an analysis of the timing of the rounds in relation to the behaviour of the index of average earnings in the transportable goods industries. In the third part some of the problems associated with national wages policies are examined and a possible approach to a wages policy in the Irish context is suggested.

A study of trade unions is now being undertaken the results of which will be embodied in a further paper. The topics to be covered include—trade union finance, administration and management, communications within and between unions, rules relating to industrial action, provision of services to members, discipline within unions and enforcement of members' rights, recruitment of members, closed and union shop, voting procedures, reorganisation of the trade union system. If time permits it is hoped also to make an assessment of the attitudes of the individual members towards their unions.

## **Financial Flows**

R. C. Geary hopes to tackle this topic, one of the two Programme items on which, so far, no work has been done in the Institute. Some years ago he was closely associated with international preparatory work on the statistical problem of "integration", i.e. of financial and non-financial flows of the economy, within the framework of national accounts. Hitherto the two main approaches have been developed separately, statistically and analytically. While a few countries have integrated the two systems, so far there has been insufficient analysis to enable countries generally to decide whether integration is worthwhile and, if so, what form it should take. It would certainly be important to establish the interactions of non-financial and financial measured entities in connection with economic programming since government has more influence over financial instruments like bank credit, the rate of interest, etc. than it has over some other aspects of the economy. One would hope to be able to measure, if only approximately, the effect of financial action on the economy generally.

## **Fuel and Power**

An investigation of the supply of, and demand for, fuel and power in the developing economy of Ireland has been started by J. L. Booth.

Ireland's energy needs are satisfied partly by exploiting her indigenous resources of turf, water-power and coal and partly by importing supplies of coal and oil. The annual production of indigenous forms of energy is limited, in the case of coal and water-power by natural scarcity and in the case of turf by the unsuitability of much of the bog for mechanical exploitation. As a consequence, increases in energy consumption in the future will largely have to be met by increases in the quantities of fuel imported.

The major decisions affecting the future supply of indigenous forms of energy have already been made and capital for their development has already been invested, or its investment committed. The policy with regard to the production of these forms of energy is therefore no longer in question and problems of policy can only arise with regard to their use and price. Their production and sale and that of electricity are in the hands of State-sponsored bodies, while the sale of imported fuels and the production and sale of gas are run by private enterprise. It is well known that different considerations govern the supply and price of the products of public and private enterprise respectively, and the State is naturally concerned to see that competition between the two produces results that are in the overall interests of the community. The competition between electricity and gas is a case in point.

For the future, the total quantity of energy consumed will depend both on industrial growth and on the increasing demands of the ordinary consumer for the comfort and convenience afforded by appliances that consume energy. The more efficiently that energy is consumed the less is needed and the lower will be the foreign exchange cost of imported supplies.

## **Do-It-Yourself Economics**

Though the Institute is, strictly speaking, an academic body, it has always been mindful of its philosophy that research economics, if words mean anything, should be useful to the public who, as farmers, businessmen and administrators, have to make decisions, necessarily with imperfect understanding of the techniques of economics and statistics. The various lectures and seminars, dealt with elsewhere in this Report, have this end in view. So has the project of "Do-It-Yourself Economics".

This project (incorporated as a paper in the Memorandum Series, circulated to Irish experts for comment and to be published later, in possibly revised form after some experience with its use) consists of a series of six tables, to be prepared and maintained by individual industrial concerns. The scheme is designed primarily to show the level and trend of productivity of firms and how these compare with the experience in the industrial branch of which the particular firm is a

member. It is based very largely on the CIP and quarterly industrial production returns which firms prepare for CSO. Cardinal advantages of the scheme are :—

(i) running costs would be negligible since the basic data are already available ;

(ii) firms are already familiar with the basic concepts.

It is hoped that, with the approval of the Department of Industry and Commerce, the Irish National Productivity Committee and the Irish Management Institute, the scheme will be tried by Irish industrial concerns. No doubt the scheme will be modified in the light of experience.

### **Corporate Saving in Ireland**

A. Lancaster has been studying the allocation of company income in Ireland. The first part of the work consists in deriving aggregate and sector income allocation accounts for the period 1958–61. These distinguish six sectors and show the allocation of gross income among dividends and interest payments, the depreciation allowance and gross savings. It is feasible, with the information at the disposal of the CSO, to prepare accounts in more detail than this, and it is possible for the present work to form a basis for a continuation of the accounts beyond 1961.

The second part of the work consists of a statistical analysis of the distributions of a sample of individual companies. This sample distinguishes public from private companies and is large enough for us to test the effect on dividend distributions of differences in growth rates and profitability. The fact that large numbers of companies are in the habit of distributing neither dividends nor debenture interest adds interest to the statistical problem. To predict dividend payments we need first to predict whether a company will pay a dividend at all, then, if it does, what size it will be.

### **Wage-Price Relationship**

In this study C. St. J. O'Herlihy hopes to measure the interrelationship between prices and wages in the industrial sector of the Irish economy and the influence of the UK economy on them. Two particular problems will be examined :

- (i) Is the wage level in Ireland significantly influenced by the wage level in the UK? If the Irish labour market is really part of the UK market then Irish wage levels and employment will vary in line with UK wage levels. If true it would have important policy implications on Irish growth planning. This problem will be approached in two ways : first a wage equation (as part of a 3-equation wage-price model) will include both domestic and UK influences as explanatory variables. By using annual and quarterly data it should be possible to test the statistical significance of the different factors. Secondly, a single equation model will be used to explain annual movements in emigration.

