

Report of the
Executive Board to the Members
of
THE ECONOMIC
RESEARCH INSTITUTE
for the year ended 30 June 1966

THE ECONOMIC RESEARCH INSTITUTE

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- *T. K. WHITAKER, M.SC.(ECON.), D.ECON.SC., *Secretary, Department of Finance.*
 - GERALD WILSON, *Director, Bank of Ireland, Dublin.*

*Members of Executive Committee

THE ECONOMIC RESEARCH INSTITUTE

SIXTH ANNUAL REPORT

For the year ended 30 June 1966

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

1. Publications of the Institute.
2. Lectures.
3. Quarterly Industrial Survey and Statistics of Economic Level and Trend.
4. Conference Activities.
5. Training.
6. Library.
7. Staff.
8. Membership and Finance.
9. Summary Account of Future Research Activities.
10. Social Research.

1. Publications of the Institute

In this year's Report the publications of the Institute since it was started are set out in Appendix A in the categories :—

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

2. Lectures

Lectures were given in the Institute Lecture Hall by T. J. Baker and D. R. F. Simpson on Quantitative Methods in Business Economics.

The subjects were as follows :—

- The Economics of Company Accounts
- The Framework of Management Accounts
- Forecasting Techniques
- Appraisal Techniques
- Linear Programming Methods in Business I—Introduction
- Linear Programming Methods in Business II—Case Studies
- Product Markets and the Second Programme
- Consequences of Freer Trade for Irish Business

The lectures were followed by a Business Game kindly arranged by IBM.

During the year lectures were given by visiting scholars as follows :—

Residuals in Autoregressive Time Series by Professor J. D. Sargan
 Network Analysis by Dr. M. G. Kendall

The Flow of Foreign Aid to the Arab States by Dr. T. Basheer
 Some Problems of Agricultural Policy under Economic Development
 by Professor D. R. Kaldor.

Weekly Seminars took place at the Institute. The participants were members of the economics staffs of the Universities, Departments of Government and other Research Institutes and graduate students undertaking research projects. Many of the discussions were the nuclei of new research projects. Members interested in attending the Seminars may obtain information from the Institute.

The Seminars were as follows :

Consistency of the Second Programme Projections	D. R. F. Simpson
Projection of the Agricultural Labour Force	L. Smith
Production Functions in Agriculture	M. Ross
A Model for Forecasting Cattle Prices	A. Power
Residual Heterovariance and Estimation	
Efficiency in Regression	R. C. Geary
Productivity in the Irish Economy	K. Kennedy
Loan Financing for University Education	M. O'Donoghue
State Aid to Agriculture	B. O'Loughlen
A Study of Imports	C. E. V. Leser
Investment, Employment and Growth	F. Boland
Regional Employment Patterns 1951-1961	T. J. Baker
Income Distribution	M. Boland
Towards a Monetary Analysis	J. Oslizlok
Cost Structure of Final Demand Components	J. McGilvray
Research and Development and Economic Growth	M. O'Donoghue
The Irish Economy in 1965 and Macroeconomic Projections for 1966	B. Menton
Why are Prices Rising?	R. C. Geary
An Input-Output Model of the Agricultural Sector	E. A. Attwood
Multiplier Effects of Tourist Expenditures	G. Fitzgerald
The Problem of Full Employment	W. J. L. Ryan
A Pilot Study of the Kilkenny Region	F. S. Drechsler
Changes in the Structure of Agriculture since 1900	R. Fennell
A Detailed Projection of the Irish Economy to 1970	D. R. F. Simpson
Problems of Youth Employment Policy	F. Flanagan

OR Applications to Agricultural Policy	M. Ross
Unemployment and the Incidence of Strikes in Ireland 1942-1965	C. Mulvey
The General Price Level and the External Trading Gain	R. C. Geary
Ireland's Foreign Trade	C. E. V. Leser

3. Quarterly Industrial Survey and Statistics of Economic Level and Trend

The Quarterly Industrial Survey is a summary of opinions designed to show the thinking of manufacturers on current trends in their industries.

The Survey issued in June 1966 indicated that Food, Drink and Tobacco manufacturers found sales and production were higher for the second quarter of 1966 compared with the corresponding period in 1965. Production was higher also in Textiles and Clothing. At the end of the first half of 1966 exports were said to be higher in Food, Drink and Tobacco and Textiles and Clothing industries. Stocks of materials were sufficient in all industries. Textiles and Clothing manufacturers had difficulty in finding skilled labour.

