A dissertation submitted for the degree of Doctor of Philosophy, Cambridge University.

PLANNING AND EMPLOYMENT IN A SMALL ECONOMY: THE REPUBLIC OF IRELAND

Olympios Katsiaouni, King's College, December, 1977.
OLYMPIOUS KATSIAOUNI

SUMMARY: PLANNING AND EMPLOYMENT IN A SMALL ECONOMY: THE REPUBLIC OF IRELAND

The dissertation can be considered in three parts.

Part 1 is a review of the evolution and uneven development of the Irish economy for recent decades. A main reason in undertaking this is to bring to the fore some of the neglected features of that development and its distinct characteristics. It is argued that abstracting from the course and stage of development of Ireland has enabled orthodox economists to transpose, indiscriminately, to this country the analysis and prescriptions offered for more advanced economies. Yet it is precisely when the long-term growth and employment performance is unravelled that the unemployment experience cannot be regarded as a temporary aberration.

Part 2 appraises critically the theory of indicative planning and then examines the three, 1959-72, planning experiments in Ireland. Despite the early abandonment of the later plans their theoretical framework and techniques have been, generally, exonerated from any responsibility for the ensuing difficulties. While we examine the origin and empirical content of the purely pragmatic explanations for 'failure' greater attention is paid to the methodology and the activities of the planners. This line of inquiry provides an insight into the ambiguous status of targets and weak implementation of Irish plans, and an explanation why the habitual neglect of theory led, on occasions, to serious contradictions.

Part 3 focuses on the ideas presented in earlier sections that argue for an alternative planning approach to the industrial sector. This is carried out in two stages. First, we examine the long-term association between the growth of manufacturing output and employment (or productivity) drawing from the experience of 44 industries for sub-periods between 1953 and 1974. At this point an opportunity is taken to compare the results to those obtained by investigators, notably P.J. Verdoorn and N. Kaldor, for other countries. Second, we make use of the derived statistical associations to estimate, inter alia, the path of industrial output growth required for expanding employment in the next decade.
PREFACE

This dissertation is my own work and was not written in collaboration with others. I have of course availed myself of the relevant literature to which references will be found in the text and footnotes. At an earlier stage several persons have kindly discussed or commented on sections of the work. I wish to thank, in particular, Professor H.A. Turner (Cambridge), Dr. L.L. Pasinetti (Cambridge), Professor W.J.L. Ryan (Trinity College, Dublin) and Roger Fox, (AnCO, Dublin). I am very grateful to Professor Joan Robinson who continued to take a lively and judicious interest in the thesis long after she ceased to be formally connected with my studies. My immediate and greatest appreciation is due to my supervisor Professor Kieran A. Kennedy (ESRI, Dublin) for reading and commenting on all the drafts, and for his unflagging enthusiasm and perspicacity. I am also indebted to the Institute of Public Administration, and in particular to its Head of Research, P.A. Hall, for granting me leave of absence and generous facilities to complete the research. Finally, my thanks to June Ryan and Paula Donnelly of the Institute for computer programming and administrative assistance, respectively.
CONTENTS (Summary Table)

Chapter 1  Introduction

PART ONE  PROLEGOMENA

Chapter 2  Aspects of Irish Economic Development

PART TWO  THE THEORY OF INDICATIVE PLANNING AND ITS PRACTICE IN IRELAND

Chapter 3  The Theory of Indicative Planning

Chapter 4  The Irish Planning Experience, 1958-1963

Chapter 5  The Irish Planning Experience, 1964-1972

Chapter 6  Planning Weaknesses and the Legacy of the Second and Third Programmes

PART THREE  OUTPUT AND EMPLOYMENT RELATIONSHIPS IN THE IRISH MANUFACTURING SECTOR

Chapter 7  Verdoorn Relationships and the Irish Manufacturing Sector, 1953-1974

Chapter 8  The Verdoorn Effect and Irish Employment Projections

Chapter 9  Prospects and Possibilities: Further Considerations

APPENDICES
CONTENTS (Detailed Table)

Chapter 1  
INTRODUCTION

PART ONE  
PROLEGOMENA

Chapter 2  
ASPECTS OF IRISH ECONOMIC DEVELOPMENT

2.1 Long Term Growth Rates and the Sectoral Profile of the Economy, 1926-174
2.2 The Demographic Experience
2.3 The Openness of the Economy

PART TWO  
THE THEORY OF INDICATIVE PLANNING AND ITS PRACTICE IN IRELAND

Chapter 3  
THE THEORY OF INDICATIVE PLANNING

3.1 Meade and the Theory of Indicative Planning
3.2 The Objectives and Assumptions of the Theory
3.3 Market and Environmental Uncertainties

Chapter 4  
THE IRISH PLANNING EXPERIENCE, 1958-1963

4.1 Introduction
4.2 The First Programme, 1958-'63
4.3 Summary and Conclusions

Chapter 5  
THE IRISH PLANNING EXPERIENCE, 1964-1972

5.1 The Second (1964-'70) and Third (1969-'72) Programmes for Economic Expansion
5.2 Planning Setbacks, 1964-'72
5.3 Targets and Reviews of the Plans
5.4 The Iterative Procedure

Chapter 6  
PLANNING WEAKNESSES AND THE LEGACY OF THE SECOND AND THIRD PROGRAMMES

6.1 Past Parables
6.2 Some Unsettled Issues
## CONTENTS (Detailed Table) contd.

### PART THREE

**OUTPUT AND EMPLOYMENT RELATIONSHIPS IN THE IRISH MANUFACTURING SECTOR**

**Chapter 7**

**VERDOORN RELATIONSHIPS AND THE IRISH MANUFACTURING SECTOR, 1953-1974**

- 7.1 Antecedents
- 7.2 Further Results on the Verdoorn Effect, 1953-74.
- 7.3 Verdoorn Relationships and Recent Sub-Periods

**Chapter 8**

**THE VERDOORN EFFECT AND IRISH EMPLOYMENT PROJECTIONS**

- 8.1 Sources of Information
- 8.2 The Warranted Growth of Manufacturing Output by the Verdoorn Method
- 8.3 The 'Expected' Growth of Manufacturing Output

**Chapter 9**

**PROSPECTS AND POSSIBILITIES: FURTHER CONSIDERATIONS**

- 9.1 Planning Structure and Direction
- 9.2 The Case for a Perspective Planning Document

### APPENDICES

**A**

Further Difficulties with Meade's Theory of 'Non-Interventionist' Planning

**B**

Indices of Economic Performance for the Duration of the Second and Third Programmes

**C**

Further Data and Statistical Results on the Growth of Output and Employment Association in the Irish Manufacturing Sector, 1953-74

**D**

The Cripps and Tarling Empirical Verification of a Kaldor Proposition - An Irish Comparison

**E**

Projected Growth of Manufacturing Employment, 1975-86

**F**

Institutional Aspects and the Organisation of Planning
<table>
<thead>
<tr>
<th>ABBREVIATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>AnCO</td>
</tr>
<tr>
<td>CEPG</td>
</tr>
<tr>
<td>CIAC</td>
</tr>
<tr>
<td>CIP</td>
</tr>
<tr>
<td>DAE</td>
</tr>
<tr>
<td>EEC</td>
</tr>
<tr>
<td>ESRI</td>
</tr>
<tr>
<td>ICTU</td>
</tr>
<tr>
<td>IDA</td>
</tr>
<tr>
<td>ILO</td>
</tr>
<tr>
<td>IMI</td>
</tr>
<tr>
<td>IPA</td>
</tr>
<tr>
<td>JSSISI</td>
</tr>
<tr>
<td>NESC</td>
</tr>
<tr>
<td>NIEC</td>
</tr>
<tr>
<td>OECD</td>
</tr>
<tr>
<td>RDOs</td>
</tr>
</tbody>
</table>
ABBREVIATIONS

AnCO  The Industrial Training Authority
CEPG  Cambridge Economic Policy Group
CIAC  Capital Investment Advisory Committee
CIP   Census of Industrial Production
DAE   Department of Applied Economics (Cambridge)
EEC   European Economic Community
ESRI  Economic and Social Research Institute
ICTU  Irish Congress of Trade Unions
IDA   Industrial Development Authority
ILO   International Labour Organisation
IMI   Irish Management Institute
IPA   Institute of Public Administration
JSSISI Journal of Statistical and Social Inquiry Society of Ireland
NESC  National Economic and Social Council
NIEC  National Industrial Economic Council
OECD  Organisation for Economic Co-Operation and Development
RDOs  Regional Development Organisations
ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>AnCO</td>
<td>The Industrial Training Authority</td>
</tr>
<tr>
<td>CEPG</td>
<td>Cambridge Economic Policy Group</td>
</tr>
<tr>
<td>CIAC</td>
<td>Capital Investment Advisory Committee</td>
</tr>
<tr>
<td>CIP</td>
<td>Census of Industrial Production</td>
</tr>
<tr>
<td>DAE</td>
<td>Department of Applied Economics (Cambridge)</td>
</tr>
<tr>
<td>EEC</td>
<td>European Economic Community</td>
</tr>
<tr>
<td>ESRI</td>
<td>Economic and Social Research Institute</td>
</tr>
<tr>
<td>ICTU</td>
<td>Irish Congress of Trade Unions</td>
</tr>
<tr>
<td>IDA</td>
<td>Industrial Development Authority</td>
</tr>
<tr>
<td>ILO</td>
<td>International Labour Organisation</td>
</tr>
<tr>
<td>IMI</td>
<td>Irish Management Institute</td>
</tr>
<tr>
<td>IPA</td>
<td>Institute of Public Administration</td>
</tr>
<tr>
<td>JSSISI</td>
<td>Journal of Statistical and Social Inquiry</td>
</tr>
<tr>
<td></td>
<td>Society of Ireland</td>
</tr>
<tr>
<td>NESC</td>
<td>National Economic and Social Council</td>
</tr>
<tr>
<td>NIEC</td>
<td>National Industrial Economic Council</td>
</tr>
<tr>
<td>OECD</td>
<td>Organisation for Economic Co-Operation and</td>
</tr>
<tr>
<td></td>
<td>Development</td>
</tr>
<tr>
<td>RDOs</td>
<td>Regional Development Organisations</td>
</tr>
</tbody>
</table>
Chapter I: INTRODUCTION

The present decade has been chosen by the International Labour Organisation (ILO) to be the period inaugurating the World Employment Programme. It threatens to be the most disappointing era since the 1930s. As Robinson and Wilkinson (1977) have noted the phrase 'the age of frustration' seems to be a more appropriate description of the current times and state of economics than the years when the post-war gains of prosperity and full-employment were to be consolidated.* In economics the method and ideas that made it possible for market economies to prevent large scale unemployment, and other associated difficulties, are derided and pre-Keynesian habits of thought are again in prominence.** This is particularly pronounced in the case of Ireland, an economy which traditionally was the exception rather than the rule vis-a-vis its European neighbours in that high unemployment and emigration have been a secular characteristic.

In a perverse way the effect of the 1974-'76 economic recession has been construed by some Irish commentators as a confirmation of the view that unemployment is, in the main, voluntary, frictional or otherwise an individually self-inflicted phenomenon. In the past when Ireland was the exception, in terms of surplus labour, this gave an opportunity to a section of the nationalist opinion to canvass the case that domestic economic difficulties were externally instigated.*** But currently the exception has become


*** This view remained unaltered much after political independence was secured in 1922, and it is still the belief of a minority despite the maturity of the internal political institutions, see E. Rumpf and A.C. Hepburn, Nationalism and Socialism in Twentieth-Century Ireland, Liverpool, 1977.
the norm as regards unemployment, and this has indirectly added
a new vigour and respectability to economic doctrines which claim
that there is little scope for domestic initiatives - collective
or otherwise. Thus once again considerable effort is expended in
viewing economic difficulties as externally imposed or natural
phenomena in the sense that they are deemed beyond the ingenuity
of society or that they may even serve a purpose in satisfying
individual proclivities. This has been the general background
against which the present dissertation has been prepared. Since
particular ideas and sections of this study will appear contentious
to, at least, one school of economic thought care has been taken to
trace, whenever possible, the antecedents of this work and to
present in some detail the teachings and implications of rival
theories.

The three parts of the thesis, though sharing many themes in common,
can be treated at this stage as separate entities.

Part I is a review of the evolution and uneven development of the
Irish economy in recent decades. A main reason in undertaking this
is to bring to the fore some of the neglected features of that
development and to highlight its distinct characteristics. It is
argued that abstracting from the course and stage of development
of Ireland has enabled orthodox economists to transpose, indiscriminately,
to this country the analysis and prescriptions offered for more
advanced economies. Yet it is precisely when the long-term growth
and employment performance is unravelled, i.e., when neither
output nor the labour force can be presumed unchanged, that the
employment experience cannot be considered as a lapse from full
employment or a temporary aberration. This aspect was recognised
by the introduction of the first plan in Ireland, discussed in
chapter 4, but lost sight of by the theoretical framework adopted by
the Second and Third Programmes.

Part 2 appraises critically the theory of non-interventionist planning,
as developed by Meade, and proceeds to examine the recent, 1964-'72,
planning experiments in Ireland. Despite the early abandonment of
these plans their theoretical framework and techniques have been exonerated, by the planners, from any responsibility for the ensuing difficulties. Explanations have been sought rather in ad hoc events that were relied on to absolve both the organisation and specific methodology followed by the economic programmes. While we examine, in chapter 5, the origin and empirical content of the purely pragmatic explanations for 'failure' greater attention is paid than hitherto to the methodology and activities of the planners. This line of inquiry provides an understanding of the ambiguous status of targets and weak implementation of Irish plans, and an explanation why the habitual neglect of theory by planners led, on occasions, to serious contradictions.* In particular, the adopted theoretical scheme was much more timid in its objectives and arbitrarily exacting in its assumptions than the claims made on its behalf by Irish planners.

An approach that relies on an examination of specific plans though useful in demonstrating particular defects and in suggesting improvements is, nevertheless, inevitably restricted in scope. Chapter 6, therefore, is an attempt to widen the frame of the investigation while focussing, inter alia, on the role of the industrial sector.

Part 3 develops the ideas presented in chapter 6, and elsewhere, that argue for a planning approach to the industrial sector commensurate with its status as the main lever for employment expansion. This is carried out in two stages. In chapter 7 we examine, primarily, the long-term association between the growth of manufacturing output and employment (or productivity) drawing on the experience of Irish manufacturing industries for sub-periods between 1953 and 1974. In doing this we abandon, explicitly, two static assumptions prevalent

* By 'habitual neglect' we do not wish to imply that Irish planners were devoid of a conceptual scheme but rather that these ideas survived, unscathed, despite the fate of successive planning documents and other evidence contrary to their a priori premises.
in Irish planning documents. The first is that for a given growth rate of industrial output all configurations between productivity and employment are equally likely. The second is the view of productivity and employment as not only antithetical but largely independent of output growth. At this point an opportunity is taken to compare the results and experience of the Irish manufacturing sector with those obtained by investigators for other countries. Chapter 8 makes use of the derived statistical associations, and other evidence, to delimit the projected growth of manufacturing output compatible with expected rates of labour force growth. As will be made clear, both the theoretical premises and the statistical relationships posited are radically different from their counterpart found in the formal methodology of previous Irish plans.

The final chapter is a brief review of earlier findings and an attempt to separate those implications of the study that can be incorporated into the existing planning framework from the ones that presuppose a more radical departure.
PART ONE: PROLEGOMENA
PART ONE: PROLEGOMENA
Chapter 2: ASPECTS OF IRISH ECONOMIC DEVELOPMENT

The aim of this chapter is to review certain features of Irish economic development as a prelude to the main body of the thesis. The phenomena surveyed here, though they may appear as not of direct concern of the research, will prove a useful introduction to the issues relating to employment and planning discussed in subsequent parts. The primary intention, therefore, is not so much to familiarise the reader with the Irish economy but rather to highlight some unique and neglected features of Irish economic development that are of relevance to the present work.*

It will be argued that the employment and planning difficulties of Ireland are connected in part with the incomplete nature of its economic development. Amongst the most conspicuous expressions of Ireland's partial underdevelopment are its perennial surplus labour, including high open unemployment and emigration, the form of openness of its economy, in particular the lack or weakness of autonomous fiscal and monetary policy instruments, and the influence of agriculture for output, employment and export earnings. These are some of the features which delimitate Ireland from her advanced European neighbours. The traditional large differences in sectoral productivity, the regional structural disparities in economic activities and income, and the relative absence of a capital goods industry are additional constituents of Irish economic development.

The Irish employment difficulties cannot be regarded as 'a lapse from full employment' or a disturbance of an equilibrium already

* Two recent and relatively short introductory textbooks on the Irish economy are K.A. Kennedy and R. Bruton's The Irish Economy (1975) and J.W. O'Hagan's (ed.), The Economic of Ireland (1975). Furthermore, J.A. Bristow and A.A. Tait's (eds.) Economic Policy in Ireland (1968) is a survey of specific topics within the area of the management of the economy, primarily for the 1960s, while J. Meenan's The Irish Economy (1970) is a descriptive survey on aspects of the Irish economy since 1922.
attained.* Relative surplus labour, including open unemployment and high emigration, has existed throughout the past century and has proceeded even at sub-periods, viz., the 1960s, where the industrial sector was undergoing rapid transformation.** By relative surplus labour at this stage we simply mean that the growth of the industrial sector has not been sufficient to employ the natural growth of the labour force plus the outflow from agriculture. The resultant effect, which in Ireland took the form of open and disguised unemployment, emigration and low married female participation rates is more akin to 'non-employment' experienced by underdeveloped countries than the irregular growth of employment opportunities of developed economies. The existence of relative surplus labour does not preclude further employment difficulties due to a recession or to restrictive fiscal and monetary policies. The margin of progress however, that has usually accompanied fiscal changes in government policy for stimulating the economy has been inadequate, in the short run, for eliminating unemployment.