- (ii) The pattern of time lags between price changes and changes in costs on the one hand, and between wage changes and changes in retail prices, unemployment, etc., on the other, will be examined.

The method of Two Stage Least Squares will be used when estimating the wage-price model.

### **Forecasting**

It seems likely that during the coming months the emphasis will be on short-term (i.e., for one year or shorter periods ahead) rather than on middle and longer-term forecasting. Short-term forecasting (Appendix A, papers (1) (ii), (iii), (iv), (v) and (vi)) is concerned with what is likely to happen taking everything into account, whereas in the Institute so far (Appendix A, paper (2) (iii)) the longer term has been studied in the decision-making context, i.e., using the "forecasts" as a guide to present policy. It is unlikely that substantial advance can be made with longer-term work unless and until annual Input-Output tables of suitable sectoral dimensions can be made available. It may be possible to make a start with a study of the future of prices in the economy. In modern conditions, is a rising price trend a necessary concomitant of rapid economic development? The price trends in Ireland and everywhere else have been characterised in the post-war period by far slower rises in prices of imports and exports than in internal prices, and by far greater rises in non-primary prices than in prices which primary producers receive. The latter raises one of the most important politico-economic problems of our time.

GEORGE O'BRIEN, *Chairman.*  
R. C. GEARY, *Director.*

APPENDIX A

RESEARCH PROGRAMME OF THE ECONOMIC RESEARCH INSTITUTE AND WORK PUBLISHED OR IN COURSE OF PREPARATION IN RELATION TO THAT PROGRAMME

NOTE—The programme of research work covers a very wide range of economic problems, and these problems are being tackled systematically as time, research talent and funds permit. So far, the emphasis has been rather heavily on economic programming in the short, medium and long term.

The problems being investigated and intended for investigation include those set out in col. 1 of the Table below. The projects have been listed without regard to priority.

Problems included in Research Programme	Related research undertaken or sponsored to date (Papers published or in course of preparation and memoranda)	
	Paper	Author(s)
(1) The development of methods for the preparation of short-term predictions for the Irish economy which can be used for the assessment of the effects of various fiscal, financial and economic proposals with a view to improving the basis for policy decisions.	(i) Quarterly Industrial Survey (issued quarterly since October, 1961)	Alfred Kuehn Alfred Kuehn
	(ii) Short-Term Economic Forecasting and its Application in Ireland (November 1961)	
	(iii) Prospects of the Irish Economy in 1962 (June 1962)	
	(iv) Short-Term Aspects of Growth in the Irish Economy 1948-61 (Reprint, December 1962)	Alfred Kuehn C. E. V. Leser C. E. V. Leser
	(v) The Irish Economy in 1962 and 1963 (July 1963)	
	(vi) The Irish Economy in 1963 and 1964 (in preparation)	
(2) The study of the possibility of medium and longer term economic prediction and the use of such predictions in conjunction with methods such as linear programming as a basis of the selection of the most fruitful means of attaining various possible objectives such as the maximisation of per capita personal consumption, population growth, capital formation.	(i) Imports and Economic Growth in Ireland 1947-61 (June 1963)	C. E. V. Leser
	(ii) The Pattern of Personal Expenditure in Ireland (Reprint)	C. E. V. Leser
	(iii) Towards an Input-Output Decision Model for Ireland (Reprint)	R. C. Geary
	(iv) Commentary on "Europe's Future in Figures" (ed. R. C. Geary) (Reprint)	R. C. Geary
	(v) A simple Macro-economic Growth Model Part I, II, III (Memorandum Series)	R. C. Geary

Problems included in Research Programme	Related research undertaken or sponsored to date (Papers published or in course of preparation and memoranda)	
	Paper	Author(s)
	(vi) Economic Growth and Manpower (Memorandum Series) (vii) Some Observations on Irish Economic Structure and Growth (Memorandum Series) (viii) Projection of the Irish Economy to 1965 (Memorandum Series) (ix) A Further Note on Economic Growth and Manpower (Memorandum Series) (x) Macro-economic model building for Ireland (Conference paper)	C. E. V. Leser C. E. V. Leser J. McGilvray C. E. V. Leser C. E. V. Leser
(3) An assessment of the optimal allocation of capital resources for economic and social development.	(i) The Allocation of Public Funds for Social Development (August 1962)	David Walker
(4) An econometric enquiry into the factors influencing the supply of and demand for Irish exports.	No papers yet. C. E. V. Leser has the topic on his future programme	
(5) A study of consumers' expenditure, including an investigation into the price and income elasticities of demand.	(i) Demand Relationships for Ireland (April 1962) (ii) A Further Analysis of Irish Household Budget Data 1951-52 (in preparation) (iii) Forms of Engel Functions (Reprint Series) (iv) Trends in the Irish Consumption Pattern (Memorandum Series)	C. E. V. Leser C. E. V. Leser C. E. V. Leser C. E. V. Leser
(6) An investigation of the interrelationships between social, economic and demographic factors in Ireland.	(i) Industrial Relations in Ireland: The Background (June 1964) (ii) Economic Aspects of Industrial Relations (in preparation) (iii) Social Security in Ireland and Western Europe (July 1964)	David O'Mahony David O'Mahony P. R. Kaim-Caudle