For the year 1966 compared with 1965 exports were expected to increase by 6% in Total Manufacturing, by 7% in Food, Drink and Tobacco and by 5% in Textiles and Clothing industries.

The Quarterly Statistics of Economic Level and Trend for June 1966 assembled 30 selected quarterly economic series for the last nine calendar quarters.

Figures were seasonally corrected by the method given in "Seasonality in Irish Economic Statistics" by C. E. V. Leser.

4. Conference Activities

The Institute at the request of the Irish Government, organised a Symposium on Operational Research in the Public Domain which was promoted by the Organisation for Economic Co-Operation and Development.

The object of the Symposium was to demonstrate the techniques of operational research for application in the public domain in Ireland.

Visiting experts described particular fields in which operational research had been applied with success and Irish discussants gave an account of their problems and the treatment given to them with emphasis on the quantum aspects. The treatment by the visiting experts of their respective topics was mainly non-technical in character.

The following papers were read :—

Operational Research in the Public Service	Professor P. M. Morse
Simulation of Economic Systems : An Overview	Professor Guy H. Orcutt

Integrated Hospital Operation	Dr. R. W. Revans
Application of Operational Research to Regional and Town Planning	Dr. R. Loué
Optimal Interregional Allocation of Agri- cultural Production and Resources in Sweden	Professor U. Renborg and Dr. L. Folkesson

A meeting of the Association d'Instituts Européens de Conjuncture Économique will be held in the Institute Lecture Hall in October, 1966. Members from France, Germany, Italy, Britain, Greece, Belgium, Holland and Yugoslavia will attend.

The 1967 Conference of The International Association for Research in Income and Wealth will be held in Ireland. Dr. R. C. Geary is President of the Association and this Institute will act as host to the Conference. About 150 participants are expected to attend. The general topics of the Conference will be

- (i) problems of deflation and the measurement of production ;
- (ii) national accounts and planning ;
- (iii) the treatment of education in the national accounts.

Staff members and post-graduate students attended the Conference of Economists in Irish Universities in Ballymascanlon in April 1966.

5. Training

The scholarship holders during the year were :

Miss M. Boland : who was awarded a post-graduate scholarship for a second year, presented a thesis for the M.A. degree in Economics at University College, Cork. The subject was "Aspects of the Pure Theory of Income Distribution". Miss Boland was awarded a First Class Honours M.A. degree.

B. O'Loghlen : was also awarded a second year post-graduate scholarship. The subject of his thesis for the M.A. degree in Economics at University College, Dublin was "Patterns of Public Expenditure and Development with Special Reference to Ireland in the Post-War Period". Mr. O'Loghlen was awarded a First Class Honours M.A. degree.

6. Library

There was a total of 7,600 volumes in the library at 30 June 1966. A large proportion of these has been acquired 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 1966

Director : R. C. GEARY

Secretary : Mrs. M. DEMPSEY

Research Professor :

C. E. V. LESER

Research Officers :

T. J. BAKER

D. R. F. SIMPSON

Research Assistant :

J. PRATSCHKE

Scholarship Holders :

MISS M. BOLAND

B. O'LOGHLEN

Visiting Scholar :

J. HEIN, *Special Assistant, International Research Department, Federal Reserve Bank of New York.*

There is a secretarial and clerical staff of seven.

8. Membership and Finance

There are 241 Individual and 79 Corporate Members 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 1966.

Government grants amounted to £15,868 and subscriptions from Members were £2,875. The Bank Overdraft of £14,971 is secured by a letter of undertaking from the Minister for Finance.

Total expenditure for the year including depreciation amounted to £30,928.

9. Summary Account of Future Research Activities

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.

Marketing Study (*Baker*)

The aim of this study is to examine the organisation of the marketing function and the marketing techniques used by firms in specific Irish industries. As far as possible the findings will be related to the actual performance of the firm involved to see whether any correlation can be

established between the profit and sales record on the one hand and the degree of marketing sophistication on the other.

With a few striking exceptions, Irish firms are not marketing oriented. In many cases this situation is dictated by the small size of companies. In marketing, as in research and some productive processes, there is a threshold size below which it is uneconomic to employ modern techniques. However it would appear from preliminary investigations that there is also a question of attitude involved. Compared with other industrial countries a higher proportion of Irish managers see business as a problem of selling what they make rather than of making what they sell. This attitude leads to companies being production rather than marketing biased, and is reflected in the organisational structure of the management team. One of the main points which it is hoped will emerge from the detailed investigation is whether it is also reflected in the quality of the selling effort at home and abroad and in the rate of growth of the company. Experience from other countries would certainly suggest that it is.