To date most of the research on the employment problem in Ireland has concentrated on the composition and duration of open unemployment, generally in the non-farm sector, and on demographic projections. This preoccupation is of limited value for what is in dispute is not the factual seriousness of the unemployment problem but rather the appropriate analytic framework and the possible ways for dealing with it. In other words an analysis of open unemployment however thorough, e.g., by age, duration, sex, social and occupational status, will not by itself suggest the means for rectifying the overall shortfalls

---

* This term was popularised by A.C. Pigou in *Lapses From Full Employment* (1945) in describing an imaginary economy where full employment was the norm and unemployment a frictional aberration.

** One of the first to use the terms 'surplus labour' or 'relative surplus-population' to describe the employment difficulties encountered in Ireland was K. Marx. Thus, in *Capital* he wrote - "The uncertainty and irregularity of employment, the constant return and long duration of gluts of labour, all these symptoms of a relative surplus-population, figure therefore in the reports of the Poor Law administration, as so many hardships of the agricultural proletariat" (Vol. 1. p. 708, 1887).
in employment. It is our opinion that the employment problem in Ireland is bound up with its own peculiar form of development and two additional factors, neglected hitherto, must be introduced in the debate. The first pertains to the rate and composition in productive capacity (primarily in the industrial sector) and the second to the type of long-term State controls (including planning) suitable to the Irish economic predicament. These factors which, inter alia, affect the growth and direction of effective demand are dynamic in nature and cannot be dealt within models which at core imply self-regulating adjustments around a given equilibrium.*

Ireland is described by some, including its own government and the OECD as a developed economy.** This viewpoint which is often expressed for reasons of political pride or expediency, e.g., gaining membership of the EEC, is reinforced by the simple criteria of development found in economic literature. By using the comparative static criterion for development suggested, for example, by Higgins, it can be shown that Ireland is not an underdeveloped economy.*** In terms of income per head, shares of investment in output and employment generated by industry, Ireland is much above the so-called third world and closer to her European counterparts. The social indicators, in terms of literacy, medical services and calorie intake again point in the same

---

* As J. Robinson has noted "A model applicable to actual history has to be capable of getting out of equilibrium; indeed it must normally not be in it" (Essays in the Theory of Economic Growth (1962) p.25).

** For example, the OECD annual economic surveys usually treat the management of the Irish economy on par with the British and French economies with undue reliance on short term fiscal and monetary policies. More serious than this the treaty of accession to the European Community embodies largely the same terms and obligations as on the other members cf. The Accession of Ireland to the European Communities, Government Stationery Office, Pri. 2064, Dublin 1972.

*** See B. Higgins, Economic Development (1965, 2nd edition) pp. 8-33. The major criteria chosen by Higgins are GNP per head and levels of industrialisation at particular points in time. On his criteria, Ireland appears in the early 1960s as a developed economy, p. 9 and in the Appendix, Table II, p. 886, alongside Britain, Germany (F.R.) and Sweden. Although the use of single criteria, e.g., GNP per head, may facilitate a clear division of the globe into 'developed' and 'underdeveloped' economies such an indicator is too crude for the taxonomy of single countries.
direction.* The weakness in adopting Higgin's income criterion as a starting point of analysis for Ireland is that it neglects the persistent and high unemployment, emigration, the differences in productivity and output performance between industry and agriculture and the continuing importance of the latter sector for both output and exports.** Furthermore, the mode of industrialisation has meant an increasing dependence on foreign capital for both output and employment while there is an outflow of funds in the form of dividend repatriation and private purchases of foreign financial assets. It will also be argued, finally, that the form of openness of the economy has meant that Ireland has not had access to the same range of policy controls traditionally available to developed economies.

The broad changes that have taken place in Ireland over the past two decades have been described by H. O'Neill as 'the end of the transitional stage of its economic development' (Spatial Planning in a Small Economy (1971) p. 43). Such a conclusion is premature for it implies that the employment and accumulation problems have been overcome and that sectoral or regional imbalances have been corrected. Economic historians originally used the term in an ex-post way to describe the economic processes that obtained in the traditional pattern of development for a small group of western economies and in particular Britain, Germany and the United States. This transition as Schumpeter stressed was no less qualitative than quantitative.*** The main elements of the qualitative change were, the economic exploitation of technological innovations,

* Two sources are readily available for comparing Ireland to the rest of the EEC countries in terms of health services, educational facilities, nutritional standards, composition of private consumption as between expenditure on food and the rest; the annual Reports on the Development of the Social Situation in the Community and the annual Basic Statistics of the Community.

** Authors that explicitly introduced unemployment including its structure and level, as an indicator of development are W.A. Lewis Development Planning, (1966, pp. 76-86) and D. Seers 'What are we trying to Measure?' The Journal of Development Studies, April 1972.

*** See J.A. Schumpeter, The Theory of Economic Development (1934) and in particular chapter 2. As the following passage, p. 63, demonstrates, Schumpeter was fully aware of the pitfalls of creating economic taxonomies about the stages of development on a handful of statistics, "Nor will the mere growth of the economy, as shown by the growth of population and wealth, be designated here as a process of development. For it calls forth no qualitatively new phenomena, but only processes of adaptation of the same kind as the changes in the natural data".
the changes brought about by economies of scale and in general the capitalist transformation of the organisation of production and distribution accompanied by the rise of an entrepreneurial class. The term, therefore, carries with it the implication that the economy is undergoing an inexorable transformation, i.e., from structural problems of underdevelopment to the benefits of economic maturity within a relatively short historical period. Moreover, the period of transition signalled the passing of an agrarian economy with its associated social and merchant capital characteristics, and the founding of an expanding capitalist society marked by a rapid accumulation of capital, the break up of the domestic system and the absorption of the rural labour force. At the terminal date of the transition major problems associated with employment, the productivity of the agricultural and industrial sectors and the disposal of surplus in foreign markets have been successfully carried through.*

Ireland's experience to date does not fit neatly into this pattern of development. In the first sixty years of this century economic progress has been extremely uneven with periods of stagnation during the 1930s and 1950s. In the areas of economic growth and employment, regional backwardness and industrial accumulation the problems have not proved to be transient or self-adjusting. Moreover the pace of accumulation is significantly dependent on the inflow of foreign investment which is in part exogenously determined.** These qualifications recognise the discontinuities that exist in the process of Irish economic development and that neither sustained growth nor the replication of the same pattern

---

* Schumpeter carried his vision on the working of the capitalist process to exceed in his Capitalism, Socialism and Democracy (1943). In Chapter XVIII on "The Consequences of the Second World War" he criticises Keynes, which he labels a 'stagnationist', for postulating that effective demand could pose a problem for the development of an economy. Even prolonged depressions appeared to Schumpeter, pp. 66-69, as a breathing space for a "recurrent rejuvenation of the productive apparatus".

of development experienced by advanced countries will inevitably occur.

The following sections discuss in greater detail some of the characteristics and discontinuities of Irish economic development.

2.1 LONG TERM GROWTH RATES AND SECTORAL PROFILE OF THE ECONOMY, 1926-1974

Since the founding of the Irish Free State in 1926 there has been a continual decline in the importance of the agricultural sector in terms of aggregate output, employment and exports and a parallel increase in industry. The decline of employment in agriculture has been both in absolute and relative terms, while for agricultural output and exports it is only in comparison to the rest of the economy. Yet, despite the 60 per cent decrease in agricultural employment, or by some 400 thousand, between 1926 and 1974, agricultural employment still accounts for a quarter of the total. Similarly, though the increase of industrial employment between 1926 and the late 1960s was by some 80 per cent, or approximately 140,000, even then industrial employment was marginally lower, 28 as compared to 30 per cent, than agriculture's share in total employment.

In terms of output, industry's share in GDP at constant prices increased from 15 to 40 per cent, 1926-1974, while the decline in the agricultural share was from 35 to 20 per cent for the same period. The service sector was much more stable or unspectacular by comparison, with small variations in its relative contribution to GDP, at around 50 per cent and a modest increase in its numbers by seventy five thousand in the fifty years since independence. The following table (Table 2.1) gives, inter alia, for selected years, between 1926 and 1974, the shares of the three sectors in domestic product and employment.* It may be stressed that despite the marked relative decline of agriculture its share in recent years, early 1970s, was by no means insignificant either in its contribution to the

* For data on sectoral GDP in Ireland at a more disaggregated level than the official statistics see G.E.J. Llewellyn, The Potential for Growth in Irish Tax Revenues, NESC Report, forthcoming. There, the annual values of sectoral GDP, at 1968 prices, are given for the period 1955-’73. This enabled us to cross-check the estimates of the real growth of sectoral GDP implicit in Table 2.1 with Dr. Llewellyn's recent data.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>£m</td>
<td>% of Total</td>
<td>£m</td>
<td>% of Total</td>
<td>£m</td>
<td>% of Total</td>
<td>£m</td>
</tr>
<tr>
<td>Industry</td>
<td>45.2</td>
<td>31.9</td>
<td>40.0</td>
<td>27.0</td>
<td>84.9</td>
<td>30.7</td>
<td>126.3</td>
</tr>
<tr>
<td>Services</td>
<td>25.7</td>
<td>18.1</td>
<td>35.7</td>
<td>24.1</td>
<td>63.5</td>
<td>23.0</td>
<td>141.1</td>
</tr>
<tr>
<td>Total</td>
<td>141.8</td>
<td>100</td>
<td>148.3</td>
<td>100</td>
<td>276.2</td>
<td>100</td>
<td>486.1</td>
</tr>
</tbody>
</table>

(1) GDP at Current Factor Prices

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>£m</td>
<td>% of Total</td>
<td>£m</td>
<td>% of Total</td>
<td>£m</td>
<td>% of Total</td>
<td>£m</td>
</tr>
<tr>
<td>Industry</td>
<td>117.3</td>
<td>35.3</td>
<td>118.7</td>
<td>30.2</td>
<td>111</td>
<td>27.7</td>
<td>126.3</td>
</tr>
<tr>
<td>Services</td>
<td>50.8</td>
<td>15.3</td>
<td>73.9</td>
<td>18.8</td>
<td>84.2</td>
<td>21.0</td>
<td>141.1</td>
</tr>
<tr>
<td>Total</td>
<td>332.5</td>
<td>100</td>
<td>392.8</td>
<td>100</td>
<td>400.5</td>
<td>100</td>
<td>486.1</td>
</tr>
</tbody>
</table>

(11) Employment

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>£000</td>
<td>£000</td>
<td>£000</td>
<td>£000</td>
<td>£000</td>
<td>£000</td>
<td>£000</td>
</tr>
<tr>
<td>Industry</td>
<td>652.2</td>
<td>55.9</td>
<td>587.7</td>
<td>48.0</td>
<td>554.1</td>
<td>45.1</td>
<td>407</td>
</tr>
<tr>
<td>Services</td>
<td>162.4</td>
<td>13.3</td>
<td>217.5</td>
<td>17.6</td>
<td>240.7</td>
<td>19.6</td>
<td>263</td>
</tr>
<tr>
<td>Total</td>
<td>1219.5</td>
<td>100</td>
<td>1224.4</td>
<td>100</td>
<td>1229.5</td>
<td>100</td>
<td>1058</td>
</tr>
</tbody>
</table>

(iv) Ratio of % share in GDP at current prices to share in employment

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>£000</td>
<td>£000</td>
<td>£000</td>
<td>£000</td>
<td>£000</td>
<td>£000</td>
<td>£000</td>
</tr>
<tr>
<td>Industry</td>
<td>0.596</td>
<td>0.562</td>
<td>0.682</td>
<td>0.682</td>
<td>0.643</td>
<td>0.702</td>
<td>0.675</td>
</tr>
<tr>
<td>Services</td>
<td>1.360</td>
<td>1.355</td>
<td>1.714</td>
<td>1.726</td>
<td>1.201</td>
<td>1.160</td>
<td>1.095</td>
</tr>
<tr>
<td>Total</td>
<td>1.506</td>
<td>1.347</td>
<td>1.430</td>
<td>1.430</td>
<td>1.430</td>
<td>1.430</td>
<td>1.430</td>
</tr>
</tbody>
</table>

(v) Ratio of % share in GDP at constant (1958) prices to share in employment

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>£000</td>
<td>£000</td>
<td>£000</td>
<td>£000</td>
<td>£000</td>
<td>£000</td>
<td>£000</td>
</tr>
<tr>
<td>Industry</td>
<td>0.660</td>
<td>0.630</td>
<td>0.615</td>
<td>0.682</td>
<td>0.720</td>
<td>0.804</td>
<td>0.821</td>
</tr>
<tr>
<td>Services</td>
<td>1.147</td>
<td>1.059</td>
<td>1.074</td>
<td>1.276</td>
<td>1.310</td>
<td>1.290</td>
<td>1.269</td>
</tr>
<tr>
<td>Total</td>
<td>1.489</td>
<td>1.489</td>
<td>1.450</td>
<td>1.450</td>
<td>1.450</td>
<td>1.450</td>
<td>1.450</td>
</tr>
</tbody>
</table>

SOURCE: Kennedy (1971), Table 1.8; National Income and Expenditure and Trends in Employment and Unemployment, various issues.
domestic economy or when compared with other EEC countries. With the exception of Italy, individual EEC countries in 1973 had a labour force proportion in agriculture of around 10 per cent e.g., Denmark and France, or even less than 5 per cent e.g., Belgium and the UK compared to Ireland's 25 per cent. In terms of agricultural share in GDP, at current prices, and again with Italy's exception, all other EEC countries had half or less of the Irish rate of 17 per cent.*

It is interesting to note that if one compares the ratios of the shares of GDP to the share in employment for agriculture and industry for the long term (e.g., 1920 to 1970) two phenomena are undisputed. First, that at any given point in time the ratio of the sectoral share of GDP to employment is higher for industry than for agriculture. Second, for successive points in time the trend has been for the gap in the two ratios to decrease - even for recent years, however, the ratio for agriculture is some 40 per cent lower than its equivalent for industry. The first point indicates that despite the massive outflow from agriculture the product per worker in that sector is still substantially below that of industry. Both Kaldor (1966,1967) and Kuznets (1966) take this to be a yardstick of indigenous underdevelopment or rather a measure of the potential outflow from agriculture before inter-sectoral shifts in employment would cease to be of importance. From the Irish experience it would seem that this relationship of differences in sectoral productivity rather than absolute numbers or the share of agriculture in total employment is a better guide as to whether further outflow from agriculture can be expected. In fact economists who were already predicting that Ireland in the late 1960s had arrived at the end of the transitional stage in its economic development because 'over 26 per cent of the labour force is employed in industry and 32 per cent of GNP

* Italy's agricultural share in employment and output was second to that of Ireland within the Community at approximately 17 and 9 per cent, respectively, for 1972-1973. The above figures were obtained from The Economic Situation in the Community, Quarterly Survey 4, December 1974, Brussels.
originates in that sector have already been proved wrong.* If one
is compelled to choose any simple method for determining the end of
the transition process, shares of employment and output of one sector
are misleading guides. The tendency rather to eliminate disparities
in productivity by employment shifts from low to higher productivity
sectors gives an indication of the task still outstanding before the
economic stimulus for the outflow from agriculture weakens. It can also
be observed that, broadly, the smaller the share of agriculture in total
employment the closer the productivity performance between agriculture
and industry. Yet it is impossible to stipulate a percentage share
for agriculture in advance, and irrespective of sectoral productivity
differences, that will be associated with no inter-sectoral shifts in
employment. Let us take this one step further, Table 2.2, by comparing
the Irish sectoral ratios of domestic output to employment with other

TABLE 2.2

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>INDUSTRY</th>
<th>AGRICULTURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denmark</td>
<td>1.15</td>
<td>0.81</td>
</tr>
<tr>
<td>Germany</td>
<td>1.04</td>
<td>0.47</td>
</tr>
<tr>
<td>France</td>
<td>1.18</td>
<td>0.48</td>
</tr>
<tr>
<td>Ireland</td>
<td>1.04</td>
<td>0.68</td>
</tr>
<tr>
<td>Italy</td>
<td>0.88</td>
<td>0.53</td>
</tr>
<tr>
<td>Netherlands</td>
<td>1.12</td>
<td>0.86</td>
</tr>
<tr>
<td>Belgium</td>
<td>1.00</td>
<td>1.10</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>1.15</td>
<td>0.52</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>0.98</td>
<td>0.97</td>
</tr>
</tbody>
</table>

Source: The Economic Situation of the Community (1974), Table 1, p.21.

* cf. O'Neill(1971), Ch.2 op.cit.
originates in that sector have already been proved wrong.* If one is compelled to choose any simple method for determining the end of the transition process, shares of employment and output of one sector are misleading guides. The tendency rather to eliminate disparities in productivity by employment shifts from low to higher productivity sectors gives an indication of the task still outstanding before the economic stimulus for the outflow from agriculture weakens. It can also be observed that, broadly, the smaller the share of agriculture in total employment the closer the productivity performance between agriculture and industry. Yet it is impossible to stipulate a percentage share for agriculture in advance, and irrespective of sectoral productivity differences, that will be associated with no inter-sectoral shifts in employment. Let us take this one step further, Table 2.2, by comparing the Irish sectoral ratios of domestic output to employment with other EEC countries for 1973.

**TABLE 2.2**

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>INDUSTRY</th>
<th>AGRICULTURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denmark</td>
<td>1.15</td>
<td>0.81</td>
</tr>
<tr>
<td>Germany</td>
<td>1.04</td>
<td>0.47</td>
</tr>
<tr>
<td>France</td>
<td>1.18</td>
<td>0.48</td>
</tr>
<tr>
<td>Ireland</td>
<td>1.04</td>
<td>0.68</td>
</tr>
<tr>
<td>Italy</td>
<td>0.88</td>
<td>0.53</td>
</tr>
<tr>
<td>Netherlands</td>
<td>1.12</td>
<td>0.86</td>
</tr>
<tr>
<td>Belgium</td>
<td>1.00</td>
<td>1.10</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>1.15</td>
<td>0.52</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>0.98</td>
<td>0.97</td>
</tr>
</tbody>
</table>

Source: *The Economic Situation of the Community (1974)*, Table 1, p.21.