Problems included in Research Programme	Related research undertaken or sponsored to date (Papers published or in course of preparation and memoranda)	
	Paper	Author(s)
	(iv) Psychological Barriers to Economic Achievement (in preparation) (v) Financing of Housing in Ireland (in preparation)	P. Pentony P. R. Kaim-Caudle
(7) The development of improved measures of industrial productivity and of the relation of output to the various inputs, together with the application of such studies to an assessment of the progress of Irish industry and agriculture.	(i) The Irish Woollen and Worsted Industry 1946-50: A Study in Statistical Method (July 1962) (ii) Wages in Ireland 1946-62 (February 1963) (iii) The Capital Stock of Irish Industry (November 1963) (iv) The Life of Capital Assets: An Empirical Approach (Reprint Series) (v) The Cost Structure of British Manufacturing, 1948-61 (Reprint Series) (vi) The Cost Structure of Irish Industry, 1959-60 (in preparation) (vii) The Comparative Position of Irish Manufacturing Industry (Memorandum Series) (viii) Productivity (Reprint, March 1963) (ix) An Econometric Analysis of Determinants of Wage and Price Levels in Ireland (in preparation)	R. C. Geary Edward Nevin Edward Nevin Edward Nevin Edward Nevin Edward Nevin Edward Nevin David Walker C. St. J. O'Herlihy
(8) A study of the effects of tariff protection on the past and future development of the economy, with a view to the economic assessment of the possible impact on the country of the moves towards economic integration in Europe and of the various methods of industrial and agricultural adaptation which might be adopted here.	(i) The Irish Tariff and the E.E.C.: A Factual Survey (January 1962) (ii) The Irish Price Level: A Comparative Study (October 1962) (iii) Ireland and the Common Market: Some Basic Issues (Reprint 1961)	Edward Nevin Edward Nevin Edward Nevin

Problems included in Research Programme	Related research undertaken or sponsored to date (Papers published or in course of preparation and memoranda)	
	Paper	Author(s)
(9) An examination of the system of public finance, both central and local, and of its effects on the development of the country, including both the effects of the level of taxation and of its allocation between taxes on income and expenditure as well as of the re-distributive element in public authority spending.	(i) Local Government Finance in Ireland: A Preliminary Survey (May 1962)	David Walker
	(ii) Public Debt and Economic Development (December 1962)	Edward Nevin E. A. Attwood* and R. C. Geary
	(iii) Irish County Incomes in 1960 (September 1963)	
	(iv) Local Government Finance and County Incomes (March 1964)	David Walker
	(v) An Investigation into Local Taxation (in preparation)	R. H. Barback
(10) The study of the financial flows in the economy and of their relationship to the national product and income accounts as well as the development of independent methods for the estimation of current savings in the various sectors of the economy.	No papers yet. R. C. Geary has this topic on his future programme.	
(11) The supply of, and demand for, fuel and power in the developing economy.	(i) Energy Requirements for Ireland (in preparation)	J. L. Booth
(12) The problem of transport	(i) Inland Transport in Ireland: A Factual Survey (November 1962)	D. J. Reynolds
	(ii) Road Transport: The Problems and Prospects in Ireland (May 1963)	D. J. Reynolds
	(iii) Some Aspects of Inland Transport in Ireland (Reprint, March 1963)	D. J. Reynolds
(13) Miscellaneous projects	(i) The Ownership of Personal Property in Ireland (October 1961)	Edward Nevin
	(ii) Estimation of Quasi-linear Trend and Seasonal Variation (Reprint Series)	C. E. V. Leser
	(iii) Some Remarks about Relations between Stochastic Variables: A Discussion Document (Reprint Series)	R. C. Geary

Problems included in Research Programme	Related research undertaken or sponsored to date (Papers published or in course of preparation and memoranda)	
	Paper	Author(s)
	(iv) Relative Efficiency of the Split-Matrix method for Matrix Inversion and for the solution of Linear Simultaneous Equations (Memorandum Series)	R. C. Geary
	(v) Textbook of Economic Analysis—Irish Edition	Edward Nevin
	(vi) Elements of Linear Programming with Economic Illustrations (Monograph)	R. C. Geary and M. D. McCarthy§
	(vii) The Inefficiency of the Von Neumann Ratio in Time Series Regression (Conference paper)	R. C. Geary
	(viii) The Role of Marketing Boards in Economic Development (in preparation)	A. Cunningham
	(ix) Company Distribution in Ireland (in preparation)	A. Lancaster
	(x) Econometrics (Monograph)	C. E. V. Leser

\*E. A. Attwood is Head, Agricultural Economics and Farm Management Division of An Foras Talúntais.  
§M. D. McCarthy is Director, Central Statistics Office.