The principal technique adopted for obtaining information is that of a planned questionnaire administered in personal interviews with senior executives. The data thus collected will be analysed statistically, so that although this is a "value" study the results will be quantified so far as is possible. The industries selected for investigation are "Jams, Marmalades and Jellies", "Toiletries", "Television and Radio Receiving" and "Paper and Board".

Thus three consumer industries (one of them durable), and one producer goods industry will be covered in a sample of approximately forty firms.

Economics in Business (Baker)

The lectures delivered to the Corporate Members in January and February of this year are being prepared for publication to a wider audience. It is felt that such a pamphlet could fulfil a useful function, and that it would prove complementary to the N.I.E.C. booklet, "Planning your Business". In particular the emphasis on basic management accounting may help some smaller firms towards the level of sophistication at which the more comprehensive and long-term approach of "Planning your Business" would become appropriate.

Prices in Ireland (Geary and Pratschke)

This inquiry has been proceeding according to plan. It has involved a considerable amount of primary analysis. The treatment in this paper will be largely non-technical so as to be comprehensible to the widest possible audience. It will be recalled that the work of C. St.J. O'Herlihy and K. Cowling (E.R.I. Papers No. 29, 31) recently published, have dealt incidentally with prices, and, to a certain extent, dispenses us from being too severely technical. The results of these authors will be used in the present study. Following are some notes on particular aspects of the inquiry :—

Retail Prices : A table has been prepared showing, for each of the 209 items included in the Consumer Price Index (CPI), the annual price changes, in index number form, since August 1953. The results show the wide variation in price changes, and will be analysed in detail for the final study.

Prices in Industry : Derived price indexes have been worked out for each industry's output 1950-63 with a view to a study of the effect of price changes on volume of industrial output.

Concordance of Wholesale and Retail Prices : Index numbers have been prepared for wholesale and retail prices of commodities, grouped in the conventional CPI format. As regards wholesale prices, the concordance involved the establishment of a weighting diagram and commodity identification from the wholesale price records of the Central Statistics Office.

Services : The hypothesis (to be proved or disproved) is that the effect of successive wage-rounds should be to increase the unit-price of services, having regard to the prevailing impression that increases in productivity in services are less than productivity increases in non-service sectors. It is already evident that the increase in the prices of the services included in the CPI is greater than the price-increase for non-service items. The Wholesale-Retail Concordance tends to confirm this conclusion, by showing that, to base 1953 as 100, wholesale prices, on average, were 136 and retail prices were 145 in August 1965.

With regard to the vexed question of productivity in services, some progress has been made with regard to an investigation based on Census of Distribution material for certain years, using the double deflation method. Attempts to estimate productivity in selected service industries are also in hand.

External Trading Gain : This chapter has been completed. It has been clearly shown that, because of the great importance of external trade (both visible and invisible) in the Irish Economy, the trading gain, due solely to differential movements of import and export prices, is a factor that must be taken into account in any short-term assessment of the economy. For instance, between 1963 and 1964, because of favourable trends in export prices, incomes could have been increased by £18 million without any increase in consumer prices. In its effect, the trading gain may have as important an effect on the economy as a gain in "productivity", as the term is conventionally understood.

Quality Change : No study of prices can be complete without some treatment of the effects of quality change on prices. A certain amount of progress has been made in the preparation of a chapter on this difficult problem, involving, in particular, a study of other work by van Hofsten, Griliches and Stone. The problem is "Can we be sure that in pricing a particular commodity at two points in time

(or at different places at the same time) that quality is unchanged?" If not, can the quality change be quantified for pricing purposes?

Plans have been made for a study of the quality characteristics of different makes, sizes etc. of motor cars in Ireland using multiple regression analysis.

Indirect Taxation : A partial index of indirect taxation has been prepared, showing that taxation on tobacco, beer, spirits and petrol, has increased, in aggregate, from 60 in 1947 to 192 in 1965, taking base 1953 as 100.

An index of the level of local authority rates has also been prepared, showing that rates in 1966 (latest available) were 102% higher than in 1953, compared with the rise in consumer prices generally of 50%.

Institutional Aspects of Commercial and Central Banking in Ireland (Hein)

The aim of this study is to examine certain institutional aspects of the Irish banking scene—the commercial banks' external assets, their balances at the Central Bank, and the Central Bank Ratio—as well as the possibility of establishing a short-term money market in Dublin.