---

* cf. O'Neill (1971), Ch.2 op.cit.
As can be seen from the last table, Ireland's ratio in GDP to share in agricultural employment is below the United Kingdom, Denmark, the Netherlands, and Belgium, but above Italy, France, Luxembourg and even Germany. This would somewhat run counter to Kuznet's (1966, p. 410) statement that:

"The share of the agricultural sector in the labour force is higher than that in total product in underdeveloped countries; and in contrast between underdeveloped and developed countries is wider in the share of the agricultural sector in the labour force than in its share in total product".

As Table 2.2 indicates, the contribution of agriculture by employment may exceed its contribution by output in the national accounts even for countries that are 'developed', e.g. Germany and France. Thus, it is not only underdeveloped countries that exhibit this characteristic noted by Kuznets. It would seem moreover that on this criterion cross-country comparisons are more likely to give non-sensical results than following the sectoral productivity pattern of a given country through time. That is if Kuznet's statement was correct then Germany and France would have been less developed than Ireland in 1973 because the latter's agricultural ratio in output in relation to employment was moderately higher. However, if one abandons the search for an all encompassing single criterion of relative underdevelopment, then the ratio of sectoral contribution to output as compared to employment tells us something significant about the development experience of individual countries through time. Namely, that development is associated with the narrowing of the differentials in sectoral productivity and that such differences may also indicate the inter-sectoral shifts of labour.*

Two further points can be made with respect to the last table. First, that generally the ratio for agriculture is below that of

* This point is in line with the classical or Ricardian theory of growth, see, for example, L.L. Pasinetti Growth and Income Distribution (1974), particularly Ch. 1, and I. Adelman Theories of Economic Growth and Development (1961), Ch.4.
industry and, second, that the inter-country variation is not so much in the relation between the share in GDP and the share in employment in industry (which oscillates around unity), but in agriculture. These two observations, the second not as pronounced, were already noted with respect to Ireland for selective years between 1926 and 1974.

If first impressions suggest that there is something unique, by west European standards, in the importance of agriculture in terms of output and employment to the Irish economy such a viewpoint is reinforced when we summarise the growth experience of that economy in terms of output, population and employment since 1926. For it is here that the Irish experience diverges strongly, particularly with respect to demography and employment. Table 2.3 summarises these trends for different sub-periods since the founding of the State.

TABLE 2.3

Average Annual Rates of Growth of GNP, Constant Prices, Population, Employment, Output per capita and Output per worker: Various Periods, 1926-1973

<table>
<thead>
<tr>
<th>Period</th>
<th>GNP at Constant Prices</th>
<th>Population</th>
<th>Employment</th>
<th>GNP per head of Population</th>
<th>GNP per Employed Person</th>
</tr>
</thead>
<tbody>
<tr>
<td>1926-'38</td>
<td>1.34</td>
<td>-0.10</td>
<td>0.03</td>
<td>1.44</td>
<td>1.31</td>
</tr>
<tr>
<td>1938-'47</td>
<td>0.30</td>
<td>0.14</td>
<td>0.05</td>
<td>0.14</td>
<td>0.24</td>
</tr>
<tr>
<td>1947-'68</td>
<td>2.69</td>
<td>-0.12</td>
<td>-0.69</td>
<td>2.80</td>
<td>3.40</td>
</tr>
<tr>
<td>1968-'73</td>
<td>4.40</td>
<td>0.93</td>
<td>-0.20</td>
<td>3.47</td>
<td>4.60</td>
</tr>
<tr>
<td>1926-'73</td>
<td>2.06</td>
<td>0.06</td>
<td>-0.32</td>
<td>2.00</td>
<td>2.38</td>
</tr>
</tbody>
</table>

Source: Kennedy (1971) Table 1.1 and Table 1.2; Report on Vital Statistics (1973); Trends in Employment and Unemployment and National Income and Expenditure various issues.
The acceleration of output in the post-war cannot be disputed. This growth was doubled when considered in terms of output per capita and nearer to 2.8 times as high in terms of growth of output per employed person. By contrast total population was almost unchanged between 1926-1971, the year for the last complete census, while total employment fell. Yet it is interesting to note that the post-war period was by no means an era of uninterrupted high growth. Table 2.4 gives a summary for the same variables in the post-war period.

**TABLE 2.4**

**Average Annual Growth Rates of Real GNP, Sub-Periods 1947-1973**

<table>
<thead>
<tr>
<th>Period</th>
<th>GNP at Constant Prices</th>
<th>Population</th>
<th>Employment</th>
<th>GNP per Capita</th>
<th>GNP per Worker</th>
</tr>
</thead>
<tbody>
<tr>
<td>1947-'49</td>
<td>5.0</td>
<td>0.1</td>
<td>-0.1</td>
<td>4.9</td>
<td>5.1</td>
</tr>
<tr>
<td>1949-'55</td>
<td>1.8</td>
<td>-0.3</td>
<td>-1.1</td>
<td>2.2</td>
<td>3.0</td>
</tr>
<tr>
<td>1955-'61</td>
<td>2.0</td>
<td>-0.7</td>
<td>-1.4</td>
<td>2.6</td>
<td>3.4</td>
</tr>
<tr>
<td>1961-'68</td>
<td>4.1</td>
<td>0.5</td>
<td>0.2</td>
<td>3.6</td>
<td>3.9</td>
</tr>
<tr>
<td>1968-'73</td>
<td>4.4</td>
<td>0.9</td>
<td>-0.2</td>
<td>3.5</td>
<td>4.6</td>
</tr>
<tr>
<td>1968-'74</td>
<td>3.7</td>
<td>1.0</td>
<td>-0.1</td>
<td>2.7</td>
<td>3.8</td>
</tr>
<tr>
<td>1946-'73</td>
<td>3.0</td>
<td>0.1</td>
<td>-0.6</td>
<td>2.9</td>
<td>3.6</td>
</tr>
</tbody>
</table>

**Source:** Kennedy and Dowling (1975) p. 10; Report on Vital Statistics; Trends in Employment and Unemployment and National Income and Expenditure Accounts various issues. The population estimates since the last, 1971, Census have been taken from Keating (1977).

Without labouring the point further, it is worth noting that, despite the relative acceleration of economic growth in the post-war, the rates achieved were not sufficient to increase total employment.
The growth of industrial output and employment, together with its associated expansion in the service sector, were not sufficient to compensate for the decline in agricultural employment, let alone to take care of the natural growth of the labour force. The viewpoint taken here is not that the rate of growth of final output is immaterial to or independent of employment prospects, rather, that the composition of that growth as between the primary and secondary sector and the sectoral shares at the base date are crucial to the behaviour of total employment.* Ireland's experience suggests that the smaller the share of the manufacturing sector in output and employment, and the bigger the proportion employed in agriculture, the more difficult the task for achieving full employment for any given overall growth rate of output. As we will demonstrate later in the case of Ireland, the impact of industrial expansion on employment, at least until the second half of the 1960s was both high and stable, yet these effects were outweighed by the outflow from agriculture and a decline in emigration.

Finally, Table 2.5 compares the performance of Ireland in terms of GDP and GDP per capita, to the other members of the enlarged EEC for the decade before the onset of the present recession.

It can be seen that Ireland's economic performance was rather lower than most of the other EEC members, third from the bottom,

* For an entire set of projections carried out on the assumption that "employment projections are not influenced by the performance of GDP", see the NESC Report No. 7 on Jobs and Living Standards (1975). The same approach of independence between output and employment for every sector was also pursued, as we shall see in Irish planning. This thesis argues that the expansion of the manufacturing sector is a precondition for an expansion in employment. For a contrary view, see Dr. D. McAleese's article, 'The Vital need for New Jobs', Business and Finance, (19th September 1974), Dublin.
TABLE 2.5

Annual Rates of Growth of GDP, at Constant Prices, 1963-1973

<table>
<thead>
<tr>
<th>Country</th>
<th>GDP</th>
<th>GDP per head of Total Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>4.9</td>
<td>4.4</td>
</tr>
<tr>
<td>Denmark</td>
<td>4.8</td>
<td>4.1</td>
</tr>
<tr>
<td>France</td>
<td>5.5</td>
<td>4.6</td>
</tr>
<tr>
<td>Germany (FR)</td>
<td>4.6</td>
<td>3.8</td>
</tr>
<tr>
<td>Ireland</td>
<td>4.4</td>
<td>3.7</td>
</tr>
<tr>
<td>Italy</td>
<td>4.7</td>
<td>3.9</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>4.0</td>
<td>3.2</td>
</tr>
<tr>
<td>Netherlands</td>
<td>5.5</td>
<td>4.3</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>2.9</td>
<td>2.5</td>
</tr>
<tr>
<td>Europe of the Nine</td>
<td>4.5</td>
<td>3.8</td>
</tr>
</tbody>
</table>

Source: Basic Statistics of the Community (1973-'74)

Note: The terminal year was chosen to avoid the impact of the recession.

yet considerably higher than Britain - her main economic and trading partner.* Since the level of gross and disposable income per head is much lower in Ireland than the rest of Europe, the rates of growth of output and productivity required to close the gap

* An introductory study of the Irish economy which explicitly considers the Irish record vis à vis the rest of the EEC, is K.A. Kennedy and R. Bruton's The Irish Economy (1975), prepared on behalf of the Commission of the European Communities. See, in particular, pp. 6-12 for recent summary comparisons of incomes, growth rates and composition of economic activity in different EEC countries.
are much higher than the ones obtained in the 1960s.*

In summary, by comparison to the pre-war years Irish economic performance has been exceptional, not only in terms of growth rates but by reducing the relative importance of an economic sector, viz., agriculture, that has been a perennial source of surplus labour and volatile in its output performance. When we consider such performance, however, not in terms of the trend of the same output variables for earlier periods but in terms of output and employment relationships together, and with respect to other EEC countries, the overall picture is not so sanguine. There is something paradoxical and premature in describing the post-war economic development of Ireland as that of a matured economy when total employment fell and massive emigration and high open unemployment existed.** In addition, though the Irish economic growth record surpassed the British one since the 1960s, it was not exceptional by the standards ruling in the rest of Western Europe. A factor that is also usually forgotten by Irish economic commentators when comparing the favourable performance of their country vis à vis the British economy, is that Ireland began at a much lower base so that as recently as 1973 GNP per capita for Ireland was approximately 65 per cent of the British, with greater inequalities in the ownership of personal

---

* A discussion of the different ways of comparing 'living standards' between Ireland the other EEC members is contained in Jobs and Living Standards: Projections and Implications (1975), NESC Report No. 7. Chapters 2-4 of the Report discusses different projection scenarios by which Irish living standards can approach the ones enjoyed by individual members of the Community.

** For a contrary view describing the progress of the 1960s as an 'economic miracle', 'breaking out of the status of a developing economy into maturity' and 'a revolution' in the development of Ireland, see Fogarty (1976) and Chubb and Lynch (1969).
wealth.* In any event the British record may have been a biased reference system for it has been the exception rather than the norm of economic performance in Western Europe for recent years. Finally, a decade or so of relatively high economic growth, the evidence usually offered for the healthiness of the Irish economic performance, does not in itself mean that economic growth has become 'self-sustained'.** Rather, that the potential for expansion of the Irish economy, given its untapped labour resources, would appear more striking than its past record.

2.2 THE DEMOGRAPHIC EXPERIENCE

As it is well known the demographic experience of Ireland is rather unique in Western Europe. An outstanding feature is that in the 100 years following the decade of the Great Famine (late 1840s) the population of Ireland more than halved (from 6.33 million in 1841 to 2.96 million in 1946) while the population of the rest of West Europe doubled.***

Another indicator of the radical change in Irish population can be gauged by comparing Ireland's population as a proportion of the total of the British Isles. In 1841 the twenty six counties contained a quarter of the population of the British Isles; this share had fallen to five

---


*** cf. Commission on Emigration (1954), Appendix, Table 1, p. 281.
per cent by 1971. Emigration ante-dates the 1840s yet it is in
the following years that this exceeded the natural increase which
led to a decline in total population and a diminishing share of
population living in the Republic vis à vis any country in Western
Europe.* In fact for each decade between 1841 and 1961 emigration
exceeded the natural increase with a modest increase in total
population registered since the 1961 census. The following table
gives total population for each census year since 1891 together
with rates of natural increase and emigration.

TABLE 2.6

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Population</th>
<th>Intercensal Period</th>
<th>Births</th>
<th>Deaths</th>
<th>Natural Increase (Births minus Deaths)</th>
<th>Decrease in Population (+ = Increase)</th>
<th>Estimated Net Emigration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1891</td>
<td>3,468,694</td>
<td>1881-1891</td>
<td>22.8</td>
<td>17.4</td>
<td>5.3</td>
<td>10.9</td>
<td>16.3</td>
</tr>
<tr>
<td>1901</td>
<td>3,221,823</td>
<td>1891-1901</td>
<td>22.1</td>
<td>17.6</td>
<td>4.5</td>
<td>7.4</td>
<td>11.9</td>
</tr>
<tr>
<td>1911</td>
<td>3,139,688</td>
<td>1901-1911</td>
<td>22.4</td>
<td>16.8</td>
<td>5.6</td>
<td>2.6</td>
<td>8.2</td>
</tr>
<tr>
<td>1926</td>
<td>2,971,992</td>
<td>1911-1926</td>
<td>21.1</td>
<td>16.0</td>
<td>5.2</td>
<td>3.7</td>
<td>8.8</td>
</tr>
<tr>
<td>1936</td>
<td>2,968,420</td>
<td>1926-1936</td>
<td>19.6</td>
<td>14.2</td>
<td>5.5</td>
<td>0.1</td>
<td>5.6</td>
</tr>
<tr>
<td>1946</td>
<td>2,955,107</td>
<td>1936-1946</td>
<td>20.3</td>
<td>14.5</td>
<td>5.9</td>
<td>0.4</td>
<td>6.3</td>
</tr>
<tr>
<td>1951</td>
<td>2,960,593</td>
<td>1946-1951</td>
<td>22.2</td>
<td>13.6</td>
<td>8.6</td>
<td>+0.4</td>
<td>8.2</td>
</tr>
<tr>
<td>1961</td>
<td>2,818,341</td>
<td>1956-1961</td>
<td>21.2</td>
<td>11.9</td>
<td>9.2</td>
<td>5.6</td>
<td>14.8</td>
</tr>
<tr>
<td>1966</td>
<td>2,884,002</td>
<td>1961-1966</td>
<td>21.9</td>
<td>11.7</td>
<td>10.3</td>
<td>+4.6</td>
<td>5.7</td>
</tr>
</tbody>
</table>


* cf. Connell (1950) The Population of Ireland, 1750-1845. It is worth
noting that A. Smith was aware of Irish emigrants in Britain; The
The high emigration rates have not affected all age groups in the same manner and, as a result of the higher incidence in the working age groups, the proportion of persons in the so-called 'dependent groups' has remained high for, at least, the last 50 years. This is summarised in Table 2.7 where we give the distribution of population in certain age groups for each census year since the founding of the Irish Free State.

**TABLE 2.7**

Percentage Distribution of Population in Certain Age Groups, 1926-1971

<table>
<thead>
<tr>
<th>Year</th>
<th>0-14 years</th>
<th>15-29 years</th>
<th>30-44 years</th>
<th>45-64 years</th>
<th>65 years and over</th>
<th>&quot;Dependent&quot; Groups, 0-14 years and 65 years and over</th>
</tr>
</thead>
<tbody>
<tr>
<td>1926</td>
<td>29.2</td>
<td>25.0</td>
<td>17.8</td>
<td>18.9</td>
<td>9.1</td>
<td>38.3</td>
</tr>
<tr>
<td>1936</td>
<td>27.6</td>
<td>24.9</td>
<td>18.1</td>
<td>19.6</td>
<td>9.7</td>
<td>37.3</td>
</tr>
<tr>
<td>1946</td>
<td>27.9</td>
<td>23.4</td>
<td>19.0</td>
<td>19.1</td>
<td>10.6</td>
<td>38.5</td>
</tr>
<tr>
<td>1951</td>
<td>28.9</td>
<td>21.7</td>
<td>19.3</td>
<td>19.4</td>
<td>10.7</td>
<td>39.6</td>
</tr>
<tr>
<td>1961</td>
<td>31.1</td>
<td>19.1</td>
<td>17.4</td>
<td>21.3</td>
<td>11.2</td>
<td>42.3</td>
</tr>
<tr>
<td>1966</td>
<td>31.2</td>
<td>20.6</td>
<td>16.1</td>
<td>20.9</td>
<td>11.2</td>
<td>42.4</td>
</tr>
<tr>
<td>1971</td>
<td>31.3</td>
<td>22.0</td>
<td>15.2</td>
<td>20.4</td>
<td>11.1</td>
<td>42.3</td>
</tr>
</tbody>
</table>


Two points are worth making at this stage. First, that not only the so-called 'dependent' age groups have relatively increased over time but also the proportion in the younger age groups, i.e., 15-44 have declined relative to the working group in the 45-64 age bracket. Second, by Western European standards the proportion of young persons in the 0-14 year group, who will be the job-seekers in the foreseeable future, is relatively
very large.*

The overall decline in population has been accompanied also by a more than proportionate emigration from certain provinces, e.g. Connaught, and a shift to bigger towns. The following table compares rates of emigration by province for the post-war inter-censal periods.

**TABLE 2.8**

<table>
<thead>
<tr>
<th>Province</th>
<th>1946-’51</th>
<th>1951-’56</th>
<th>1956-’61</th>
<th>1961-’66</th>
<th>1966-’71</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leinster</td>
<td>2.1</td>
<td>11.4</td>
<td>13.1</td>
<td>1.5</td>
<td>1.7</td>
</tr>
<tr>
<td>Munster</td>
<td>11.7</td>
<td>12.8</td>
<td>14.2</td>
<td>6.4</td>
<td>3.5</td>
</tr>
<tr>
<td>Connaught</td>
<td>15.1</td>
<td>17.4</td>
<td>18.3</td>
<td>13.6</td>
<td>10.0</td>
</tr>
<tr>
<td>Ulster (Part)</td>
<td>14.6</td>
<td>19.6</td>
<td>20.7</td>
<td>14.2</td>
<td>6.6</td>
</tr>
</tbody>
</table>

| Total        | 8.2      | 13.4     | 14.8     | 5.7      | 3.7      |


Note: (1) The three counties in Ulster that are part of the Republic are, Cavan, Donegal and Monaghan.