## APPENDIX B

### Schedule of Governors

#### INDIVIDUAL

- Aliaga-Kelly, C., Barnavara House, Glanmire, Co. Cork.  
Andrews, C. S., B.Comm., D.Econ.Sc., Chairman, Coras Iompair Eireann, Kingsbridge, Dublin 8.  
Barrington, T. J., Director, Institute of Public Administration, 59 Lansdowne Road, Dublin 4.  
Barrow, G. L., M.A., B.Sc. (Econ.), Tenebo, Sutton, Co. Dublin.  
Barry, R. G., M.Comm., F.A.C.C.A., A.C.C.S., General Manager, Cork Savings Bank, 1 Lapps Quay, Cork.  
Beddy, D. G., General Manager, General Textiles Ltd., Athlone, Co. Westmeath.  
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.B., 79 Pembroke Road, Dublin 4.  
Black, R. D. C., Department of Economics, The Queen's University of Belfast, Belfast.  
Blayney, E., D.P.A., 57 Upper Churchtown Road, Dublin 14.  
Blythe, Ernest, 50 Kenilworth Square, Rathgar, Dublin 6.  
Bourke, J. V., The National University of Ireland, 49 Merrion Square, Dublin 2.  
Bourke, P., M.A., B.L., Moyola, 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.  
Bristow, John A., B.A., 75 Wynchurch Road, Rosetta, Belfast 6.  
Broderick, J. B., M.Sc., Central Statistics Office, Dublin 2.  
Brosnan, William, M.Econ.Sc., 79 Clonkeen Road, Blackrock, Co. Dublin.  
Buitleir, Pdraig de, Silverspring, Clonmel, Co. Tipperary.  
Busteed, John, M.Comm., University College, Cork.  
Callan, Paul, B.L., Longfield, Carrickmacross, Co. Monaghan.  
Callinan, Patrick, 15 Mespil Road, Dublin 4.  
Cannon, Patrick F. G., B.A., H.Dip. in Ed., N.U.I., Headmaster, Sandymount High School, 1 Herbert Road, Sandymount, Dublin 4.  
Carter, Charles F., M.A., Vice-Chancellor, The University of Lancaster, Bailrigg House, Lancaster.  
Ceannt, Eamon T., B.Comm., 1 Trees Avenue, Mount Merrion, Co. Dublin.  
Charleton, J., 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.  
Coe, W. B., M.A., F.C.I.S., 25 Cricklewood Park, Belfast 9.  
Coffey, J. J., Ph.D., L.P.S.I., 2 Springhill Park, Killiney, Co. Dublin.  
Coghlan, Noel J., M.A., 40 Helix Road, London S.W.2.

- Colbert, J. P., M.Econ.Sc., Carysfort House, Grove Avenue, Blackrock, Dublin.
- Colleary, Gordon, 92 Leinster Road, Rathmines, Dublin 6.
- Conlon, M. N., County Manager, County Manager's Office, Courthouse, Cork.
- Cooney, Sean F., M.A., 4 Wilton Terrace, Dublin 2.
- Corbett, Alan T., B.A., B.Comm., 343 North Circular Road, Phibsboro, Dublin 7.
- Costello, Declan, T.D., 8 Clonskea 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 & Standards, The Industrial Research Centre, Ballymun Road, Dublin 9.
- Crichton, A. C., Rossmore, Silchester Road, Glenageary, Co. Dublin.
- Cromien, S., Department of Finance, Government Buildings, Upper Merrion Street, Dublin 2.
- Crotty, T., B.E., Messrs M. Crotty & Son Ltd., Parliament Street, Kilkenny.
- Crowley, Niall, F.C.A., 4-5 Westmoreland Street, Dublin 2.
- Cunningham, A. C., Ph.D., New York State College of Agriculture, Cornell University, Ithaca, New York.
- Cunningham, J. V., General Manager, Donnelly Dublin Ltd., Bacon Curers & Sausage Manufacturers, Cork Street, Dublin 8.
- Davy, J. E., Government Stock & Share Brokers, 100/101 Grafton Street, Dublin 2.
- Deeny, Michael, M.Agr.Sc., Ph.D., Dunkeld, Portmarnock, Co. Dublin.
- Deeny, T. C., B.A. Mod., Dunkeld, Portmarnock, Co. Dublin.
- Dempsey, J. F., B.Comm., LL.D., A.C.A., General Manager, Aer Lingus, O'Connell Street, Dublin 1.
- Dennis, R. J., M.A., 4 Argyle Road, Dublin 4.
- Devitt, F. J., B.A., A.C.A., R.T.V. Rentals Ltd., 40 Upper Baggot Street, Dublin 4.
- Dillon, James M., T.D., Dail Eireann, Leinster House, Kildare Street, Dublin 2.
- Dillon-Malone, P. J., M.A. (Oxon.), General Manager, Irish Tam Ltd., 21 Lower Baggot Street, Dublin 2.
- Dixon, F. E., 15 Terenure Road East, Rathgar, Dublin 6.
- Donaghy, Ciaran A., B.A., B.Comm., Cherry & Smalldridge Ltd., Seville Place, Dublin 1.
- Donnelly, J., 8 Nassau Street, Dublin 2.
- Donnelly, James, LL.B., B.Sc.Econ., Marine Road, Greystones, Co. Wicklow.
- Dooge, James C. I., M.E., University College, Cork.
- Duncan, G. A., S.F.T.C.D., 7 Braemor Park, Dublin 14.
- Dunwoody, Alexander, B.Sc.Econ., 15 Lyndhurst Drive, Belfast 13.
- Eason, John C. M., 38 Elton Park, Dun Laoghaire, Co. Dublin.
- Farrelly, Peter, D.P.A., 3 O'Brien's Terrace, Prospect Road, Glasnevin, Dublin 9.
- Fay, James M., 19 Nutley Park, Ballsbridge, Dublin 4.
- Fell, Charles F., D.P.A., 82 Seville Place, North Strand, Dublin 1.
- Fennell, Rosemary, 114 Merrion Road, Dublin 4.