The Irish banks' foreign holdings or "external assets" generally furnish the background for any discussion of bank liquidity, credit creation and the scope for monetary policy in Ireland. However, the concept of external assets as currently defined—especially on a "net" basis, i.e., as the excess of the banks' external assets over their external liabilities—presents a number of difficulties. These relate to the use of the term "net"; to the fact that, from an accounting point of view, the banks' "net foreign" position is simply the counterpart of their "net domestic" position; and to the ways in which changes in the banks' net external assets are used in the context of the balance of payments.

One important determinant of changes in the Irish banks' external assets is the interflow of transactions between the banks and the Central Bank. Until recently, these operations—which include most prominently the issue and redemption of currency and the rediscounting of Exchequer Bills—were settled exclusively via the banks' sterling balances. Over the past few years, however, the banks have built up their central bank balances substantially and as a result this type of transaction is being effected increasingly on the books of the Central Bank. To the extent that this is done, the statistical and interpretative complexities that arise when strictly domestic operations are settled via external assets are avoided. A number of difficulties nevertheless remain, particularly in interpreting the "movement of funds" shown by the Central Bank as occurring between it and the banks.

Both the net external assets and the Central Bank balances of the Irish banks are important elements in the implementation of the Central Bank's credit policy since they constitute, in combination, the numerator of the Central Bank Ratio. This ratio was formally introduced as an

instrument of official policy in May 1965. A brief survey of the major features of commercial bank reserve requirements abroad reveals that, despite some differences of detail, the Central Bank Ratio is in effect a simple cash reserve requirement.

The introduction and application of the Central Bank Ratio having provided a more formal and better-defined liquidity base for the Irish banks, the concluding chapter examines whether the basis for a short-term money market in Ireland does exist and in what form such a market is most likely to develop.

Imports (*Leser*)

The first draft of a study has been completed and it is hoped to make the necessary revision for publication as soon as possible after all comments have been received.

The study describes some of the changes in the pattern of merchandise imports which occurred during the post-war period. Whilst total imports tended to remain in constant proportion to total final demand or supply, food and fuel imports increased far less than imports of manufactured and semi-manufactured goods, crude materials occupying an intermediate position. There are also considerable differences in expansion rates within those broad categories of goods.

Some light is also being thrown on the seasonality pattern of different kinds of imports. The general pattern is one of lower imports during the third than during the other calendar quarters, but some distinctly different seasonality patterns emerge, notably for foodstuffs and materials.

For merchandise imports, in total and broken down into four categories, quantitative relationships with industrial production, differences between imports and home production prices, and time are estimated. The sensitivity to price changes is found to be low for materials and fuel, moderate for food and fairly high for other goods. Some results are also obtained for imports in greater classification detail.

The behaviour of exports is also being briefly examined. It is concluded that imports as a whole follow a more regular and predictable course than exports.

Exports (*Leser*)

To a minor extent, exports and their influence on economic growth figure in the study of imports mentioned above. The problem of what determines the level of exports is a different one which will require separate study. It is hoped to consider this problem later on, following the work already done by M. Kavanagh.

Econometric macro-models (*Leser*)

Further experiments with the use of econometric relationships for short-term forecasting were made in connection with the annual survey of the Irish economy. The construction of either a quarterly model or an annual model incorporating quarterly data is still under consideration. It will be a help to have the index of retail sales available for a sufficiently

long period. Meanwhile, some methodological problems involved in the construction of satisfactory models are still being surveyed, following a paper read at the Rome Conference and to be published in "Econometrica".

Projection of the Structure of the Irish Economy (*Simpson*)

In 1963 R. C. Geary made some estimates of the pattern of output in 1970 using a 9 sector input-output model. These results were recently extended to 36 sector detail in a calculation in which Geary's model was adapted to provide a test of the consistency of the Second Programme projections. The results of this calculation suggest that, while there appears to be general consistency, certain aspects of the Programme require to be re-examined.

In both of these calculations the input-output coefficient matrix which was used was based upon the structure of the economy actually observed in 1960. In both cases some adjustments of coefficients were made in the direction which it was thought they would change between 1960 and 1970. However, in neither case was there any attempt to obtain independent information about the likely changes in individual coefficients between 1960 and 1970.

Even at the level of the 36 sector classification most coefficients are ratios in which the numerator and denominator each represent a wide range of goods and services. In order to estimate the likely changes in each coefficient, it is therefore desirable to disaggregate the sectors to a commodity or commodity group level.