* For 1972, for example, the proportion of persons in the 0-14 age group for the countries in the EEC was as follows (proportions given in a descending order by country): Ireland (31.3%), Netherlands (26.9%), France (24.6%), Italy (24.3%), United Kingdom (24.1%), Belgium (23.4%), Denmark (23.1%), Germany (22.9%) and Luxembourg (21.7%). Material relating to the distribution of population in the EEC together with population trends is summarised on pp. 214-215, by the Report on the Development of the Social Situation in the Community in 1973 (1974), op. cit. The percentage growth in the active population of all ages for the years 1965-1980 were estimated in the Walsh (1975) study, p. 35, to be 17.0% for Ireland, 3.2% for the United Kingdom, and 2.8% for Denmark.
A striking feature of the last table is that no province in Ireland has, in the post-war, managed to keep all the natural increase of its inhabitants and this is true even for provinces, e.g. Leinster, that have experienced substantial inflows of persons from elsewhere in the country. The second observation is that certain provinces, usually termed the West, such as Connaught and Ulster (part of), have had persistently higher emigration rates than elsewhere. Yet even emigration rates within a given province are by no means uniform or in accord with the overall trend. In Leinster, for example, the province with the lowest emigration rates, the county of Longford, had average annual emigration rates far in excess of 10 per 1,000 and consistently higher than the national average. At the other extreme the county and county Borough of Dublin, in the same province, had a net inflow of persons for the 1961-71 sub-period while its emigration rates for previous periods were invariably below the national average. Something else that cannot be surmised by examining the previous table is that though the age-distribution within a given province is uneven generally provinces with higher than average emigration rates also have a greater proportion of their inhabitants in the older, i.e. '65 years and over', age groups.*

Emigration rather than mortality or fertility rates has been the prime reason for the changing concentration of population by province between 1926 and 1971. The changing pattern of population settlement by province is now summarised.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Population '000</th>
<th>Percentage Share by Province</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Leinster</td>
</tr>
<tr>
<td>1926</td>
<td>2.972</td>
<td>38.7</td>
</tr>
<tr>
<td>1946</td>
<td>2.955</td>
<td>43.4</td>
</tr>
<tr>
<td>1966</td>
<td>2.884</td>
<td>49.1</td>
</tr>
<tr>
<td>1971</td>
<td>2.978</td>
<td>50.4</td>
</tr>
</tbody>
</table>

Source: Census of Population (1971), Table I, p. vii.

As late as 1971 more people lived in rural areas rather than in Irish towns. Although the movement from rural to urban areas has been quite perceptible, since the founding of the State in 1926, this has not been as radical as the growth of the bigger cities. In 1926 there were approximately twice as many persons living in rural areas as in towns, by 1971 these proportions were about equal.* By contrast the population of Dublin and Dun Laoghaire approximately doubled during the same period, while in terms of total population their combined share increased from 14 per cent in 1926 to 26 per cent in 1971. The growth in the population of the six most populous towns was not as spectacular by comparison but still their share of total population increased from 20 per cent in 1926 to 36 per cent in 1971.** In all, it is not so much Leinster or the East that has benefited from the relatively rapid internal movement of population in the last fifty years but rather the consolidation of towns and within this the bigger urban areas.

Finally, we may briefly summarise the outlook for population expansion, and in particular the growth of the labour force, for the foreseeable future. Emigration rates, as we have shown earlier, were declining during the 1960s and before the onset of the post 1973 economic recession.***

---

* The 'town' or urban population refers to the inhabitants of towns of not less than 1,500 persons at census date; the 'rural' population is defined as the rest. On this definition the town population for Eire increased from 0.94 million in 1926 to 1.3 million in 1961 and to 1.4 million in 1971. The rural population by comparison declined from 2.0 million in 1926 to 1.6 million in 1961 and then again to 1.5 million in 1971. Crotty (1966), p. 355, gives the figures for the town and rural population for Ireland for the census years 1841-1961 and these estimates were updated from Vol. 1 of the 1966 and 1971 censuses.

** cf. The Statistical Abstract (1970-'71), table 9, p. 22. In terms of population the top six towns in 1926 retained their order of population size in 1971. In a descending order of population those towns were: Dublin, Cork, Dun Laoghaire, Limerick, Waterford and Galway.

*** For an analysis of the changing demographic pattern for Ireland in recent years, including marriage rates and fertility, see B.M. Walsh's 'Ireland's Demographic Transformation, 1958-70', The Economic and Social Review (Dublin) Vol. 3, No. 2, January 1972.
Yet the impact of the latter has been to reduce the outflow of people from Ireland to negligible proportions as job opportunities in the British labour market contracted. The implications of recent demographic trends on population projections and the potential labour force were the subject of a study by Professor Walsh (1975) on behalf of NESC.* Given his assumptions relating to emigration, activity rates and the prospective decline of the farm-sector Professor Walsh estimated that the numbers seeking jobs outside agriculture for the years 1971-'86 would grow by 300,000 or from 0.9 to 1.2 million.** In addition, if open unemployment was to be reduced from 7.3 per cent ruling in 1971 to 4.0 per cent by 1981, this would have added another 40,000 to the job requirements. This number (340,000 over a 15 year period) of job-seekers, though relatively small by European standards, implies a rate of growth unprecedented for Ireland. During 1961-'71, for example, the decade when both output and employment in the non-agricultural sector grew at a rate much above previous sub-periods, the growth of non-agricultural employment was on average 1.5 per cent per annum while the requirement for 1971-'86 is nearer 2.5 per cent annually. The Walsh estimates on job requirements which were deliberately conservative, in that 'full-employment' by 1986 was compatible with 4 per cent unemployment, have already proved an under-estimate since the actual job creation in the non-farm sector since 1971 has been less than a quarter of the required rates. Thus even when Professor Walsh's original assumptions are maintained the required rate of job expansion in the non-farm sector for 1976-'86 are much higher, over 3 per cent per annum, than the earlier estimates because of the inadequate progress achieved in the interim, 1971-'75, period. Such expected rates of labour force increase are not only considerably higher than anything experienced hitherto in Ireland but are also much higher than expected labour force growth for the rest of the EEC members.***

### 2.3 THE OPENNESS OF THE ECONOMY

The openness of the Irish economy is perhaps its most apparent, yet

---


** ibid., p. 29, and W. Keating's (1977) study. A fuller discussion on labour force projections is undertaken in chapter 8.

elusive feature. The form that it takes is itself complex for it can be conceived in terms of:

(a) The high ratio of exports or imports in its national product - a proportion, incidentally, that is much higher, for example, than its equivalent for the British, French and W. German economies. This aspect of its openness is further highlighted by the importance of one market, Britain, and of one commodity, cattle and cattle products, for the Irish economy.

(b) Its intricate economic relations with Britain. These economic relations extend far beyond the merchandise trade, to such areas as parity with sterling, the free flow of capital funds and labour and close correspondence of Irish interest rates to those set by Britain.

(c) The set of arrangements within which trade is conducted. It will be argued that it is this set of arrangements, including the full repatriation of profits by the foreign sector as well as lack of control over the flow of investible funds, rather than trade per se, which constitute constraints on the use of autonomous, Keynesian, fiscal and monetary policies. More recently there have been further regulations on the use of trade protection through EEC agreements.

The trade aspects of openness have traditionally received much more attention than the latter, policy type, influences which are the outcome of specific trade regulations, including agreements with foreign firms. The suggestion here is that the weak control over domestic interest rates, trade protection and dividend repatriation cannot be summarised solely by examining the 'trade aspect' of openness.

2.3.1 The Trade Aspect of Openness

The openness of the Irish economy has usually been conceived in
terms of the share of merchandise trade, by far the largest share of Ireland's foreign transactions in relation to the national product.*

Given such data for different dates the degree of 'openness' is thought to be captured by the variations in the trade to total output ratio. The following table gives current values and percentage shares of merchandise exports and imports to GNP.

TABLE 2.10

<table>
<thead>
<tr>
<th>Year</th>
<th>Merchandise Export</th>
<th>Merchandise Import</th>
<th>Ratio of Merchandise Export to GNP at Factor Cost</th>
<th>Ratio of Merchandise Import to GNP at Factor Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Current Values)</td>
<td>(Current Values)</td>
<td>(Current Values)</td>
<td>(Current Values)</td>
</tr>
<tr>
<td>1926</td>
<td>£ 41.3</td>
<td>£ 61.3</td>
<td>26.8</td>
<td>39.8</td>
</tr>
<tr>
<td>1936</td>
<td>£ 22.5</td>
<td>£ 39.9</td>
<td>14.6</td>
<td>25.9</td>
</tr>
<tr>
<td>1947</td>
<td>£ 39.5</td>
<td>£ 131.3</td>
<td>13.1</td>
<td>43.7</td>
</tr>
<tr>
<td>1958</td>
<td>£ 131.3</td>
<td>£ 199.0</td>
<td>25.3</td>
<td>38.4</td>
</tr>
<tr>
<td>1970</td>
<td>£ 431.6</td>
<td>£ 653.6</td>
<td>30.2</td>
<td>47.8</td>
</tr>
</tbody>
</table>


The ratio of imports or exports to GNP indicate in Table 2.10, that though Ireland exhibited features of 'openness' from the inception

* cf. Meenan (1970) ch. 3., O'Hagan (1975) ch. 9., and McAleese in Gibson and Spencer (1977), ch. 4. In this section we are confining our attention to merchandise trade. For the importance and composition of 'invisibles' in the current account, see McAleese (1977) pp. 128-134 or Kennedy and Dowling (1975), ch. 8. The main components of invisible exports, which have declined since 1947 from about 60 per cent of total exports to 40 per cent by the end of 1960, are Tourism (35%), 'investment income' which is primarily the return on British Government stock or minority holdings on equities (25%) and emigrants' remittances, (10%), see Kennedy and Dowling, (1975), p. 125.
of the State, this characteristic has been more pronounced since 1947. It is worth noting here that the world economic depression and the economic war with Britain in the 1930s reduced the importance of trade to the Irish economy and recovery was by no means rapid. The slowness of the recovery, which was further prolonged by an indigenous economic recession in the 1950s, is best demonstrated by the fact that the volume of imports did not exceed its 1929 level until 1948 and the volume of exports until 1966.*

Added to the relative openness of the Irish economy is the composition of its domestic exports. Table 2.11 shows the composition of domestic exports for the same period (1926-1970).

**TABLE 2.11**

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Domestic Exports (Current Values)</th>
<th>Live Animals</th>
<th>Other Food and Food Preparations</th>
<th>Drink and Tobacco</th>
<th>Man. goods and raw Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>£m</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>1926</td>
<td>41.2</td>
<td>42.2</td>
<td>34.2</td>
<td>12.5</td>
<td>8.4</td>
</tr>
<tr>
<td>1936</td>
<td>21.9</td>
<td>40.7</td>
<td>31.0</td>
<td>16.7</td>
<td>10.5</td>
</tr>
<tr>
<td>1947</td>
<td>38.6</td>
<td>57.3</td>
<td>17.3</td>
<td>10.5</td>
<td>13.8</td>
</tr>
<tr>
<td>1958</td>
<td>126.6</td>
<td>37.4</td>
<td>30.7</td>
<td>5.4</td>
<td>25.1</td>
</tr>
<tr>
<td>1970</td>
<td>416.4</td>
<td>13.7</td>
<td>32.7</td>
<td>3.3</td>
<td>46.2</td>
</tr>
</tbody>
</table>

* Using 1953 as the base year of 100 the index volume for imports stood at 86.4 points in 1929 and recovered to 88.2 in 1948, similarly the volume of exports was 118 in 1929, and it was not until 1960 that it exceeded this level, (Statistical Abstract (1970-'71), p. 150).
As it can be seen from Table 2.11 the change in the composition of exports over the years, 1926 to 1970, has been substantial. The pre-war predominance of agriculture based exports has been broken yet by no means eliminated. Even as late as 1970 in excess of 50 per cent of all domestic exports were agricultural or raw materials.* Within this one commodity, cattle and cattle products predominated, providing more than 56 per cent of all agricultural goods exported. There has been considerable change in the direction of exports since 1926— at that time 97 per cent of all merchandise exports were to the UK. Despite the economic war this did not decline substantially in the 1930s but by 1970 the percentage of exports going to Britain fell to 66 per cent. In terms of imports, Britain accounted for 78 per cent in 1926 while by 1970 this had dropped to 53 per cent of total imports. In all, the increase in the importance of trade for the Irish economy has been accompanied by a significant diversification by commodity exchanged and by trading partners. Having said this, however, it would be premature to conclude that this process has been completed or that the existing arrangements within which trade is conducted are necessarily the ones most appropriate for the attainment of domestic objectives.

2.3.2 The Policy Aspect of Openness

The previous section has dealt with the openness of the Irish economy in terms of the size and composition of its merchandise trade. There, the baskets of goods traded were related to some measure of aggregate output for successive dates and also by their destination and composition. This material, though of relevance in placing Irish trade in perspective in terms of its share and composition in total output, does not adequately capture the openness of the economy. For the openness of an economy is not confined entirely to its

* The main classification of merchandise imports - subdivided by 'main uses' - is not directly comparable to merchandise exports which is by 'commodity'. Under the import classification for 1970, the main categories were:– consumption goods ready for use 24 per cent, producer's capital goods ready for use, 18 per cent, and materials for further production 57 per cent. cf. External Trade Statistics (1970), in particular Tables 3 and 6.
trading characteristics but also on whether the framework within which trade and financial flows are conducted places constraints on the domestic management of the economy.*

This complementary aspect of openness, though less tangible than the first, is of considerable importance in-

(a) delimiting the range of policy controls that are perceived as 'practicable' by Irish policy makers,

(b) suggesting that some of the preconditions stipulated by Keynes as crucial to the pursuit of employment by domestic means, including an autonomous management of interest rates and control of the outflow of investible funds, are either absent or progressively weakened.

It must be stressed that the difference between the range of Keynesian policy instruments that are available, in principle, and those deemed admissible for use as well as the attenuation of domestic controls for employment creation are not the result of trade, per se, but the creation of an environment within which trade and the free movement of investible funds are conducted. It is clear that Keynes was neither against the expansion of trade, as often claimed, nor a 'protectionist' in the sense of F. List; that is the basis of his criticism of free trade was not primarily the 'infant industries' argument. On trade restrictions, in general, he wrote:

"There are strong presumptions of a general character against trade restrictions unless they can be justified on special grounds. The advantages of the international division of labour are real and substantial, even though the classical school*

* It is this aspect that led Keynes to repudiate the free trade doctrine while vindicating some of the ideas held earlier by mercantilists. According to Keynes the framework within which trade was conducted meant that control over the domestic rate of interest, for employment purposes, was relinquished in favour of getting trade into balance on the foreign account, The General Theory (1936), p. 339.
greatly over-stressed them" (The General Theory (1936) p. 338).*

Yet, as the following quote shows, he was critical of the system within which trade was conducted, including attempts to rectify trade deficits via interest rates variation, and in particular when the pursuit of trade displaced domestic policies for employment creation:

"..... If nations can learn to provide themselves with full employment by their domestic policy (and, we must add, if they can also attain equilibrium in the trend of their population), there need be no important economic forces calculated to set the interest of one country against that of its neighbours.... International trade would cease to be what it is, namely, a desperate expedient to maintain employment at home by forcing sales on foreign markets and restricting purchases, which, if successful, will merely shift the unemployment to the neighbour which is worsted in the struggle, but a willing and unimpeded exchange of goods and services in conditions of mutual advantage" (The General Theory, pp. 382-383).

There are three areas where the Keynesian preconditions with respect to the expansion of demand by domestic means and control of capital movements, in Ireland, are either absent or weak. First, Irish interest rates are directly linked to Britain's while maintaining parity with sterling and a free flow of capital funds. The manipulation of the structure of interest rates in Britain, e.g., in response to a worsening balance of payments on current account or to prevent a reduction of sterling balances, is transmitted to the Irish economy, via the banking system, irrespective of the domestic levels of foreign reserves or the desirability of

* He expressed similar views on the benefits of trade and on avoiding indiscriminate protection when he lectured his Dublin audience in 1933 on the topic of 'National Self-Sufficiency', (Studies, Vol. 22, pp. 177-193, 1933).
such rates for employment purposes.* Second, the control and
direction of investible funds is weakened by concessions given to
overseas companies, e.g., in respect to full repatriation of
profits and dividends, and by similar guarantees to Irish citizens
wishing to transfer financial assets abroad. Third, the form
of the EEC agreement that prevents a member country from using
trade protection even at times of unprecedented unemployment.**
Registered unemployment in Ireland has been consistently above
10 per cent since 1973 yet there is little in the agreement to make
allowances for domestic measures, or the transfer of resources
from creditor nations, to meet such exigency. The sum total of
these arrangements and in particular the concessions given to overseas
companies and the form of EEC agreement has meant that Ireland had
relinquished, either voluntarily or for expediency, certain domestic
controls regarded by Keynes as crucial for an employment policy.

It is interesting to recall that Keynes's insistence that full
employment was unlikely to be secured by pursuing a domestic
laissez-faire in the management of the economy, while relying on
international trade, ante-dates The General Theory (1936). In
his celebrated paper 'The End of Laissez-Faire' (1926) he wrote:

"I believe that some co-ordinated act of intelligent judgement
is required as to the scale on which it is desirable that the
community as a whole should save the scale on which these

* cf. The Report of the Committee on the Functions, Operation and
Development of a Money Market in Ireland (1969). It was pointed
out in the Report, pp. 60-62, that the Irish authorities did
not seek to influence domestic interest rates and that 'suasion'
was the main instrument of monetary policy. Yet, in principle,
the Central Bank has, under the Central Bank Act (1942), considerable
reserve powers over the banking sector which it has not exercised.
For a description of the evolution of monetary policy in Ireland see
M. O'Donoghue 'Monetary Policy' in Bristow and Tait (eds.),
Economic Policy in Ireland (1968) and for more recent developments
pp. 246-260 in Gibson and Spencer (eds.) Economic Activity in Ireland

** See for example, The Accession of Ireland to the European Communities
savings should go abroad in the form of foreign investments and whether the present organisation of the investment market distributes savings along the most nationally productive channels. I do not think that these matters should be left entirely to chances of private judgement and private profits as they are at present" (Collected Writings (1972) Vol. IX, p. 292).