Fitzgerald, Alexis, B.A., LL.B., 51 Fitzwilliam Square, Dublin 2.  
 Fitzgerald, Garret, B.A., B.L. 75 Eglinton Road, Dublin 4.  
 Flynn, John P., Gortlandrae, Nenagh, Co. 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,  
 Co. Mayo.  
 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.  
 Gillman, C. J., Rosslare Harbour, Co. Wexford.  
 Gleeson, Neil, B.Comm., M.A., 38 Greygates, Mount Merrion, Co.  
 Dublin.  
 Greene, J. N., M.B., Levitstown House, Mageny, Co. Kildare.  
 Gulick, Clarence S., 4702 de Russey Parkway, Chevy Chase 15, Maryland,  
 U.S.A.  
 Hall, F. G., Weston, Elton Park, Sandycove, Co. Dublin.  
 Harman, J. F., "Medina", Howth, Co. Dublin.  
 Haughey, J., 76 Kenilworth Square, Rathgar, Dublin 6.  
 Healy, Rowland, Commissioner for Oaths, 21 Molesworth Street, Dublin  
 2.  
 Hegan, S., Lynton, Old Connaught Avenue, Bray, Co. Wicklow.  
 Herlihy, D., General Manager, The Insurance Corporation of Ireland  
 Ltd., 33-36 Dame Street, Dublin 2.  
 Hogan, Sarsfield, Irish Steel Holdings, Haulbowline, Co. Cork.  
 Honohan, W. A., M.A., F.I.A., 102 St. Moibhi Road, Glasnevin, Dublin 9.  
 Horgan, J. J., 50 South Mall, Cork.  
 Hussey, D. R., B.Comm., A.C.A., Massey-Ferguson (Eire) Ltd., 134  
 Lower Baggot Street, Dublin 2.  
 Hussey, F. P., A.R.C.Sc.I., 5 Sarto Road, Kilbarrack, Raheny, Dublin 5.  
 Hyland, John P., B.Sc., 55 Adair, Sandymount Avenue, Ballsbridge,  
 Dublin 4.  
 Hyland, W., B.Sc., Flat 4, 77 Pembroke Road, Dublin 4.  
 Jenkins, J. B., Vice-Chairman, W. & R. Jacob & Co. Ltd., Dublin 8.  
 Johnston, J., S.F.T.C.D., University of Dublin, 39 Trinity College,  
 Dublin 2.  
 Kavanagh, Rev. James, 48 Westland Row, Dublin 2  
 Kelly, P. G., M.A., A.C.A., 1 Arranmore Road, Ballsbridge, Dublin 4.  
 Kennedy, David M. T., M.Sc., 21 Rathdown Park, Terenure, Dublin 6.  
 Kennedy, K. A., M.Econ.Sc., B.Phil., 19 Claremount Road, Sandymount,  
 Dublin, 4.  
 Kenny, The Hon. Justice, 69 Nutley Lane, Donnybrook, Dublin 4.  
 Kinahan, John, The Dugout, Abbeyfields, Killester, Dublin 5.  
 Lawton, John J., 70 Pigeon House Road, Ringsend, Dublin 4.  
 Lenihan, J., Hodson Bay Hotel, Athlone, Co. Westmeath.  
 Leydon, John, LL.D., 141 Stillorgan Road, Donnybrook, Dublin 4.  
 Linehan, Thomas P., B.E., B.Sc., 26 Leinster Square, Rathmines, Dublin 6.  
 Lowe, John, M.A., B.Comm., A.C.A., 6 Lower Fitzwilliam Street,  
 Dublin 2.