At such a level of detail, it may appear to be an impossibly time-consuming task to deal with every coefficient. But there are a number of considerations which limit the area of work. First, it is necessary to consider only the larger or more important commodity flows, since errors in estimates of the smaller flows have little effect on the accuracy of output estimates from interindustry models. Secondly, agriculture and the food processing industries account for a considerable part of interindustry flows, and E. A. Attwood has shown in his detailed input-output table for the agricultural sector in 1960 that detailed information is available for this sector. On the other hand, so little is known about the services sectors that they will have to be ignored. This leaves the important commodity flows within the industrial sector to be estimated for 1970.

This in itself is a sufficiently large task that it is prudent to begin with pilot studies on one or two industries.

The information sought about each industry is broadly as follows:—

- The level of output of the principal commodities produced in 1970, as compared to that in a recent year, and in 1960.

The requirements of each of these commodities, per unit, in terms of the principal commodities used.

The proportion of the inputs which are imported and the proportion of the outputs which are exported.

The prices which can be used as indexes of the unit prices of the principal commodities and the trends expected in these prices between now and 1970.

In each case it is hoped to obtain an estimated range of variations of the estimates. In addition to the actual figures, it is intended to collect background information on the developments which are likely to affect the estimates, e.g. changes in tariffs and quotas, new processes, new materials, etc.

If the pilot studies are successful, they will pave the way to a model of the economy, much more detailed than hitherto, which could form the basis for forecasting the post-1970 period. If the information sought cannot be obtained, then the studies will have pinpointed the obstacles which stand in the way of an improved view of the future of the economy.

Short-Term Forecasting (*Research Staff*)

Following the publication of "The Irish Economy in 1966", it was felt that the Institute could usefully move further into the field of short-term forecasting, and that commentaries could be issued on a more continuous basis. It is intended that in future the quarterly "Statistics of Economic Level and Trend" will include a discussion of the latest trends in the economy, and where appropriate, revised forecasts of the likely out-turn for the year. If circumstances warrant, additional commentaries might be issued from time to time, to deal with specific developments which seem likely to call for urgent reassessment of the economic prospects.

10. Social Research

On the initiative of the Institute of Public Administration a Social Research Committee was set up in 1963. After discussions the Committee decided to ask the Government to ask the United Nations to send an expert whose terms of reference were adopted by the Committee as follows :

To report generally on the extent to which the needs for empirical social research exist in Ireland, and to make broad recommendations on the appropriate methods by which any such needs might be satisfied.

The U.N. expert, Mr. Henning Friis reported* in June 1965 and his recommendations were accepted in principle by the Executive Board, which appointed a Sub-Committee "to examine and prepare a report on the implications of the amalgamation of The Economic Research Institute to form an Economic and Social Research Institute with a Survey Unit attached", such amalgamation having been recommended by Mr. Friis. The Sub-Committee advised that, in order to mark the change in the responsibilities of the Institute its title should be changed to "The Economic and Social Research Institute" and that when the Board had considered and decided on the changes required in the Memorandum and Articles of Association of the Institute, appropriate steps should be taken :—

*"Development of Social Research in Ireland", *Institute of Public Administration*.

- (a) to obtain the necessary approval of the Minister for Industry and Commerce for the proposed alterations ;
- (b) to include in such changes any which may be required by the Companies Act, 1963 ;
- (c) to have the changes approved by an Extraordinary General Meeting of the Institute ;
- (d) to comply with the Companies Registration Office requirements.

Relatively few changes were found necessary in the Memorandum and Articles since in the original document social research was contemplated in the words (paragraph 3 of Memorandum) "the objects for which the Institute is established are the carrying out of research and the advancement of the knowledge of economics and other social sciences, with particular reference to economic and social conditions in or affecting Ireland". Perhaps the most important proposed amendment is that the Executive Board should be expanded in number to not fewer than ten and not more than thirty members, the present limits being seven to seventeen. The sub-Committee endorsed strongly the Friis recommendation that the members of the governing body of the Institute should not be selected as "representatives" of any particular institutions but should be chosen "on the basis of their personal qualities and interests". Terminological changes recommended were "Executive Board" to "Council" and "Governor" to "Member". The Sub-Committee's report was adopted by the Executive Board.

As to step (a) above, the approval of the Minister has been obtained ; steps (b) and (d) can only be taken after the Extraordinary General Meeting (step (c)), arranged for 27 September 1966.