A similar emphasis on the need to regulate monetary policy and the direction of investment by domestic means appeared also in his lectures on 'Economic Possibilities for our Grandchildren' (1930), and on 'National Self-Sufficiency' (1933) delivered in Dublin.*

In The General Theory (1936) this conclusion was reinforced, inter alia, by the argument that -

(a) a rate of interest exogenously determined, e.g., for preventing the 'flight of capital' or because of balance of payments considerations, was unlikely to be at the level compatible with the investment requirement for full employment (The General Theory, ch. 23 and especially pp. 339-349);

(b) since savings were no longer a function of the rate of interest, but of income, and thus of investment, the crucial relationship was the investment function which in the short run was taken to be the interaction between the marginal Efficiency of Capital and the rate of interest (The General Theory, chs. 11 and 14, in particular pp. 182-183).** A secondary factor for stressing investment

* Collected Writings (1972) Vol. IX, pp. 321-332, and the first Finlay Lecture published in Studies, Vol. 22, 1933 respectively. In all three papers, however, there was a theoretical link missing (a way for separating the 'classical' regulation of savings and investment by the rate of interest) that was to be provided by The General Theory (1936) Books III and IV. For a summary of the causal relationships that run through the Keynesian system see Pasinetti Growth and Income Distribution (1974), pp. 36-45.

** On these matters Keynes is quite explicit on his divergences with the then conventional theory of the role of interest rates in bringing into equilibrium investment and savings. See, for example, The General Theory (1936), pp. 183-184 and Letter to Roy Harrod, Collected Writings (1973), Vol. XIV, pp. 84-86.
savings should go abroad in the form of foreign investments and whether the present organisation of the investment market distributes savings along the most nationally productive channels. I do not think that these matters should be left entirely to chances of private judgement and private profits as they are at present" (Collected Writings (1972) Vol. IX, p. 292).

A similar emphasis on the need to regulate monetary policy and the direction of investment by domestic means appeared also in his lectures on 'Economic Possibilities for our Grandchildren' (1930), and on 'National Self-Sufficiency' (1933) delivered in Dublin.* In The General Theory (1936) this conclusion was reinforced, inter alia, by the argument that -

(a) a rate of interest exogenously determined, e.g., for preventing the 'flight of capital' or because of balance of payments considerations, was unlikely to be at the level compatible with the investment requirement for full employment (The General Theory, ch. 23 and especially pp. 339-349);

(b) since savings were no longer a function of the rate of interest, but of income, and thus of investment, the crucial relationship was the investment function which in the short run was taken to be the interaction between the marginal Efficiency of Capital and the rate of interest (The General Theory, chs. 11 and 14, in particular pp. 182-183).** A secondary factor for stressing investment

---

* Collected Writings (1972) Vol. IX, pp. 321-332, and the first Finlay Lecture published in Studies, Vol. 22, 1933 respectively. In all three papers, however, there was a theoretical link missing (a way for separating the 'classical' regulation of savings and investment by the rate of interest) that was to be provided by The General Theory (1936) Books III and IV. For a summary of the causal relationships that run through the Keynesian system see Pasinetti Growth and Income Distribution (1974), pp. 36-45.

** On these matters Keynes is quite explicit on his divergences with the then conventional theory of the role of interest rates in bringing into equilibrium investment and savings. See, for example, The General Theory (1936), pp. 183-184 and letter to Roy Harrod, Collected Writings (1973), Vol. XIV, pp. 84-86.
rather than the consumption side of effective demand was that for the short run additional or windfall income may have ended up as savings rather than expenditure (The General Theory, ch. 8, p. 97).

Hence, when Keynes advised his Irish audiences to 'let finance be primarily national' and on the employment effects of trade protection it was not intended as an appeal to the nationalist ideology at the time though it may have suited the politics of Mr. de Valera. It was, rather, that the policy implications of an open economy, where it meant the absence of controls over domestic monetary policy, the direction of investment and free trade agreements, were unlikely to be consistent with the employment objective.

There are two overall conclusions that need to be emphasised. The first is that the openness of a small economy cannot be deduced solely from its trade characteristics. The policy aspect of openness that is whether the State deems 'practicable' or has the capacity to introduce autonomous controls, including monetary policy, the outflow of capital and even selective trade protection, for employment purposes is also of some importance. Furthermore, this aspect of openness, though in part an outcome of the smallness or the peripheral nature of the economy, vis à vis, its advanced trading partners, is by no means inevitable. Second, as it is well known there is a body of opinion in Ireland that deems Keynesian economics irrelevant or else alleges a failure of Keynesian methods in securing adequate employment. At this stage we are suggesting that there is strong prima facie evidence to indicate that such judgements are based, in part, on a serious misunderstanding. For a severe simplification of Keynesian ideas in the hands of a monetarist see, for example, T. Ryan's contribution in the Symposium on Inflation, JSSIS, Part II, 1974-'75. There it is claimed that in the Keynesian scheme inflation occurs only at a point where there is excess demand at full employment and industrial capacity utilisation. Equally well Keynesian remedies are viewed as directed solely at aggregate expenditure but not on the growth of money incomes. To see how different this interpretation is from the Keynesian views on inflation contrast it with N. Kaldor 'Inflation and the Recession in the World Economy', The Economic Journal, December 1976, and R. Kahn 'Inflation, A Keynesian View', The Scottish Journal of Political Economy, February 1976.
arisen precisely because the framework or preconditions stipulated by Keynes as relevant to the prescriptive side of his system are, in important respects, absent or considerably weakened.*

* Keynes wrote in the Preface of The General Theory (1936) that his 'main purpose is to deal with the difficult questions of theory, and only in the second place with the application of theory to practice'. He elaborated on this in an article in the Q.J.E., February 1937, republished in his Collected Writings (1973) Vol. XIV, pp. 109-123.
PART TWO: THE THEORY OF INDICATIVE PLANNING AND ITS PRACTICE IN IRELAND
Chapter 3: THE THEORY OF INDICATIVE PLANNING

This chapter deals with the theory, and in particular with the logical structure of indicative planning. The next two examine Ireland's practice of indicative planning since 1958. It is not, however, entirely a matter of organisational simplicity or convenience that the examination of the theory precedes the appraisal of the actual plans. This choice of ordering is supported by two further considerations that are explored elsewhere in the thesis.

First, that the value of a retrospective examination of the practice of planning in Ireland is for some purposes very limited. One cannot discover the rationale and modus operandi of Irish indicative planning by merely drawing up an ex-post balance sheet of its alleged successes and failures. An attempt to evaluate planning progress against objectives presupposes, in principle, a framework within which both objectives and policy controls are clearly set out. It will be argued, however, that since Irish plans have been characterised by very diffused and indirect policy means, and only some objectives are specified in any concrete form, an examination of the raw data, including 'targets' and 'outcomes', only reveals the most gross inadequacies of the plans. The question does arise whether such criticisms raised in the past as to the weakness of policy instruments (McGilvray (1968), Norton (1975), the low political or governmental commitment to the plans (Kennedy (1974), Whitaker (1976)), and the relative neglect of the public sector and institutional aspects (NIEC (1968) Report 24, and NESC (1976) Report 21) have anything to do with the type of indicative framework chosen. If this is the case, - i.e., if some of the weaknesses of Irish planning can be shown to be closely related to its theoretical framework - then the traditional neglect of theory by Irish planners, in favour of 'pragmatism', would no longer be sustained as a credible dichotomy.*

* For this type of retrospective comment and appraisal of plans where shortfalls in achieving targets is explained mainly in terms of external or unanticipated events, see in particular Review of Progress 1964-'67 (Pr. 9949) which deals with the early termination of the Second Programme (1964-1970). The empirical reasons given and whether they provide a credible explanation are examined in the following chapters.
Second, it has been suggested in successive planning documents, including the Economic Programmes, that planning in Ireland was 'non-interventionist' in format while taking for granted that the framework was suitable for the problems in hand. Subsequently, as the Second and Third Programmes were abandoned there was an uncritical reaction against planning in general without an assessment of what went wrong or a recognition that these programmes were a rather unique breed in a family of possible planning exercises. At present, five years after the termination of the last plan, a new indicative plan is promised by the government to deal, amongst other, with the critical employment difficulties. If the new plan is not to meet the fate of its recent predecessors, with further loss of credit about public action in this area, a discussion of the objectives, framework and policy controls of the new plan is warranted. Yet, from past experience, this seems to be one of the most difficult prerequisites to be fulfilled.*

The immediate lesson is that one cannot take for granted a planning framework that failed to achieve even the modest objectives it set for itself without bringing into question the suitability of that framework. A close examination of the theory of 'non-interventionist' planning, therefore, would enable us to clarify the theoretical capabilities and limitations of this approach in handling certain policy objectives.

3.1 MEADE AND THE THEORY OF INDICATIVE PLANNING

A systematic exposition of indicative planning theory has been developed by Meade, initially The Theory of Indicative Planning (1970), and

* The discussion paper, Economic and Social Development, 1976-1980, (1976), argued, p. 5, that "As the past has shown the best-laid plans can too easily be frustrated by selfish attitudes and actions on the part of sectional or minority groups". A problem with this type of explanation, which in effect exonerates the plans from any responsibility about the outcome, is that all the indicative plans in Ireland depended explicitly on the self-interest of market agents for implementation. See, for example, The Second Programme (1964-1970), Pr. 7239, Part I, p. 9, and The Third Programme (1969-1972), Prl. 431, p. 230.
refined further in the third volume of his *Principles of Political Economy*, titled *The Controlled Economy* (1971). It is a virtue of Professor Meade's work that his aims and assumptions are clearly stated and that he has developed his ideas within a recognisable school of thought.* The following sections will proceed, as far as possible, to appraise the theory of indicative planning and in particular its logical structure, as developed by Meade. We will not depend in the main, on such major areas of contention as that the neoclassical paradigm depends crucially on ignoring increasing returns, economic indivisibilities and externalities, monopoly competition and the relegation of the role of the State to that of a passive and politically neutral auctioneer.** Since Meade attempts explicitly, however, to relax a few of the above constraints then it is permissible even within 'the accepted' rules to follow the implications of such modifications. In all certain digressions seem inevitable for, as it will be argued, indicative planning theory is based on the premises and aims of neoclassical price and value theory and Meade's mode of analysis follows closely that scheme.

---

* An even earlier contribution by Meade on this topic was *Planning and the Price Mechanism* (1948). That this tract is not given detailed attention is because it dealt with a rather special problem, namely the dismantling of war time controls in post-war Britain. On occasions Meade's two works *The Theory of Indicative Planning* (1970) and *The Controlled Economy* (1971) will be referred to, for brevity, as TIP (1970) and CE (1971), respectively.

** The importance of these and other constraints in neoclassical and general equilibrium economics and the consequences to the theory when such constraints are relaxed is the subject matter of J. Kornai's book *Anti-Equilibrium* (1971). The importance of increasing returns not only as an undermining criticism of general equilibrium but also as an underpinning of post-Keynesian theories is stressed by Kaldor; see in particular "The Irrelevance of Equilibrium Economics", *The Economic Journal*, December 1972. Contrary to this it was subsequently pointed out by Hahn (1973, p. 8) that some of these criticisms, e.g., monopoly competition and externalities, were handled by more specific models notably Arrow and Hahn (1972). Here we are not concerned directly with that controversy but rather how the theory of indicative planning as postulated by Meade is affected when one takes into account such considerations.
There are good reasons for following such a conciliatory approach without making any concessions to the arbitrary assumptions chosen by neoclassical planners. It may be that the question of the relevance of the theory to the problems under examination is of greater immediate importance to Irish policy makers but this should not be at the expense of disregarding an examination of the theory. After all the adoption of indicative planning in Ireland, in its present form, was, partly, on the grounds that it offered a way for attaining specific socio-economic objectives by suasive means with a main aim of removing uncertainty from the market.* Furthermore, a reason why the particular methodology followed by planners in Ireland has survived the failure of the last two plans is that the theory has remained unexplored and unquestioned. The theory, so to speak, has become a matter of faith even for critics which otherwise question some of its canons on their applicability to current circumstances.**

There is however a second methodological issue why Meade's theory of indicative planning merits consideration for, as it will be presently argued, it poses a major criticism to Keynes' method of analysis.

Keynes (1937) stated that a fundamental difference between his approach and that of the contemporary orthodoxy was not whether simplifying or 'unreal' assumptions had to be made but rather that the set of assumptions and properties characterising orthodox theory, even when modified for the sake of greater realism, were not capable of handling uncertainty. To this end he wrote:-

"Edgeworth and Professor Pigou and other later and contemporary writers have embroidered and improved this theory by considering how different peculiarities in the shapes of the supply functions


of the factors of production would affect matters, what
will happen in conditions of monopoly and imperfect competition,
how far social and individual advantage coincide, what are the
special problems of exchange in an open system and like. But
these more recent writers like their predecessors were still
dealing with a system in which the amount of factors employed
was given and the other relevant facts were known more or less
for certain. This does not mean that they were dealing with
a system in which change was ruled out, or even one in which the
disappointment of expectations was ruled out. But at any
given time facts and expectations were assumed to be given
in a definite and calculable form; and risks, of which, though
admitted, not much notice was taken, were supposed to be
capable of an exact actuarial computation. The calculus of
probability, though mention of it was kept in the background,
was supposed to be capable of reducing uncertainty to the
same calculable status as that of certainty itself...."
(Keynes, Collected Writings (1973), Vol. XIV, pp. 112-113).

It is clear that Keynes did not consider the major divide between
his work and that of his contemporaries, the issues raised by monopolistic
competition and externalities but rather the theory of effective demand
and how uncertainty and expectations were handled by respective theories.*
If this is the case then one must be able to demonstrate that orthodox
theory or its derivatives, viz., Meade's planning theory, fail to deal
with the issue of uncertainty even on their own premises. Alternatively,
given the premises or underlying assumptions of indicative planning theory
one must be able to show that time and uncertainty have to be processed
to fit the theory, e.g., by the use of such devices as full information
or perfect foresight, rather than taken in their raw and real state.

* Keynes does not discuss directly the concept of uncertainty in
The General Theory (1936) (in fact on p. 148 he refers the reader
to his earlier work on the matter) but how uncertainty affects
certain pivotal elements, including the rate of interest and
the long term expectations, in his scheme. His ideas on
uncertainty are given in his Treatise on Probability (1921),
republished as Volume VIII of his Collected Works (1973), and
in particular ch. 6 on the "Weight of Arguments". It is there
that probability and uncertainty are given distinct meanings and
it is his views on uncertainty that are carried over and used
in The General Theory. For a recent clarifying article on the
use of uncertainty and expectations in the Keynesian scheme
see J.A. Kregel's "Economic Methodology in the Face of Uncertainty:
The Modelling Methods of Keynes and the Post-Keynesians",
Meade by setting out to deal with the problem of uncertainty within the neoclassical scheme, was in a way responding to the criticism quoted from Keynes on the inability of orthodox price theory to incorporate uncertainty. In The Theory of Indicative Planning (1970) he outlines his method as follows:

"I shall start by constructing an absurdly abstract model of a competitive economy based on a number of extreme simplifying assumptions. Its purpose will be to isolate in the simplest and most intelligible form what I think is probably the crucial issue, namely how to deal with uncertainty in planning to meet future developments. This model will be extremely abstract; but for two reasons I beg you not to be put off easily by its unreality. In the first place, the problems concerning the treatment of risk and uncertainty which it will, I hope, help to pinpoint, are highly relevant in the real world; and, in the second place, I shall proceed later in my lectures to the removal of my most extreme simplifying assumptions and to a discussion of the complications which thus arise" (Meade, The Theory of Indicative Planning, (1970), p. 1).

This is a rather ambitious set of aims. Not only does it purport to go beyond the usual bounds of static neoclassical or general equilibrium theories, where these are confined to risk or probabilistic situations, but more important it is conceived as a thought experiment which has relevance for the real world. In particular, Meade attempts to remove the initial scaffolding of his framework and examines the complications that ensue.*

The immediate question posed here is whether the theoretical impasse on the treatment of uncertainty alluded to by Keynes, four decades ago, remains or whether recent extensions of neoclassical theory, viz., Meade's work on indicative planning, have made Keynes's criticisms redundant. It is, moreover, clear that the attempt at handling

* This is something that Debreu (1959), for example, does not attempt in his work. In the notes for chapter 3 of his book he states:- "Three phenomena that the present analysis does not cover must be emphasised: (1) external economies and diseconomies, i.e., the case where the production set of a producer depends on the productions of the other producers (and/or the consumption of consumers), (2) increasing returns to scale, (3) the behaviour of producers who do not consider prices as given in choosing their productions" (G. Debreu, Theory of Value (1959), p. 49).
time and uncertainty by general equilibrium writers and by Meade is not merely a 'concession' to reality but it is a prerequisite if the maxims or properties of orthodox theory of value are to break loose from the notions of 'instantaneous adjustments' or the 'stationary state'.* Hence, an examination of neoclassical progress in this direction would provide insights into how far that system of thought has severed its past links with 'timelessness'.