Lynch, Patrick, 50 Leeson Park, Dublin 6.  
 Lynch, P. J., B.Comm., 4 Rathfarnham Park, Dublin 14.  
 Lyon, Stanley, B.A., 62 Leinster Road, Rathmines, Dublin 6.  
 Meehan, J. F., M.A., B.L., Albany House, Monkstown, Co. Dublin.  
 Mill, C. K., B.A., D.Sc., Woodside, Howth, Co. Dublin.  
 Moran, T. A., B.L., Ardahan, Grove Road, Malahide, Co. Dublin.  
 Morrison, A., F.C.I.S., M.Inst.T., 21 Weybridge Crescent, Glen Innes,  
 Auckland E.2., New Zealand.  
 Mulcahy, R., Lissenfield House, Rathmines, Dublin 6.  
 Muldowney, S. J., F.C.A., 31 Upper Mount Street, Dublin 2.  
 Murphy, John, 23 St. Catherine's Park, Glenageary, Co. Dublin.  
 Murphy, J., Secretary, Dublin Port & Docks Board, Secretary's Office,  
 19-21 Westmoreland Street, Dublin 2.  
 Murray, C. H., 6 Washington Park, Templeogue, Co. Dublin.  
 Murray, John L., Students' Centre, Newman House, 86 St. Stephen's  
 Green, Dublin 2.  
 MacAodha, Breandan S., Roinn na Tíreolaíochta, Coláiste na h-Iolscoile,  
 Gaillimh.  
 McBride, Joseph, B.E., 25 Landscape Gardens, Churchtown, Dublin 14.  
 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,  
 Dublin 2.  
 McCarthy, Eugene, B.Sc.Econ., 39 St. Stephen's Green, Dublin 2.  
 McCauley, Leo T., 5581 North 16th Street, Arlington, Virginia, U.S.A.  
 McCormack, A., B.Comm., M.Econ., Shannon Free Airport Development  
 Co. Ltd., Shannon Free Airport, Co. Clare.  
 McCormick, E. P., The Irish Creamery Managers' Association, 32 Kildare  
 Street, Dublin 2.  
 McDonald, M. D., D.P.A., 85 Willowpark Grove, Ballymun, Dublin 11.  
 McElligott, J. J., M.A., LL.D., Oak Lodge, South Hill Avenue, Blackrock,  
 Co. Dublin.  
 McEvoy, P. J., B.Comm., D.P.A., 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, Co.  
 Dublin.  
 McKenna, Rev. L., S.J., The Catholic Workers' College, Sandford Road,  
 Dublin 6.  
 McKevitt, Very Rev. P. Canon, P.P., Parochial House, Termonfeckin,  
 Drogheda, Co. Louth.  
 McKinley, J. G., B.A., B.Comm., Mount Avenue, Dundalk, Co. Louth.  
 McNerney, Eamon, F.B.A.A., McNerney & Co., Auditors & Accountants,  
 2 John's Place, Birr, Co. Offaly.  
 Nagle, J. C., M.Comm., 9 Winton Avenue, Rathgar, Dublin 6.  
 Nevin, Donal, Site 50, Taney Crescent, Dundrum, Dublin 14.  
 Neue, G. B., Secretary, Northern Ireland Council of Social Service,  
 Bryson House, 28 Bedford Street, Belfast 2.  
 Newman, Rev. T., St. Patrick's College, Maynooth, Co. Kildare.  
 Niland, Joseph A., 64 McKee Road, Finglas, Dublin 11.  
 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, John, Molesworth House, South Frederick Street, Dublin 2.  
 O'Broin, Colín, "Glenmalure", Yellow Walls Road, Malahide, Co. Dublin.
- O'Brolchain, R., B.A., 11 St. Mary's Road, Ballsbridge, Dublin 4.  
 O'Buachalla, L., M.Comm., Inis Ealga, Gaillimh.  
 O'Carroll, F. M., M.Sc., 12 Dundela Avenue, Sandycove, Co. Dublin.  
 O'Coinneide, B., Ph.D., B.Comm., 21 Bothar Baile Mearnáin, Ath Cliath 6.  
 O'Conaill, S., B.A., 57 Allen Park Road, Stillorgan, Co. Dublin.  
 O'Connell, E., Headmaster, Technical School, Newcastlewest, Co. Limerick.
- O'Connor, R., Ph.D., Central Statistics Office, The Castle, Dublin 2.  
 O'Driscoll, T. J., B.A., LL.D., Evergreen Lodge, Military Road, Ballybrack, Co. Dublin.
- O'Flynn, Dermot J., M.Econ.Sc., "Loyola", Churchtown Drive, Dublin 14.  
 O'Huiginn, Pádraig, 14 Firhouse Road, Templeogue, Co. Dublin.  
 O'Keefe, P., B.Agr.Sc., Editor, The Irish Farmer's Journal, 24 Earlsfort Terrace, Dublin 2.
- O'Kelly, Niall, A.R.I.C.S., A.I.Arb., 133 Lower Baggot Street, Dublin 2.  
 O'Loughlin, Brian A., 12A Vesey Place, Dun Laoghaire, Co. Dublin.  
 O'Loinsigh, D. S., 92 Vernon Avenue, Clontarf, Dublin 3.  
 O'Mahony, David P., M.A., Ph.D., B.L., Department of Economics, University College, Cork.
- O'Muimhneachain, M., D.Econ.Sc., Governor, The Central Bank of Ireland, Foster Place, Dublin 2.
- O'Neill, D. J., Managing Director, Lunham Bros. Ltd., Cork.  
 O'Nuallain, Labhras, D.Econ.Sc., Daimh na Tráchtála, Coláiste na h-Iolscoile, Gaillimh.
- O'Raghallaigh, Seamus, Dún Feannachaidh, Co. Dhún na nGall.  
 O'Raifeartaigh, T., M.A., Secretary, Department of Education, Dublin 1.  
 O'Regan, Liam, The Cottage, Cughadown, Skibbereen, Co. Cork.  
 O'Reilly, P. J., Greyfort, Clonmel, Co. Tipperary.  
 O'Reilly, T. D., B.Comm., 3 Cherryfield Avenue, Sandford Road, Dublin 6.
- O'Riordan, William K., M.Sc.(Econ.), "Lisieux", North Road, Finglas, Dublin 11.
- O'Súilleabhain, Michael, B.A., B.Comm., Bac.Sc.Oec., (23) Kiel, Bartelsallee 16, Germany.
- O'Sullivan, John 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.  
 Park, A. T., Tudor Lodge, Glen Road, Craigavad, Belfast.  
 Parkinson, J. R., Department of Economics, The Queen's University of Belfast, Belfast.
- Reamonn, S., Chairman, Revenue Commissioners, Office of the Revenue Commissioners, Dublin Castle, Dublin 2.
- Rearden, J. V., Deputy Works Director, The Irish Dunlop Co. Ltd., The Marina, Cork.
- Reynolds, Thomas, B.C.L., LL.B., Director, The Federation of Builders, Contractors, & Allied Employers, of Ireland, 28 Earlsfort Terrace, Dublin 2.
- Richards Orpen, John, Monksgrange, Enniscorthy, Co. Wexford.