In January 1966 the Minister for Education announced at the OECD Ministerial Meeting in Paris that the expansion of the Institute would have the support of the Government :—

"Reference is made in the (OECD) document to the very valuable report concerning the needs for empirical social research in Ireland prepared by Mr. Henning Friis, whose services we obtained through the good offices of the United Nations. I should like to pay a tribute to the work which Mr. Friis has done for us, and, what is even more important, to tell you that his recommendations have been accepted, in principle, by my Government. At present the necessary preliminary steps are being taken to implement them. It is proposed to expand our existing Economic Research Institute, altering its title to The Economic and Social Research Institute and providing within it both a division of Social Science and a Survey Research Unit for empirical inquiries. I need scarcely say that though the new Institute may be state-aided it will enjoy full academic autonomy. This we regard as a most important initial step, in providing for our society a scientific knowledge of ourselves, in making more effective our national programming and in co-ordinating our hitherto dispersed efforts in social research and to this end developing a career structure for social researchers in Ireland".

APPENDIX A

LIST OF PUBLICATIONS ETC. OF THE ECONOMIC RESEARCH INSTITUTE

I Books

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| 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> (Macmillan & Co., London, 1963). | Edward Nevin |
| 3. <i>Elements of Linear Programming with Economic Illustrations</i> (Charles Griffin & Co. Ltd., London, 1964). | R. C. Geary and
M. D. McCarthy |
| 4. <i>Econometrics</i> (Charles Griffin & Co. Ltd., London). | C. E. V. Leser |

II Publication Series

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| 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 (October 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
and M. Ross |
| 16. Irish County Incomes in 1960 (September 1963). | E. A. Attwood and
R. C. Geary |

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| 17. The Capital Stock of Irish Industry (November 1963). | Edward Nevin |
| 18. Local Government Finance and County Incomes (March 1964). | David Walker |
| 19. Industrial Relations in Ireland : The Background (May 1964). | David O'Mahony |
| 20. Social Security in Ireland and Western Europe (June 1964). | P. R. Kaim-Caudle |
| 21. The Irish Economy in 1963 and 1964 (August 1964). | C. E. V. Leser |
| 22. The Cost Structure of Irish Industry, 1950-60 (August 1964). | Edward Nevin |
| 23. A Further Analysis of Irish Household Budget Data, 1951-52 (August 1964). | C. E. V. Leser |
| 24. Economic Aspects of Industrial Relations (February 1965). | David O'Mahony |
| 25. Psychological Barriers to Economic Achievement (February 1965). | P. Pentony |
| 26. Seasonality in Irish Economic Statistics (June, 1965). | C. E. V. Leser |
| 27. The Irish Economy in 1964 and 1965 (stencilled, July 1965). | C. E. V. Leser |
| 28. Housing in Ireland : Some Economic Aspects (November, 1965). | P. R. Kaim-Caudle |
| 29. A Statistical Study of Wages, Prices and Employment in The Irish Manufacturing Sector (January, 1966). | C. St.J. OHerlihy |
| 30. Fuel and Power in Ireland : Part I. Energy Consumption in 1970 (April, 1966). | J. L. Booth |
| 31. Determinants of Wage Inflation in Ireland (May, 1966). | K. Cowling. |
| 32. Regional Employment Patterns in the Republic of Ireland. | T. J. Baker.
The Staff of The
Economic
Research Institute |
| 33. The Irish Economy in 1966. | J. L. Booth |
| 34. Fuel and Power in Ireland : Part II. Electricity and Turf. | J. L. Booth |
| 35. Fuel and Power in Ireland : Part III. International and Temporal Aspects of Energy Consumption. | J. L. Booth |

In preparation

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| 36. A Study of Imports. | C. E. V. Leser |
| 37. The Consistency of The Second Programme Projections. | D. R. F. Simpson |
| 38. Variations in Inter-Industry Coefficients : Some Tests with Irish Data. | D. R. F. Simpson
and J. McGilvray |
| 39. Institutional Aspects of Commercial and Central Banking in Ireland. | J. Hein |
| 40. Marketing Study. | T. J. Baker |

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2. Forms of Engel Functions (*Econometrica*, October 1963). C. E. V. Leser
3. The Cost Structure of British Manufacturing, 1948-61 (*The Economic Journal*, December 1963). E. T. Nevin
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6. The Pattern of Personal Expenditure in Ireland (*Journal of the Statistical and Social Inquiry Society of Ireland*, 1964). C. E. V. Leser
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8. Towards an Input-Output Decision Model for Ireland (*Journal of the Statistical and Social Inquiry Society of Ireland*, 1965). R. C. Geary
9. Do-It-Yourself Economics of the Firm : First Draft of a Statistical Scheme (*Productivity Measurement Review OECD*, February 1965). R. C. Geary
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13. A Note on Residual Heterovariance and Estimation Efficiency in Regression (*The American Statistician*, 1966). R. C. Geary