3.2 THE OBJECTIVES AND ASSUMPTIONS OF INDICATIVE PLANNING THEORY

3.2.1 Initial Conditions and the Overall Objective

The theory of indicative planning is, first and foremost, a "thought experiment" on the interaction of a competitive economic system with uncertainty and the type of procedures necessary for maintaining such a system in equilibrium through time.** According to Meade, the nearest real proxy to the abstract situation is the small group of advanced market economies which have considerable success to their credit in the management of their economies but whose citizens will have the task of making allocative decisions in the face of uncertainty.*** In the strict sense the theory is not about the

* In this respect Kornai is not totally right in thinking that "G.E. theory assumes that there is no uncertainty whatever in the economic system", Anti-Equilibrium (1971), p. 23. Attempts have been made in the past notably by G. Debreu (1959), R. Radner (1968), J. Meade (1970 and 1971), K. Arrow and F. Hahn (1972) to deal with uncertainty within a neoclassical or general equilibrium framework and no doubt further attempts will be made. Yet it is Meade (1970, 1971) rather than Arrow and Hahn (1971, pp. 122-126) or Hahn (1973, p. 16 and p. 40) who is confident about the handling of uncertainty within this scheme.

** The concept of a "thought" or "intellectual" experiment has been developed by J. Kornai, see, in particular, Anti-Equilibrium (1971), pp. 11-12.

*** cf. The Theory of Indicative Planning (1970) p. 1. This point is worth stressing for while Irish plans displayed the method and main elements of implementation of indicative planning, they were conceived as a means for dealing, inter alia, with the long term employment shortages and the modernisation of the industrial sector. As it will be argued in the next chapter, this ambivalence of Irish plans, between its structural objectives and indicative means, has been a main source of their weakness and of the subsequent disappointment with the planning process.
'management', in the usual 'control' connotation of the term, of such economies but how to assist free agents in the market to improve their decisions through information flows organised by the centre. Meade's formidable list of assumptions include perfect competition, no indivisibilities, externalities, public goods or increasing returns to scale, and that every individual economic agent knows precisely what future time span there is to be covered by his plan.*

His focus, after abstracting from growth, employment and distribution problems, is on allocation and in particular how Pareto optimality can be maintained through time given uncertainty and the possibility of false expectations. Indicative planning, in this scheme, could be described as price information procedures organised by a central auctioneer, "the planner", to help atomistic producers and consumers plan their output and expenditure in an optimal manner thus preventing economic instability through the formation of false expectations. The problem of uncertainty is deemed central to the entire theoretical framework for it is regarded as the cause that gives rise to expectations other than the ones that would be formed if the atomistic economic agents enjoyed complete foresight.

Meade defines equilibrium (CE p. 4) as "the state of affairs in which the economy so moved through time that no decision-maker ever came to regret at any future time the decision he took today... this would be the case if every decision-maker did in fact correctly foresee the future course of all prices with which he was concerned". Finally, the efficiency of the system is described (CE p. 152) as "we would achieve a development of the economy through time such that it would be impossible to make one citizen better off without making someone else worse off".

Although at this stage we are merely reviewing the initial conditions and overall objective (including its indebtedness to general equilibrium ideas) of Meade's theory of indicative planning a basic methodological query for this system of analysis remains unresolved. The weak claim on behalf of Meade's theory is simply that the purpose of the work

is to study the interaction between a fully competitive system and uncertainty. The role of indicative planning appears here as one of several possible techniques for preventing false expectations from occurring. Yet Meade claims something more than this for his work. There is an expressed attempt in both volumes on indicative planning to impress upon his reader that although his analysis is based on 'extreme simplifying assumptions' or what he also calls an 'absurdly abstract model', it is of direct relevance to the real world.* It is interesting to note that other general equilibrium theorists are much more circumspect and modest on this strong claim. Hahn, for example in describing the Arrow-Debreu construction, recognises the limits of its usefulness as follows:—

"The Arrow-Debreu equilibrium is very useful when for instance one comes to argue with someone who maintains that we need not worry about exhaustible resources because they will always have prices which ensure their 'proper' use. Of course there are many things wrong with this contention but a quick way of disposing of the claim is to note that an Arrow-Debreu equilibrium must be an assumption he is making for the economy and then to show why the economy cannot be in this state. The argument will here turn on the absence of futures markets and contingent futures markets and on the inadequate treatment of time and uncertainty by the construction. This negative role of Arrow-Debreu equilibrium I consider almost to be sufficient justification for it....

We can easily refute propositions such as those on exhaustible resources which I have already referred to. Moreover, one can locate precisely where the argument goes wrong. On the other hand we have yet another reason why this equilibrium cannot be claimed to describe properties of all potential terminating points of any actual processes" (On the Notion of Equilibrium in Economics (1973) pp. 14-16).**

It would seem that this is a different and much more cautious claim on behalf of General Equilibrium than the one thought possible by Meade. Thus, in Hahn's view, the Arrow-Debreu construction is empirically

---


** The same negative quality of general equilibrium referred to by Hahn above is also stressed in the preface of Arrow and Hahn, General Competitive Analysis (1972) pp. vi-vii.
useful but that this usefulness is primarily a matter of disposing excessive claims on its behalf. In Meade's scheme though the premises of the argument do not differ from the Arrow-Debreu construction the propositions derived from it are supposed to be of direct operational relevance to the real world. It is this ambitiousness of Meade's scheme that poses the methodological query. To restate it, Meade describes how the existence of uncertainty threatens the equilibrium and optimal properties of a fully competitive system by giving rise to false expectations. But what kind of problems does uncertainty give rise to in a real economy which by Meade's criteria is already in disequilibrium, that a fully competitive model can explore? It is not self-evident why the two purposes of the study are equivalent yet while Meade concentrates his analysis on the first problem he offers prescriptions for the latter.

Finally, a word of explanation is warranted why, particularly at this part of the study, we have resorted to extensive quotes rather than to brief summaries or even an all embracing statement about the connection between general equilibrium and Meade's indicative planning theory. The reason for this is not a pedantic obsession with detail but to avoid the charge that we may be imputing to the ideas of such theorists as Meade and Hahn either more or less than what they wish to convey. The conviction that many of the current criticisms of general equilibrium models are either outright false or based on a misunderstanding is held very strongly by Hahn.* It must be admitted that some of the critics may have, inadvertently, helped Hahn's method of rebutting criticism because they still consider general equilibrium as one scheme when in fact there seems to be as many interpretations as there are enthusiasts for the cause. This Hahn exploits effectively by pointing out that what are regarded as omissions in one model are included in some other. Yet Hahn's spirited defence of general equilibrium is weakened for irrespective of the strength of the reply to criticisms (and on his own admission) there is little positive or operational content, at present, in that construction.

By 'positive' aspect we mean the type of propositions on current economic problems, and there is no observed dearth, that can be derived from a general equilibrium model. This is given as a warning on the type of objections raised against earlier comprehensive, e.g., Kornai (1971), critiques of general equilibrium models and to delimit further our own purpose which is to examine Meade's theory of indicative planning, including those ideas from general equilibrium that Meade perceived as useful for his work.

3.3. MARKET AND ENVIRONMENTAL UNCERTAINTIES

3.3.1 Indicative Planning and Market Uncertainties

Having stated his aims and assumptions Meade deals with the core of his topic, namely, the interaction between a competitive economy, uncertainty and the role of indicative planning.* Rather than defining the two types of uncertainty that are crucial to his work, he prefers to explain the differences by use of an example.

"A manufacturer of sunshades and umbrellas in forming his plans this year as to how many sunshades and how many umbrellas he will produce now to put on the market next year does not know whether it will be wet or fine... and this is an environmental uncertainty. The manufacturer also does not know what the market demands for umbrellas and for sunshades will be if it is wet nor what the demands will be if it is fine; but the consumers of sunshades and umbrellas may know very well how many of these objects they will buy next year at given market prices for these objects if it is wet and how many they will buy at given prices if it is fine. This lack of knowledge by the producer is market uncertainty" (The Controlled Economy (1971), pp. 149-150). In short the distinction is that market uncertainties are "about things which some people know for certain and others do not know at all" and environmental uncertainties "about things which nobody knows" (The Controlled Economy, (1971) pp. 149-150).**

* This is encapsulated in Part Three of The Controlled Economy (1971), or the subject matter of the slim companion volume The Theory of Indicative Planning (1970).

** This treatment of uncertainty is reminiscent of the work of R. Radner, viz., 'Competitive Equilibrium Under Uncertainty', Econometrica, January 1968, where he makes a distinction between uncertainty generated by the environment and thus beyond the control of market agents, and uncertainty arising within the market because of the economic agents' incomplete information about each other's behaviour.
A case considered is the "complications" that may be introduced through market uncertainties but in the absence of environmental uncertainties. The main task, according to Meade, is how to enable atomistic decision makers to foresee the future accurately about the prices of goods and services in which they are interested. The answer to this he finds in the procedure that follows:

"By one once-for-all gigantic market 'higgle-haggle' everyone could buy and sell forward for all periods of time from now to 'Kingdom Come' everything in which he or she is interested, including the hire of his or her own labour and the purchase or sale, and the lending or borrowing, of different forms of property. When the market had settled down, everyone would know precisely the future course of his income, the prices of what he would buy and sell, the future level of his consumption of every good and service, the amounts of capital equipment of various kinds he would install at every future date and so on and so on" (The Controlled Economy (1971), p. 152).

In short, a competitive or atomistic system requires full information or perfect foresight to maintain itself in equilibrium through time even on the assumptions given earlier by Meade.* Indicative planning in such a case is purely an information procedure organised by the central auctioneer, Meade's "government", which takes the form of mimicry of forward markets. A list of prices is drawn for every conceivable commodity and service, given time and location, and if the set does not clear the market revisions are made until the fit is achieved. There is little difference between indicative planning and forward markets in the absence of environmental uncertainties for both are procedures for forecasting balanced market conditions. It is worth noting that indicative planning like forward markets is a by-product of the search for reconciling the need for full information or perfect foresight and the properties of competitive or atomistic competition through time.

---

* This of course is precisely the criticism, cited from Keynes on orthodox price theory and repeated by J. Robinson in the following way:—

"The reason why the orthodox argument fails to be useful is that it is founded on a contradiction. Atomistic competition and correct foresight are irremediably irreconcilable" (Robinson, "Consumer Sovereignty in a Planned Economy" Essays in Honour of Oskar Lange, (1965), p. 519).
The only difficulty that Meade sees with the system of indicative planning procedures for clearing the market is that if some of the commodities are complementary with one group in excess supply and the other in excess demand price revisions by the central auctioneer may worsen the situation. But this is a small price to pay, for if one accepts all the initial assumptions given earlier plus "no unforeseen changes in technical knowledge or tastes" which is warranted by Meade's system then one can, perhaps, include the additional assumption of no complementarities between commodities. Meade, however, having noted the problem he states "In this volume we shall, however, neglect this problem" (Meade, CE (1971), p. 155).*

It is worthwhile to note some of the limitations and points of arbitrariness that creep into Meade's mode of analysis even at this elementary level of the discussion.

Uncertainty at this stage is of the tamed sort; the information for eliminating 'market uncertainty' is assumed to be readily available in the market and the problem is how to get access to it on behalf of one or the other of the contractual parties (viz., producers or consumers). The indicative planner operating on behalf of the producers finds out about consumers' purchasing intentions and, at the same time, transmits prices and production plans from producers to consumers. What is not very clear is why such information on intentions is readily divulgable and once released is binding for either of the contractual parties. Intuitively, one can see benefits to an actual or potential producer if he has all the information that he needs about the state of the market and the purchasing intentions of potential buyers. But why should consumers, even if aware of all their purchasing intentions, reveal such information to the indicative planner and having shown their intentions make a commitment that they will stick to it for the period of the plan? Is it not uncertainty

* For a discussion of the "gross substitutability" paradox, i.e., the conditions that need to be satisfied so that an equilibrium price vector can be found for complementary commodities, see G.M. Heal, *The Theory of Economic Planning* (1973), pp. 78-79.
that keeps purchasing or production intentions in abeyance and in the form of liquid cash or bank balances?* In other words, the moment an indicative planner can equate purchasing or production intentions with the act itself then the uncertainty implicit in such intentions, or unrealised possibilities, vanishes into thin air.**

Moreover, within the specific framework used by Meade, it is difficult to see how the indicative planner will elicit, freely, the required information from monopolistic or oligopolistic competitors necessary for the 'once and for all' auction to establish equilibrium. The reason for this is that oligopolists and monopolists benefit from the ignorance of their rivals concerning their production and pricing intentions and are unlikely to part freely with such information which will be passed on to competitors via the indicative planner.

The economic model described by Meade does not even allow for the possibility that the economy under examination may be outside equilibrium. The value of indicative planning or forward markets is directed at maintaining equilibrium, once the economy has by hypothesis reached it.

---

* The 'speculative motive' is of course, one of Keynes's three determinants of his liquidity-preference function. Moreover, in a well organised market for personal debts the other two motives, for transaction and precaution, sink into the background while the speculative motive "gives an opportunity for wild fluctuations in liquidity preference" The General Theory (1936), p. 171. It must not be thought however that only Keynesians would disagree with Meade on this, see, for example, R. Radner (1968), "Competitive Equilibrium Under Uncertainty", op. cit., p. 57.

** As Professor P. Davidson noted:- "An unchanged equilibrium price or current completely correctly unforeseen changes in the future prices of such markets (e.g., fully anticipated inflationary price rises) are equilibrium concepts that are logical contradictions for speculative behaviour and speculative markets. It is only in an uncertain world (where thoughts about the future can never anticipate the future) that economic resources are engaged in such speculative markets and the role of money as a refuge from uncertainty makes sense" (P. Davidson, review of G.L.S. Shackle's An Economic Querist, Journal of Economic Literature, December 1975, p. 1322).
but it does not deal with the question of the role and capabilities of such aids for an economy in disequilibrium. His initial premise is, rather that, "if these conditions of absence of externalities and indivisibilities are combined with perfect foresight of future events then the forces of actual or potential perfect competition will suffice to cause a dynamic economy to move on a fully efficient path through time" (Meade CE (1971), p. 148). His method, in shorthand, is simply to take as given perfect competition eliminate externalities and indivisibilities by assumption and having done this pose the question whether, and if so how, it is possible to improve if not to perfect foresight of future market conditions. The reason why such a question becomes imperative in Meade's scheme is precisely that the properties of a competitive economy can not be maintained through time in the absence of full information or perfect foresight. But equally well, the concepts of equilibrium or a Pareto optimum are vulnerable in Meade's dynamic model if he has chosen to assume "given" foresight while relaxing his underpinnings of perfect competition, e.g., assuming monopoly power, or no indivisibilities and externalities, accepting increasing returns, interdependencies in consumption et cetera.*

If contrary to the above, we accept the possibility that expectations are disappointed, despite the availability of information, then there is no assurance that the indicative planner would be able to restore

* It is interesting to note how different Meade's concept of equilibrium is from Keynes's idea. Keynes's concept of equilibrium is independent of the need to assume "perfect foresight" or to prevent "false expectations" from happening - two notions that are proving the nemesis of many general equilibrium models of analysis. In the process or 'mechanics' for obtaining equilibrium the two systems differ, for Keynesian equilibrium which is the outcome of the investment decisions or "animal spirits" of capitalists and the consumption share out of income, can settle at less than full employment output or income (i.e., where the markets are not cleared). Finally, in their implications the two types of equilibrium are different for Meade's type of equilibrium is a presumption in favour of leaving things to the market, while Keynesian equilibrium is precisely that the market left to its own devices has no built-in mechanism for full employment.
dynamic equilibrium. The only proviso that can lead to the co-existence between 'false expectations' and competitive equilibrium is where all dates are co-valid or where time is space and the indicative planner can unravel the source of 'false expectations' by moving backwards in time.* When all dates are co-valid adjustments are instantaneous and thus neither the threat of uncertainty nor the irrevocability of time can enter into the argument. When time is space rather than duration, uncertainty and 'false expectations' lose their threat to the competitive equilibrium precisely because the indicative planner can move, if necessary, backwards in time offering information so that wrong decisions ('wrong' in the sense that they diverge from decisions necessary for equilibrium) are revised and only equilibrium commitments are transacted and materialise.**

Conditions can be postulated within Meade's intellectual experiment which require that the status of the indicative planner will alter from that of a 'neutral auctioneer' to that of "an auctioneer with powers of compulsion". The price iterations or duets between the auctioneer and the citizens, both consumers and producers, alluded to by Meade must only be made on paper and become commitments when the set of prices capable of clearing the market is announced or found.***

* The concept of co-valid dates or timeless equilibrium in the theory of value is explored in chapter 5 of G.L.S. Shackle's An Economic Querist (1973). The same idea and the notion of time in economics is, also, discussed by J. Robinson in "A Lecture Delivered at Oxford by a Cambridge Economist", Collected Economic Papers, Volume Four, 1973. For a more detailed discussion of 'time' in Meade's scheme see Appendix A.

** The two different uses of time, as space and duration or as the "extensive" and the "qualitative", in the physical sciences were developed by Henri Bergson in the "Multiplicity of Conscious States, The Idea of Duration", Time and Free Will, 1888, (First English Translation Macmillan Library of Philosophy (1910)).

Otherwise there is little to prevent some of the citizens from making a commitment either for spot or future delivery that is in accord with their preference and cost functions but not with the auctioneer’s intentions. As Meade describes the process for each set of prices announced by the auctioneer, the citizens register their 'demand' and 'supply' intentions, then there is a break where these are summed up and if the market is not cleared there is a re-assembly and revision of prices until the market is cleared. But before we have reached the equilibrium set of prices or optimal iterations some contractual arrangements were already made that though sub-optimal, as viewed from the auctioneer’s angle, were in accord with the preference and/or the cost functions of a sub-group of citizens. If only one price is to rule for a given commodity, defined in such a way as to take into account time and place of delivery, then the auctioneer must be vested with powers to revoke commitments entered by producers and consumers until the iteration which generates the equilibrium or "right" price.* If the central auctioneer, however, has that power of compulsion then he is no longer a neutral agent nor are we dealing with a fully fledged market economy which is precisely the solution arrived at by O. Lange in the 1930s to demonstrate that the allocative properties of a competitive economy can best be satisfied in a socialist one!**

But what really narrows the role of Meade’s 'planner' to that of a neutral auctioneer is that the assumption that economic externalities, distributional problems and growth have all been taken care of outside the market place or the 'auction rooms', (in Meade’s example the Albert Hall). When these ceteri pariba are allowed to be, by the model builder, a legitimate source of worry for the planner then the

---

* This has been recognised by a long line of writers including N. Kaldor (1934) and O. Lange (1936). A recent restatement of it can be found in G. M. Heal’s The Theory of Economic Planning (1973), on 'The Lange-Arrow-Hurwicz Procedure', pp. 78-82.

allocative properties, of a perfectly competitive market, lose their
lustre. Information flows alone, the only means at the disposal of the
'non-interventionist' planner, will not suffice in tackling such
issues as poverty and unemployment, pollution and restrictive practices
however diligent the indicative planner is in generating such data
for private agents in the market.