Roberts, Ruadhri, 8 Clarinda Park East, Dun Laoghaire, Co. Dublin.  
 Robnson, H. W., Polden Robnson & Co., Chartered Accountants, 2  
 Lower Merrion Street, Dublin 2.  
 Roche, John D., B.Comm., 46 Lowrey Park, Dalkey, Co. Dublin.  
 Rowe, David N., 4 Herbert Street, Dublin 2.  
 Russell, G. E., T.D., Derravoher, Limerick.  
 Ryan, Dermot J. A., B.A., Chairman, Ryan's Car Hire Ltd., 19/20  
 Pearse Street, Dublin 2.  
 Ryan, John, "St. Anne's", Dublin Road, Arklow, Co. Wicklow.  
 Ryan, W. J. L., Ph.D., 43 Nutgrove Park, Dublin 14.  
 Senior, Brendan J., D.Sc., St. Catherine's, Leixlip, Co. Kildare.  
 Simington, R. C., D.Litt., St. Joseph's, Finglas Road, Dublin 11.  
 Simpson, J. V., B.Sc.(Econ.), 7 Jordanstown Road, Newtownabbey, Co.  
 Antrim.  
 Smith, Cornelius F., 4 Grafton Street, Dublin 2.  
 Smith, Louis P. F., Ph.D., D.Econ.Sc., 6 Temple Villas, Dublin 6.  
 Somerville Large, P. T., Vallombrosa, Bray, Co. Wicklow.  
 Stewart, E. F., B.Sc.(Econ.), 6 Gransha Gardens, Glen Road, Belfast 11.  
 Stewart, J. T. H., B.Sc.(Econ.), 377 Gregagh Road, Belfast 6.  
 Sweetman, Gerard, T.D., 30 Lower Baggot Street, Dublin 2.  
 Thompson, G. C. M., Chairman, Hely Group Ltd., Swords Road,  
 Santry, Dublin 9.  
 Thompson, Samuel F., 53 MacCurtain Street, Cork.  
 Tonge, J. C., Malo, Merrion Avenue, Blackrock, Co. Dublin.  
 Toole, Owen J., Curran House, 11 Fleet Street, Dublin 2.  
 Treacy, Patrick J., B.E., A.M.I.C.E.I., Scilly, Kinsale, Co. Cork.  
 Walls, J., 187 Philipsburgh Avenue, Fairview, Dublin 3.  
 Walmsley, James A., M.A., Harlech, Roebuck, Dublin 14.  
 Walsh, J. J., B.A., M.Econ.Sc., Industrial Development Authority, 7  
 Mount Street Crescent, Dublin 2.  
 Walsh, Patrick, "Pralou", Mount Merrion Avenue, Blackrock, Co.  
 Dublin.  
 Walsh, T., Director, An Foras Talúntais, 33 Merrion Road, Dublin 4.  
 Wheeler, G. Martin, Forsyth & Co., 4 Herbert Street, Dublin 2.  
 Whitaker, T. K., M.Sc.(Econ.), D.Econ.Sc., 148 Stillorgan Road, Dublin 4.  
 Wilson, Gerald, Director, Bank of Ireland, G.P.O. Box No. 9, Dublin 1.

#### 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.  
 An Bord Baine, 13 Merrion Square, Dublin 2.  
 Bord Fáilte Eireann, Baggot Street Bridge, Dublin 2.  
 Bord na Mona, 28 Upper Pembroke Street, Dublin 2.  
 Bord Soláthair an Leictreachais, 27 Lower Fitzwilliam Street, Dublin 2.  
 Browne & Nolan, Richview Press, Clonskeagh, Dublin 4.

Cahill & Co. Ltd., 43 Parkgate Street, Dublin 8.  
 P. J. Carroll & Co. Ltd., Dundalk, Co. Louth.  
 Cavendish Furniture Co. Ltd., 28/29 Grafton Street, Dublin 2.  
 Ceimic 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, Co. Dublin.  
 Comhlucht na h-Eireann um Árachas Teo., 12 Dawson Street, Dublin 2.  
 Coras Iompair Eireann, Kingsbridge, Dublin 8.  
 Dock Milling Co. Ltd., Barrow Street, Dublin 4.  
 Thomas Dockrell Sons & Co. Ltd., 38/39 Sth. Great Georges Street,  
 Dublin 2.  
 Donnelly Dublin Ltd., Bacon Curers & Sausage Manufacturers, Cork  
 Street, Dublin 8.  
 The Dublin Laundry Co. Ltd., Milltown, Dublin 6.  
 Dunnes Stores (Georges Street) Ltd., Sth. Great Georges Street, Dublin 2.  
 Eason & Son Ltd., 79-82 Middle Abbey Street, Dublin 1.  
 Edenderry Shoe Co. Ltd., Edenderry, Co. Offaly.  
 Esso Petroleum Co. (Ireland) Ltd., Stillorgan, Co. Dublin.  
 Henry Ford & Son Ltd., Cork.  
 Fry-Cadbury (Ireland) Ltd., East Wall Road, Dublin 3.  
 Gateaux Ltd., Finglas, Dublin 11.  
 The General Electric Co. of Ireland Ltd., A.E.T. Works, Dunleer, Co.  
 Louth.  
 General Finance Trust Ltd., Ballsbridge House, 176 Pembroke Road,  
 Dublin 4.  
 General Textiles Ltd., Athlone, Co. Westmeath.  
 W. & H. M. Goulding Ltd., 22 Molesworth Street, Dublin 2.  
 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 Lane Foundry Co. Ltd., 111 Pearse Street, Dublin 2.  
 The Hibernian Bank Ltd., Box 63, College Green, Dublin 2.  
 The Hibernian Fire & General Insurance Co. Ltd., 46-49 Dame Street,  
 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, Co. 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 Farmer's Journal, 24 Earlsfort Terrace, Dublin 2.  
 The Irish Glass Bottle Co. Ltd., Charlotte Quay, Dublin 4.  
 Irish Life Assurance Co. Ltd., Mespil Road, Dublin 4.  
 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, Co. Louth.