IV Articles (other than at III) in Outside Periodicals

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3. Short Term Aspects of Growth in the Irish Economy, 1948-61 (*Irish Banking Review*, December 1962). Alfred Kuehn
4. Productivity (*Irish Banking Review*, March 1963). David Walker
5. Some Aspects of Inland Transport in Ireland (*Statistical and Social Inquiry Society of Ireland*, March 1963). D. J. Reynolds
6. New Approaches to Economic Analysis (*Irish Banking Review*, March 1965). C. E. V. Leser

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 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, 19 Raglan Road, Dublin 4.
 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., Parliament Buildings, Parliament 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.
Player & Wills (Ireland) Ltd., 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.
RGDATA, 24 Earlsfort Terrace, 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.
Sunbeam Wolsey Ltd., Millfield, Co. Cork.
Switzer & Co. Ltd., Grafton Street, Dublin 2.
F. H. Thompson & Son Ltd., 58 MacCurtain Street, Cork.
Ulster Bank Ltd., Belfast.
Weir & Sons (Dublin) Ltd., 96 Grafton Street, Dublin 2.
Williams & Woods Ltd., 204 Parnell Street, Dublin 1.
The Workers' Union of Ireland, Head Office, 29 Parnell Square, Dublin 1.

APPENDIX C
 THE ECONOMIC RESEARCH INSTITUTE
 INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 30th JUNE 1966

1965	EXPENDITURE :	£	s.	d.	£	s.	d.	1965	INCOME :	£	s.	d.
21,702	Salaries, Superannuation, Wages and State Insurance				21,083	3	4	20,027	Grant from Ford Foundation in respect of Expenses	—	—	—
2,784	Scholarships and Project Grants				2,571	11	10	943	Government Grant in respect of rent	936	0	0
943	Rent				943	0	0	2,038	Members' Subscriptions	2,874	13	3
758	Printing				1,221	4	0	462	Interest Receivable	—	—	—
5,069	Other Expenditure				4,420	6	5	250	Sale of Publications	125	1	0
31,256					30,248	11	7	201	Mathematical Economics and Econome- trics Lectures	—	—	—
	<i>Depreciation:</i>							—	Government Grant	14,032	5	6
700	{ Furniture and Equipment	513	6	1				7,137	<i>Excess</i> of Expenditure over Income carried to Balance Sheet	12,060	0	0
	{ Library Books	160	2	10	679	8	11					
£31,956					£30,928	0	6	£31,956		£30,928	0	0

THE ECONOMIC RESEARCH INSTITUTE
 (COMPANY LIMITED BY GUARANTEE AND NOT HAVING A SHARE CAPITAL)
BALANCE SHEET AS AT 30th JUNE, 1966

1965	£		£	s.	d.	£	s.	d.
2,504		CURRENT LIABILITIES:	14,971	0	5			
699		Bank Overdraft ..						
		Members' Subscriptions	602	0	0			
853		in advance						
	4,116	Sundry Creditors' Ex-	954	13	4	16,527	19	9
		penses Accrued ..						
		(Secured by letter of						
		undertaking from De-						
		partment of Finance on						
		behalf of the Minister						
		for Finance).						
1,135		Less: CURRENT ASSETS:						
		Sundry Debtors and Pre-	691	3	8			
203		payments	66	18	0			
250		Stock of Stationery ..	800	0	0			
40		Stock of Publications ..	534	13	5			
	1,628	Cash in Hand				2,002	15	1
	2,488	NET CURRENT LIABILITIES:				14,435	4	8
		FIXED ASSETS:						
		<i>Furniture & Equipment:</i>						
		£ s. d.						
7,667		At Cost 7,666 10 7						
		Additions						
		during						
		year—At						
		Cost 227 6 1						
		Less: 7,893 16 8						
		Aggregate						
2,767		Deprecia-	3,279	16	8	4,614	0	0
		tion to date						
		Library Books:						
		At Cost 1,767 14 2						
1,358		Additions						
		during year						
400		—At Cost 330 2 10						
		2,106 17 0						
		Less:						
		Aggregate						
437	6,230	Deprecia-	603	17	0	1,503	0	0
		tion to date						
	3,742	NET TOTAL LIABILITIES						
		<i>Accumulated Fund:</i>						
		Excess of Expenditure over						
		Income for year ..	12,060	0	0			
		Less: Balance as at 1st	3,741	15	4	8,318	4	8
		July 1965						