Within Meade's scheme, it is not very clear why indicative planning
is at all necessary in the presence of market uncertainties but
in the absence of environmental ones. Consider, we are told
CE (1971) p. 11, that our imaginary economy has a present, a future
and a past. The condition is stressed by Meade for as he
explains the present inherits from the past, inter alia, a stock
of assets, houses, capital equipment et cetera. We know also that
the present, defined as \( t_0 \) is in full equilibrium (characterised
by the conditions given on pp. 148 - 149). The problem Meade
sets himself is how to prevent such an economy moving in disequilibrium
through time, e.g., from \( t_0 \) to \( t_n \), given the possibility of market
uncertainty and the creation of 'false expectations'. The aid,
he suggests, for preventing 'false expectations' from materialising
is indicative planning. But this is a 'non-problem' and the
question of introducing new aids, such as indicative planning or
a central auctioneer, does not arise given that by hypothesis
the economy is capable of moving from the past, e.g. \( t_{-1} \), to
the present, \( t_0 \), in an equilibrating fashion. In other words, if
the economy can move from the past to the present without the
aid of a 'central auctioneer', which is the hallmark of non-directive
planning, why the logical need of introducing one at present? One
is inclined to assume, as there is not statement to the contrary,
that the type of aids or procedures envisaged by the model
builder, to bring an economy from the past to the present in an
equilibrating way will continue to operate from now on. There is
little in Meade's work to explain the process of how an economy
finds itself in the felicitous state of full-equilibrium at
present, or, how the aids having delivered the economy to a full equilibrium wither away so that new ones have to be devised.*

There is, finally, a conceptual difficulty of how to reconcile Meade's view of a planning role for the State with one of the main premises of his argument. A major group of assumptions is that there are no externalities or public goods and no indivisibilities or returns to scale admitted by his system.** Granted this, it is difficult to find a rationale for a planning role for the State given that whatever enters the market is a private good. That is, if information is only admitted as a tradeable commodity then agents within the market will undertake it (e.g. in the form of insurance and commodity futures) so that there is no need for State intervention. It would seem that the role of the State as a planner, even at the indicative level, cannot be conceived independently of the very conditions, e.g. increasing returns and public goods, that Meade removes by assumption. In particular, the organisation and dissemination of information by the indicative planner is an expression of the existence of public goods or rather that price signals are not complete information carriers.

This completes the survey and critique of 'non-interventionist' planning theory in the absence of environmental uncertainties. The next section deals with the claim that indicative planning can be used as a means to generate prices consistent with the equilibrium requirements even where environmental uncertainties are present. In particular as Meade concluded, "that one can remove all market uncertainties even in the presence of environmental uncertainties", (Meade, CE (1971) p. 166).

* This problem does not arise in the traditional Arrow-Debreu construction of equilibrium because 'all actions are decided upon at only one instant of time', see Hahn on The Notion of Equilibrium in Economics (1973), op. cit., p. 7 and p. 15.

3.3.2 Indicative Planning and Environmental Uncertainty

It will be recalled that environmental uncertainties were described, by Meade, through an example concerning the decision choices of a producer of sunshades or umbrellas who does not know whether it will be wet or fine at some future date. Alternatively, environmental uncertainties were briefly called "things that nobody knows" (Meade, CE (1971) p.150).*

At first inspection, this is the type of uncertainty that Keynes accused orthodox theory of not being able to encompass. It was precisely the type of unique or unexpected events that calculable probability could not handle or in Keynes' words "About these matters there is no scientific basis on which to form any calculable probability whatever" (Keynes, Collected Writings (1973) Vol. XIV, p. 114). Having stated this Keynes considers three ways by which producers and households reacted to an uncertain future and then explains how in The General Theory he attempted to take account of this pattern of behaviour. What Keynes did not do was to begin by postulating a fully competitive economic system then introduce an entity called 'uncertainty' and finally re-examine what further procedures are necessary to tame or neutralise this new agent. In The General Theory, uncertainty is part and parcel of Keynes's theory of liquidity preference and it also shapes expectations which in turn are part determinants of other elements e.g., interest rates and prospective investment, in the theory of effective demand. The methodological

* Examples of environmental uncertainties, according to Meade, include 'future technical progress', 'future changes in fashion' and in general, the 'future state of economic activity' (The Controlled Economy (1971), p. 150). Keynes' uncertainty, of the sort that is not collapsible to a calculable probability, is used in the sense that 'the prospect of a European war is uncertain', 'the price of copper and the rate of interest twenty years hence' or 'the obsolescence of a new invention' (Collected Writings (1973), Vol. XIV, pp. 113-114). Both authors are in agreement with the view that an important class of events which give rise to economic uncertainty are not amenable to finite probabilistic or actuarial valuations.
sequence of operations followed by Meade is radically different to the above. He begins with a fully competitive system, where expectations are not disappointed, then he introduces uncertainty which gives rise to 'false expectations' and finally he considers procedures, viz. indicative planning, which purport to contain uncertainty and help maintain the initial properties of a fully competitive economy. Meade's treatment of uncertainty is not, as we have seen, only an attempt to meet Keynesian criticisms on this matter. In this, he sets himself an even more ambitious task than other general equilibrium writers for whom uncertainty is confined to risk or insurable events and where probability functions or values can be assigned or are already given.*

There are two broad classes of characteristics associated with these types of uncertain events:

(1) Either there is complete absence of information about them (e.g., Meade's 'things that no one knows anything about') or that the type of information collected about these events (e.g., the possibility of new war) cannot find a common numeraire which can generate a probability function.

(2) These events are not always market generated (a distinction brought out neatly by Meade in describing them 'Environmental' rather than 'Market uncertainties'). If this class of events is not market generated they are exogenous in two senses; they may not be strictly economic (e.g., changes in fashion or an earthquake) or they may be economic but generated outside the system (e.g., changes in the price of oil by oil producers for a small country that is a non-producer, i.e., a price taker).

Meade considers the help that an indicative plan (or forward markets) can render to producers or consumers operating in conditions of environmental uncertainty. The way he does that is to take up once again the example of the demand and supply of sunshades and umbrellas given that, respectively, consumers and producers do not know whether it will be wet or fine at several specific points in the future. Meade's treatment of the problem of environmental uncertainty is first to isolate the events giving rise to such uncertainty and then assign to these probabilities. From thereon the matter is dealt in essentially the same manner as market uncertainties, the only difference being that the central auctioneer (or indicative planning) must specify prices for each and every stochastic eventuality.

"(The Government) must issue not merely a single questionnaire, but as many questionnaires as there are environmental paths, each such questionnaire suggesting a course which might be taken along that particular path by the prices of every good and service, by the rates of interest for the loan of a day's money, and by each day's insurance premiums or betting odds on moving from that day's point on that path to the next day's point on that path.

Each citizen must now write down how much of each good he would buy or sell, how much capital he would borrow or lend, and how much he would bet on or against moving from one point to the next on each particular path, if the prices interest rates, and betting odds in the market did move in the specified way. The government officials must then add up the total demands and supplies for goods and services, loans and bets along each environmental path. They must then put up the price, interest rate, or insurance premium at any point on any environmental path where the demand for goods the loan or the insurance exceeded the supply; and vice versa. The procedure is then repeated and this process goes on until, hopefully, there is a balance between supply and demand in every market at every point on every environmental path." (Meade, The Controlled Economy (1971) p. 165).

But the entire treatment of uncertainty by Meade violates his basic premise that these are events that no one knows about. There are two logical problems that Meade neglects in the treatment
of uncertain events (CE (1971) ch. 10). First, how is it possible to map all these uncertain events a priori? This is necessary before one even begins to think about assigning probabilities. Are we to assume that the events giving rise to environmental uncertainty are known a priori? If this is the case then they are no more different than 'market uncertainties'. However, the whole emphasis by Meade is that environmental uncertainties are indeed different from market uncertainties and that there is no a priori information about their occurrence let alone their number. Second, even if we can logically assume that all these uncertain events in the future appear on the contract list of the central auctioneer, this does not imply that their incidence of occurrence is amenable to assigning actuarial values or what Keynes calls 'the calculus of probability'. To use but a relatively trivial example, how does one compare the likelihood of occurrence of a European War with the likelihood of major inventions and innovations or the likelihood of changes in fashion in specific directions until 'Kingdom Come'? The very use of the term likelihood to characterise the occurrence of such events gives rise to considerable problems, let alone their facility for comparison.

* For these types of events Keynes' distinction between uncertain and probabilistic phenomena still stands. "One argument has more weight than another if it is based upon a greater amount of relevant evidence; but it is not always or even generally, possible to say of two sets of propositions that one embodies more evidence than the other. It has greater probability than another if the balance in its favour, of what evidence there is, is greater than the balance in favour of the argument with which we compare it; but it is not always, or even generally, possible to say that the balance in the one case is greater than the balance in the other" (J.M. Keynes, A Treatise on Probability (1921), Collected Writings, Vol. XIII (1973), p. 84).
Since Meade uses 'homely' examples to demonstrate his point and 'outrageously simplifying' assumptions to derive propositions about the real world, how can one treat the following example with his mode of analysis and still obtain the marginalist properties of that system:

Given pear trees and their relevant specifications one can perhaps estimate the potential yield of new seedling in the same orchard. The same applies for an apple tree seedling in a similar orchard. But given a forest of an unknown tree composition what is the probability of getting a certain number of pears and an equal number of apples by a specified future date? The trees in the forest are equivalent to the type of events that give rise to environmental uncertainties (i.e., 'things that no one knows about') and the amounts quoted are a priori specifications for full equilibrium at a given number of years hence. It is to be appreciated that this use of 'example' from the physical world does not impart further reality to the economic model. Yet this is precisely what Meade does in his two recent volumes on indicative planning. He generates 'an absurdly abstract model' (his own words) then he descends to an example of 'reality' (of the sort of wet or fine weather and its effects on umbrellas or sunshades) and considers that the latter has provided an empirical test for his model. The major objection is that the wet or fine situation goes against the grain of Meade's own argument about the status of uncertain events, and the secondary criticism is that such a test is applicable, in the first instance, to the thought experiment and that its results are not readily transposed to the real or 'disequilibrium' world.

Both Meade (1970, 1971) and Debreu (1959) use the devise of 'decision-trees' to describe how different price vectors have to be constructed to take care of any probabilistic event that may intervene and which threatens the system in moving in a disequilibrating way. However, the purpose and use of the device in the two schemes is essentially different. Debreu defines probabilistic or risk events in a manner that the events are amenable to a treatment of the calculus.
of probability. One may argue, as Keynes has done that these types of risk events have only a superficial resemblance to uncertainty in economics so that in this respect Debreu has not broken away from the pre-Keynesian orthodoxy in the treatment of uncertainty. That is, one can criticise Debreu's treatment of uncertainty as dealing with risk situations but within his own terms he cannot be accused of being misleading. On the other hand, as we have seen, Meade's environmental uncertainties have, by example and definition, an affinity to Keynesian type uncertainty but in order to maintain the properties of the neoclassical system uncertainty is reduced to a status of a risk situation capable of actuarial valuation. Hence the property of the system to generate "decision trees", procedures where the 'correct price vectors' are found for each environmental path within market uncertainties are eliminated (Meade, CE (1971) pp. 159 - 162).

Meade is not entirely satisfied with some of the practical conclusions of his treatment of environmental uncertainty. In particular where there is a multiplicity of environmental time paths this will give rise to as many indicative sub-plans. As he points out even for the modest number of three uncertain exogenous variables each capable of taking three values ("high, medium or low") for a five period plan this would generate $3^5 = 243$ different time paths for the environmental uncertainty ("and it is of course, a gross simplification of reality to assume that there are only three factors about which one is basically uncertain" (CE (1971), p. 207).* The implications of this are far reaching for as many indicative sub-plans have to be constructed and every citizen has to stipulate for each path his own subjective probability for its occurrence. The way that planners, Meade suggested, ought to take care of this complexity is simply to consider the more 'typical' or 'representative'

* There seems to be a slight arithmetic error here for $3^5 = 14,348,907$ rather than 14,352,807 given in Meade's text.
environmental time paths. But this is a false concession to reality. To construct 'typical' or 'representative' environmental paths presupposes that the planners are able to determine a priori the typical from the atypical environmental uncertainties. It is impossible to detect how such a procedure is permissible if environmental uncertainties by hypothesis, have been defined as events that "no one knows anything about". Even if we relax this postulate it is not a sufficient condition for mapping out their probabilities and choosing the more likely ones for the purpose of the individual decision maker or the indicative planner. When events are uncertain, as distinct from unlikely, it is precisely that the information that we collect does not share a common numeraire. By this it is not denied that it is useful as suggested by Meade, to gather evidence about 'future technological developments' or hints about foreign or domestic competitors to one's own line of activity. But such evidence, or 'the weight of the argument' in Keynes's words, has not the same status or comparability that the outcome of a coin toss has with respect to a throw of a dice. That is information about uncertain events lends itself to different interpretations by agents in the market thus giving rise to the entrepreneurial function, in F. Knight's sense of the word, or to speculation which is an attempt to anticipate events contrary to the collective opinion ruling in the market. In these circumstances, indicative planning or any other type of information procedures about the future may be of help to atomistic competitors in the market but it cannot be used for maintaining or attaining Pareto optimality, i.e., Meade's locus of attention, which requires certain or probabilistic evidence where all possibilities about the future state of the world are exhausted.

This is not the end of the matter. Granted that it is within the realm of human ingenuity to, somehow, unlock all the future 'states of the world' so that economic agents can improve their decision making with the help of such aids as forecasting or
contingency markets this may still fall short of attaining equilibrium or the clearing of all the markets. The reason for this is that the computational capacity of the agents, including the iterations of the indicative planner, may prove the binding constraint preventing the generation of the required set of prices to clear the markets. Other constraints with similar effects can take the form of locational hindrances or the number of markets necessary for conducting 'futures' for all commodities.* We are not suggesting here that indicative planning should not, in practice, concern itself with the future prospects of a country. Rather, how this concern about uncertain future events and their relation to actual plans cannot be readily distilled from Meade's sections on the theory of indicative planning. There his concern with Pareto optimum (both as initial and terminal conditions), the use of planning procedures as a means of maintaining equilibrium through time by preventing false expectations and the inability of the model to deal with uncertainty, as compared to risk situations, makes it an unnecessarily exacting framework about the arbitrary conditions it must satisfy and the limited objectives it can fulfil.

Finally, the fragility of a purely indicative planning framework is exposed from a different direction when attempts are made to relax some of the initial assumptions in favour of realism. In particular would the same properties of orthodox equilibrium obtain if increasing returns, oligopolistic behaviour and economic externalities are part of the economic system that indicative planning aims to help? Meade suggests, that though one could think of more sophisticated methods (than the central auctioneer issuing and revising price lists) in eliciting information from oligopolists about their intentions this would still leave residual difficulties. Information may not be forthcoming, where trade secrets are concerned, or it may be conditional on

* It is interesting that certain general equilibrium theorists, viz., Radner (1966) and Hahn (1973), have acknowledged these difficulties. Meade, surprisingly, neglects such considerations though the concept of opportunity cost (in this case that information gathering is not a free good) is assumed to be central in neoclassical or Walrasian economics.
the competitors' reaction or intentionally biased to mislead competitors. Hence Meade concludes,

"It is naive, therefore, to expect that the planning authority will readily obtain unbiased information from big private concerns about their future prospects of cost reduction, introduction of new products, commercial strategies and so on, where this information might serve to inform their competitors of their future plans and prospects. Or alternatively, the provision of such information might depend upon the formation of collusive monopolistic arrangements between the competing concerns which made innocuous the sharing of trade secrets among the producers concerned" (The Controlled Economy (1971), pp. 220-221).

By the same token one would assume that the same strictures, offered by Meade, would apply to the question of increasing returns and economic externalities and the negation of some of the properties that can be derived by the method of indicative planning and a 'neutral' central auctioneer. Indeed all criticisms raised by Kaldor (1972) and Kornai (1971), on General Equilibrium economics both as to their relevance for the real world are pertinent for Meade's non-interventionist planning or central auctioneer scheme. The gist of these criticisms are that the focus of the theory is very narrow and almost exclusively on allocation problems. Moreover the propositions derived, e.g., on the existence and stability of equilibrium depend crucially on the peculiar assumptions made. A shift of these assumptions in favour of realism, i.e., allowing oligopoly behaviour or uncertainty, robs the system of its capability of remaining in a neoclassical equilibrium, let alone moving towards it.*

* For a discussion of the treatment of 'time' in Meade's scheme and whether central forecasting undermines the entrepreneurial function see Appendix A.
the competitors' reaction or intentionally biased to mislead competitors. Hence Meade concludes,

"It is naive, therefore, to expect that the planning authority will readily obtain unbiased information from big private concerns about their future prospects of cost reduction, introduction of new products, commercial strategies and so on, where this information might serve to inform their competitors of their future plans and prospects. Or alternatively, the provision of such information might depend upon the formation of collusive monopolistic arrangements between the competing concerns which made innocuous the sharing of trade secrets among the producers concerned" (The Controlled Economy (1971), pp. 220-221).