Irish Pensions Trust Ltd., 38 Fitzwilliam Square, Dublin 2.  
 Irish Refining Co. Ltd., Whitegate, Co. Cork.  
 Irish Ropes Ltd., Newbridge, Co. Kildare.  
 Irish Steel Holdings Ltd., Haulbowline, Co. 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 Upper Sheriff Street,  
 Dublin 1.  
 The Munster & Leinster Bank Ltd., Cork.  
 W. & C. McDonnell Ltd., P.O. Box 231, 68 Upper Sheriff Street, Dublin 1.  
 McIntyres' Stores Ltd., Belmullet, Co. Mayo.  
 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, Co. Wexford.  
 The Royal Bank of Ireland Ltd., Box 123, Foster Place, Dublin 2.  
 Thomas De La Rue & Co. Ltd., The Richview Press, Clonskeagh,  
 Dublin 6.  
 Sunbeam Wolsey Ltd., Millfield, Co. Cork.  
 Switzer & Co. Ltd., Grafton Street, Dublin 2.  
 F. H. Thompson & Son Ltd., 53 MacCurtain Street, Cork.  
 Ulster Bank Ltd., Belfast.  
 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, 1964

1963 £	EXPENDITURE	£ s. d.		£ s. d.		1963 £	INCOME	£ s. d.	
		£	s. d.	£	s. d.			£	s. d.
21,033	Salaries, Superannuation, Wages .. .. .	21,466	7 11			19,964	Grant from Ford Foundation in respect of Expenses .. .. .	19,981	1 10
1,642	Scholarships and Bursary	1,917	3 4			747	Government Grant in respect of Rent ..	1,128	16 9
747	Rent .. .. .	1,128	16 9			2,924	Membership Subscriptions .. .. .	3,005	12 3
1,630	Printing .. .. .	2,010	17 0			518	Interest Receivable .. .. .	572	10 1
3,623	Other Expenditure ..	3,220	12 4	29,743	17 4	188	Sale of Publications .. .. .	239	16 0
624	Depreciation : Furniture and Equipment	609	8 9				Mathematical Economics and Econo- metrics Lectures .. .. .	225	15 0
93	Library Books .. .. .	123	18 10	733	7 7	24,341		25,153	11 11
						5,050	Excess of Expenditure over Income carried to Balance Sheet .. .. .	5,323	13 0
£29,392				£30,477	4 11	£29,392		£30,477	4 11

THE ECONOMIC RESEARCH INSTITUTE  
(COMPANY LIMITED BY GUARANTEE AND NOT HAVING A SHARE CAPITAL)  
BALANCE SHEET AS AT 30th JUNE, 1964

		£ s. d.	£ s. d.			£ s. d.	£ s. d.
1963				1963			
£				£			
	<i>Current Liabilities :</i>				<i>Fixed Assets :</i>		
1,170	Members Subscriptions in advance .. ..	1,283 0 0			Furniture and Equipment as at 1st July, 1963 ..	5,700 0 0	
568	Sundry Creditors and Expenses Accrued ..	2,360 2 7			Additions during the year at cost .. .. .	350 8 9	
1,738			3,643 2 7			6,059 8 9	
	<i>Capital</i>				<i>Less : Depreciation ..</i>	600 8 9	
	Balance at 1st July, 1963 .. .. .	15,842 12 5		5,700	Library Books as at 1st July, 1963 .. .. .	840 0 0	
	Grant from Government in respect of Furniture, etc. ..	359 8 9			Additions during year at cost .. .. .	353 18 10	
		16,202 1 2				1,193 18 10	
	<i>Less : Excess of Expenditure over Income for year ..</i>	5,323 13 0		840	<i>Less : Depreciation ..</i>	123 18 10	
15,842			10,878 8 2				1,070 0 0
27				6,540	<i>Current Assets :</i>		
				7,400	Deposit with Minister for Finance .. .. .	7,401 0 0	
				857	Sundry Debtors and Accounts Prepaid ..	412 8 3	
				97	Stock of Stationery ..	117 7 9	
				2,058	Cash at Bank .. .. .	50 3 10	
				30	Cash in Hand .. .. .	20 10 11	
							8,001 10 9
£17,580			£14,521 10 9	£17,580			£14,521 10 9

Signed : GEORGE O'BRIEN, *Chairman.*  
M. DEMPSEY, *Secretary.*

*Auditors' Report*

We have obtained all the information and explanations which, to the best of our knowledge and belief, were necessary for the purposes of our audit. In our opinion, proper books of account have been kept by the company, so far as appears from our examination of those books. The company's Balance Sheet and Income and Expenditure Account are in agreement with the books of account and, in our opinion and to the best of our information and the explanations given to us, the accounts give the information required by the Companies Act, 1963, and give a true and correct view of the state of the company's affairs at 30th June, 1964 and of the Excess Expenditure for the year to that date.

(Signed) POLDEN, ROBINSON & CO.  
*Chartered Accountants.*

23rd July, 1964.

*Printed by Cahill & Co., Ltd., Parkgate Printing Works, Dublin.*