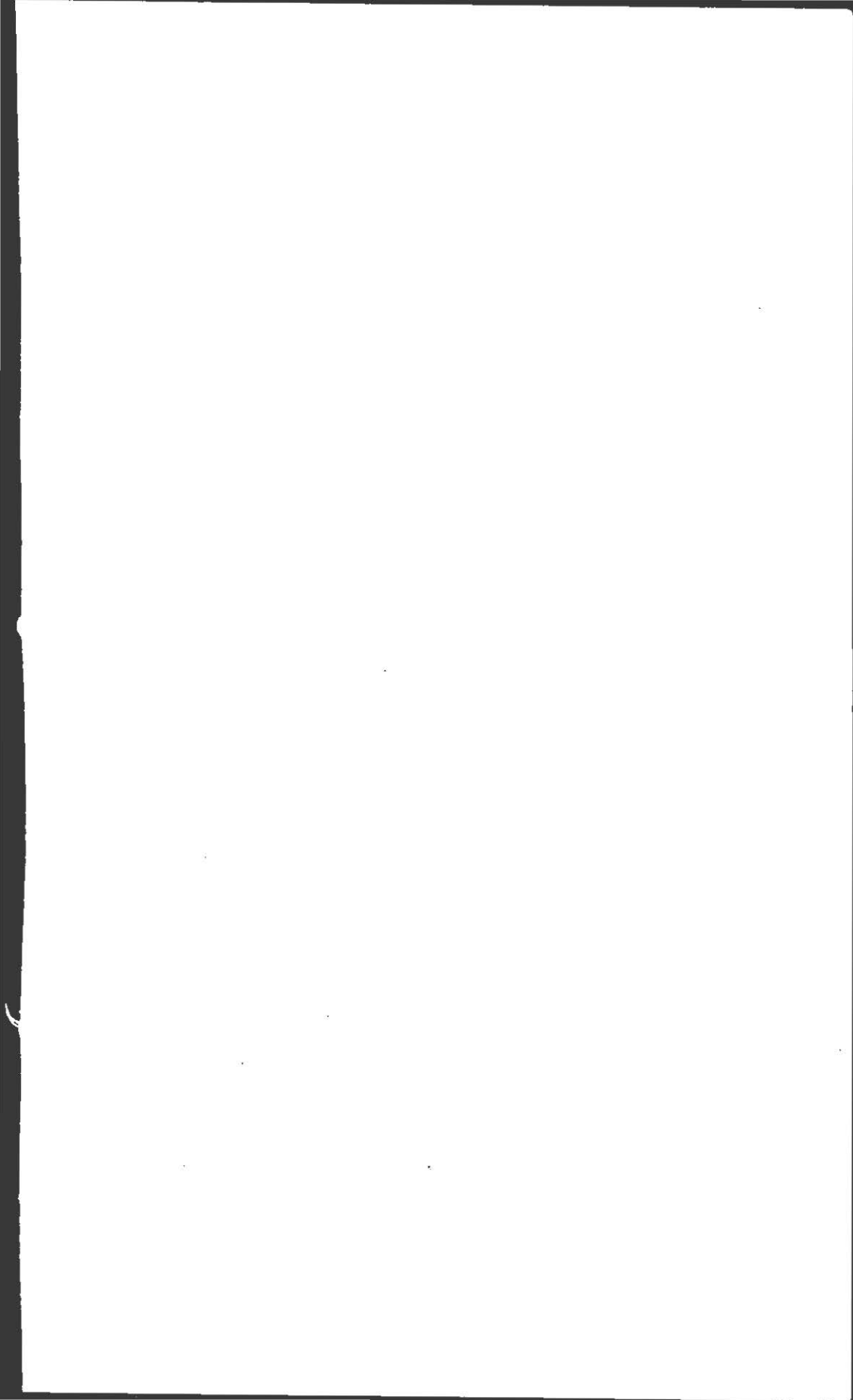
Signed: J. J. McELLIGOTT }
 M. D. McCARTHY } *Members of the Executive Board.*

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 1966 and of the excess expenditure for the year to that date.

BASTOW, CHARLETON & CO.
Chartered Accountants.

7th October, 1966.



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