By the same token one would assume that the same strictures, offered by Meade, would apply to the question of increasing returns and economic externalities and the negation of some of the properties that can be derived by the method of indicative planning and a 'neutral' central auctioneer. Indeed all criticisms raised by Kaldor (1972) and Kornai (1971), on General Equilibrium economics both as to their relevance for the real world are pertinent for Meade's non-interventionist planning or central auctioneer scheme. The gist of these criticisms are that the focus of the theory is very narrow and almost exclusively on allocation problems. Moreover the propositions derived, e.g., on the existence and stability of equilibrium depend crucially on the peculiar assumptions made. A shift of these assumptions in favour of realism, i.e., allowing oligopoly behaviour or uncertainty, robs the system of its capability of remaining in a neoclassical equilibrium, let alone moving towards it.*

* For a discussion of the treatment of 'time' in Meade's scheme and whether central forecasting undermines the entrepreneurial function see Appendix A.
Chapter 4: THE IRISH PLANNING EXPERIENCE, 1958 - 1963

4.1 INTRODUCTION

In the previous chapter we attempted to trace the theoretical framework of indicative planning as expounded by Meade (1970, 1971). It was expected, inter alia, that the theory would have provided a framework for interpreting the practice of indicative planning. On this criterion the results of that investigation were not very positive.

First, the theory is seemingly modest in its objectives and particularly exacting in its requirements or assumptions. For example, the type of employment, industrialisation and capital accumulation problems which provided the incentive for planning in Ireland, cannot be inserted into Meade's model which already assumes an advanced capitalist economy with considerable success to its credit in these areas. A few of the issues that preoccupied Irish policy makers, at the inception of planning in the 1950s, were the choice of strategies for industrialisation, the merits of domestic versus foreign induced capital formation, the role of the State and of public bodies in development and how to elicit the co-operation of the planning partners as oligopolistic producers and organised labour.* At a more basic level the question was not about the means for preserving a, self-evidently, meritorious market mechanism, Meade's rationale for planning, but whether it was possible for Ireland to pursue certain planning objectives including employment expansion and a faster rate of accumulation

* cf. Economic Development (1958) ch. 1 and 2 and Third Report (1958) of the Capital Investment Advisory Committee (CIAC) reprinted in Chubb and Lynch (eds.) Economic Development and Planning (1969). We discuss further on in the chapter the considerable influence that each of these studies had on both the structure and content of the First Programme. It may be noted here, however, that CIAC's Third Report which appeared in June 1958, i.e., several months earlier than either Economic Development or the First Programme, recommended the preparation of an economic development programme 'designed to discover and implement productive investments' by the State.
and industrialisation, and still maintain the political and social attributes of a market economy.* In addition there were problems relating to the marketing of agricultural surplus and containing outflow from the land, the co-ordination of central and regional plans, the type of interests which would best reflect popular participation for planning at the sub-national level, the role of foreign enterprise and how to acquire the elusive skills of managerial knowhow and entrepreneurial capacity for the nascent industrial economy. These issues do not fall within the scope of Meade's indicative scheme, yet they formed the recurring themes of Irish planning exercises, official and otherwise.

The second ground for concern, as the previous chapter argued, is that even on its own merits the Meade experiment remains inconclusive. The necessary conditions, or warranted assumptions, to enable the economic system to deal with uncertainty are very stringent, i.e., with few observable counterparts in the real world, and when oligopolistic competition and other group interests are allowed this leads to indeterminacy - which Meade aptly described as 'residual uncertainty'.** The essence of 'residual uncertainty', which may also occur because of unanticipated events, is that even if the rest of the conditions are satisfied the optimum, or market clearing, position of the system cannot be attained.

It will be argued, however, that the rationale and means deployed by Irish indicative planners resemble, in certain important ways, Meade's variety of indicative planning. In particular, the relative absence of policy instruments in the plans and the nature of the planning 'targets' as forecasts of the intentions of the private

---


sector are well documented features of Irish planning that bear an affinity to Meade's model.* It has also been frequently claimed that the main asset of indicative planning to Ireland has been psychological or suasive and the role of the government has been, in the main, to provide a conducive environment for the private sector to expand. In the First Programme (1958), p. 40, the commitment to the private ownership of industry was unambiguous. The document elaborated further on this theme:

"...There is no substitute for private enterprise, and the main objective of Government policy in this field is to create the conditions in which it will be stimulated and encouraged to embark on new activities. The Government can encourage, attract, stimulate; it can offer help and guidance; it can provide a meeting-place between productive ideas and the savings of the people. But the Government cannot will its way to success in this or any other direction: that depends on the people themselves, on those who provide the ideas, the money or the manpower" (Programme for Economic Expansion (1958), p. 34).

A similar clause is written into the other Irish plans including the last one which stated:

"The programme does not aim to impose a particular pattern of development on the private sector. The response to market forces will determine where there will be growth and what forms it will take. The object of State measures will be to strengthen that response and to remove impediments in its way" (Third Programme, 1969-1972 (1969), p. 230).

In this respect, it would appear that, the commitment to free enterprise and the narrow interpretation of the role of the State have provided the guidelines about the limits of the planning process itself.

It is worth noting that what are regarded as prerequisites in Meade's theory have come increasingly under criticism when put into practice in Ireland. For example, the relative absence of planning instruments (other than the collection and dissemination of information) and the way planning 'targets' are derived from market surveys are a few of the characteristics of indicative planning that have come under scrutiny from individual economists and public review bodies.*

4.2 THE FIRST PROGRAMME, 1958-1963

4.2.1 The Progress of Planning in Ireland

The introduction of planning in Ireland at the end of 1958, which less than a decade ago was hailed as a 'revolution in economic thinking and practice' and 'a watershed in the modern economic history of the country' is currently taken as a mere necessity or in its conventional form derided.** Yet at the time of its introduction Dr. Whitaker's Economic Development (1958) was recognised as a novel innovation, being the first document in the post-war to consider the prospects of the whole economy in a systematic way.***


 *** See, in particular, the notes and papers submitted to the Symposium on Dr. Whitaker's Economic Development and the First Programme organised by the JSSTSI Volume XX, Part II, 1958-1959.
The argument for planning was gained against considerable opposition and some fear that it was a prelude to a 'command' or a socialist economy.* The recommendation given in the Third Report of the Capital Investment Advisory Committee (CIAC) for an economic development programme helped pave the way for the introduction of the First Programme by Dr. Whitaker, the then Secretary of the Department of Finance. According to Dr. Whitaker, however, the very word 'planning' was intentionally omitted from that document because of its 'dirigiste connotations' in the mind of the public.**

It is worth briefly recounting some of the adverse circumstances in the 1950s that preceded the introduction of economic planning at the national level. Between 1951 and 1958 total employment fell from 1.22 to 1.07 million, i.e., by some 150,000, and emigration averaged 40,000 per annum. The fall in employment was primarily in agriculture, by some 90,000, yet industry and the service sector also declined - by 40,000 and 20,000 respectively.*** Despite the

---

* The papers by Professors Lynch (1959) and Carter (1959), op. cit., discuss the then prevailing attitudes and some of the political objections to economic planning. Even Dr. Whitaker whose work is usually credited for the introduction of the First Programme had to reassure the then Minister for Finance, J. Ryan, that what he had in mind was not an economic plan but an economic programme with targets; Dr. Whitaker's letter is reproduced in Economic Development (1958) Appendix I, pp. 227-229. As he later admitted, Whitaker (1967), that distinction was purely semantic - its only purpose being to obtain an 'impartial hearing' from an otherwise sceptical public, and from the political head of the Department of Finance.


*** By sector the percentage fall in employment between 1951 and 1958 was 18% for Agriculture (including Forestry and Fishing), 14% for Industry (comprising Manufacturing, Public Utilities and Construction) and 5% for Services, as compared to a 12% decline in aggregate employment. The material on employment decline by economic activity for that period is described in NIEC's Report on Full Employment (1967).
substantial increase in emigration, which by 1957 reached 60,000, the incidence of open unemployment also increased from 41 to 73 thousand between 1951 and 1958 to register at 7 per cent of the employed labour force. In fact for most of the decade annual emigration did not fall below two thirds of the unemployed labour force. Furthermore, for the five years, 1953 to 1957, preceding the introduction of the First Programme total output (GNP at constant prices) fell, while domestic investment (GDCF in real terms) also declined from 16 to 13 per cent of total output. What made such circumstances appear particularly unfavourable to the members of the CIAC and the authors of the First Programme was that the Irish economy was in a severe recession at a time when the economies of the rest of W. Europe enjoyed a period of rapid reconstruction and growth.* Table 4.1 summarises the year to year changes, in real terms, of GNP and its expenditure components for the five years preceding the introduction of the First Programme.

A retrospective examination of the economic data of the 1950s, though valid as an exercise in establishing the economic circumstances under which the First Programme was inaugurated, is too simple an explanation in accounting for the timing of the introduction of indicative planning in Ireland. It was not merely the material circumstances, including high emigration and unemployment and low investment, that provided the inducement to plan but also the perceived need by the advocates of planning to dispel 'the all-too-prevalent mood of despondency about the country's future'.** Planning, thus, was not deemed exclusively as a device for tackling economic problems but also as an expression of the belief that untried alternatives were still available for the broader improvement of society through co-ordinated effort. Dr. Whitaker, the architect of the First Programme, was one of the first to highlight this aspect of planning.


<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Expenditure on Consumers' Goods and services</td>
<td>102.1</td>
<td>107.2</td>
<td>104.1</td>
<td>101.8</td>
<td>102.9</td>
<td>0.57</td>
</tr>
<tr>
<td>Public Authorities net Expenditure on Current Goods and Services</td>
<td>101.6</td>
<td>100.3</td>
<td>101.9</td>
<td>97.0</td>
<td>96.7</td>
<td>-0.67</td>
</tr>
<tr>
<td>Gross Domestic Capital Formation</td>
<td>92.8</td>
<td>114.2</td>
<td>87.2</td>
<td>73.9</td>
<td>71.0</td>
<td>-6.62</td>
</tr>
<tr>
<td>Exports of Goods and Services</td>
<td>100.4</td>
<td>97.6</td>
<td>97.3</td>
<td>106.4</td>
<td>104.4</td>
<td>0.86</td>
</tr>
<tr>
<td>Imports of Goods and Services</td>
<td>98.2</td>
<td>109.1</td>
<td>95.9</td>
<td>90.7</td>
<td>100.0</td>
<td>0.00</td>
</tr>
<tr>
<td>GNP at Constant Market Prices</td>
<td>101.4</td>
<td>103.2</td>
<td>101.7</td>
<td>102.7</td>
<td>98.6</td>
<td>-0.27</td>
</tr>
<tr>
<td>GNP at Constant Market Prices and Adjustment for Changes for Terms of Trade</td>
<td>100.8</td>
<td>102.5</td>
<td>99.8</td>
<td>99.6</td>
<td>98.1</td>
<td>-0.38</td>
</tr>
</tbody>
</table>

Note: 1. To obtain a greater accuracy for this column the average annual percentage changes were calculated from the original figures given in the National Income and Expenditure, 1961, (Pr. 6869), Table A.4, p.36. The difference between this method and using the index number changes for finding the average is, in absolute terms, very small. Its only advantage is that it enables one to use a second decimal point for average yearly changes that are relatively very small - mostly below one percentage point.

2. The method used by national accounts statisticians, in Ireland, to adjust changes in aggregate output for changes in the terms of trade is explained in pp. 12-13, National Income and Expenditure, 1961, (Pr. 6869), and for more recent years, see National Income and Expenditure, 1974, (Pr. 5466), p. xix.
To this end he wrote:

"There is also a sound psychological reason for having an integrated development programme. The absence of such a programme tends to deepen the all-too-prevalent mood of despondency about the country's future. A sense of anxiety is, indeed, justified. But it can too easily degenerate into feeling of frustration and despair. After 35 years of native government, people are asking whether we can achieve an acceptable degree of economic progress. The common talk amongst parents in the towns, as in rural Ireland, is of their children having to emigrate as soon as their education is completed in order to be sure of a reasonable livelihood... There is, therefore, a real need at present to buttress confidence in the country's future and to stimulate the interest and enthusiasm of the young in particular" (Economic Development (1958), pp. 4-5, original italics underlined).

It may be tempting for someone writing much later to overlook this factor, stressed both in the Reports of CIAC and the planning documents of Dr. Whitaker, in favour of purely economic or political explanations for the introduction of planning. The psychological factor, as given by Dr. Whitaker above, may also be discounted precisely because 'anxiety' and 'fear' rooted in the past lose their potency once they turn out to be, with hindsight, exaggerated or even unfounded. However, a member of CIAC, Professor Lynch, who acted as an economic adviser to the Irish Government in the 1950s, wrote recently about that period.

"Ireland in the middle fifties displayed some symptoms that might, without exaggeration, be described as resembling the 'death wish' of a society" (Chubb and Lynch, (eds.) Economic Development and Planning (1969) p. 1).

Doubts may be raised about the validity of Professor Lynch's statement on the grounds that, as Kennedy and Dowling (1975) argued, there was progress made even in the 1950s or that Irish society proved much more resilient than it was thought possible.* Yet such probable objections to Professor Lynch's dramatic description of the situation still miss the point that concern about the viability of Irish society

In the 1950s was a prime factor in experimenting with untried alternatives, including the introduction of planning. With the passage of time, however, the explanation given for the introduction of planning in Ireland was couched in terms of the economic crisis rather than the broader arguments put forward then by Dr. Whitaker (1958) and Professors Lynch and Earter (1959).*

Despite the favourable reception of Dr. Whitaker's document in 1958 the fortunes of planning were subsequently chequered partly by the abandonment of the Second and Third Programmes but also because planning was not seen as having an impact on the immediate problem of unemployment. By 1972, there was what Kennedy and Bruton described as 'a general disillusionment in official circles with past efforts at planning'.** Planning was discontinued after 1972 but currently a new economic and social programme has been promised by the government. Paradoxically, in his 1974 Budget Speech the Minister for Finance declared that planning was irrelevent for Irish circumstances especially in the face of uncertainty, a conventional justification for planning in a market economy.***

Articles in general have become more critical and the initial fear that planning meant socialism has been supplanted by the view that planning is no more than the maintenance of the status quo.****

In some respects the debate on planning has regressed once again to a priori arguments about the acceptance or rejection of planning.

---

* In recent years, both McGilvray (1968, p. 27) and FitzGerald (1968, p. 15) stayed close to this 'pragmatic' explanation viewing the introduction of the First Programme as the outcome of the economic recession that preceded it.


*** cf. Financial Statement (1974, p. 13), Minister for Finance, Government Stationery Office. In contrast, Whitaker (1964) argued during the introduction of the Second Programme that the chief merit of planning for producers was as "a reducer of uncertainty, a kind of generalised market survey".

in toto. The critics of planning, on the right, advocate a return to the free regulation of market forces while on the left the only acceptable form of planning is said to be along socialist lines. The common ground between these apparently antithetical views is in their rejection of planning in its present form. At this stage, consideration of the principal premises and strategies employed by previous Irish plans can shed light on the present impasse and more constructively provide guidelines on the constraints and direction within which further planning exercises could evolve.

4.2.2 Structure and Strategies

Traditionally the treatment of Economic Development (1958) and its associated document, The First Programme (1958), has been mainly discursive because they do not conform to the usual criterion of plans with quantitative 'targets'. The same commentators point to the Second and Third Programmes as examples of more sophisticated or better planning, and they attribute the relative crudeness of Dr. Whitaker's effort to the small stock of economic experts at the time.* There is, however, an apparent difficulty in the interpretation of the planning process in Ireland as an irrevocable transition from simple to more sophisticated plans. There is the quandary, for those who argue that Economic Development lacked strategy or methodological rigour because of its comparative dearth of targets, in how to explain its relative success as opposed to the abandonment of the sophisticated Second and Third Programmes. What these authors fail to acknowledge is that the First Programme began with several handicaps and constraints not shared by the latter two plans and that it was essentially a perspective document on the role of planning as much as a plan in itself.** That is, Dr. Whitaker had the dual task of outlining a strategy within which a plan could evolve as well as providing ideas relevant to the then prevailing economic difficulties. The issue, thus, at the time was not only what


** It is interesting to note that Dr. Whitaker stressed, in the introduction to Economic Development, that his main aim was not the design of a detailed five year plan but rather the outline of a long term development strategy.
to plan or direct but whether to plan at all was feasible given the strong government commitment to a market economy. This may appear a simple point, yet at the time the notion of planning for the market was novel in Ireland, and propounded only by a section of the trade union movement.*

Finally, a number of constraints were inherited from the outside that made the practice of planning rather restrictive. The narrow distinction that the First Programme drew between the productive nature of private investment and, in the main, 'unproductive' public expenditure, and the conclusion that housing and other infrastructural needs of the country were saturated were opinions expressed by the government advisers on the Capital Investment Committee. The limited role for the government and the public sector given in paragraphs 90 and 108 of the First Programme were similarly principles of government policy. The rapid removal of tariffs and the encouragement of foreign capital were again strategies that began earlier in the 1950s and were inherited by the planners.** The absence of commitment to 'full employment' reflected a lack of commitment from the State rather than to any insensitivity on Dr. Whitaker's part to the then existing emigration and unemployment difficulties.

* One of the earlier contributions to the debate on planning in Ireland was Planning Full Employment (1956) by the United Trade Union Organisation. In academic circles dissident views on the necessity for planning in Ireland, including a strong support of Keynesian principles on the management of the economy, were expressed by P. Lynch (1959) and C.F. Carter (1959), op. cit. More orthodox views critical of Keynes, while upholding the 'rights' and soundness of free market forces in determining investment and employment, can be found in Professor J. Meenan 'The Political Economy of Development' JSSISI, Vol. XX, Part I, 1957-1958.

** For a discussion on the legislation revoking earlier restrictions concerning the ownership of industrial assets by aliens and on the parallel dismantling of trade protection measures, see C. Brock "Public Policy and Private Industrial Development" in J.A. Bristow and A.A. Tait (eds.) Economic Policy in Ireland (1968).
to plan or direct but whether to plan at all was feasible given the strong government commitment to a market economy. This may appear a simple point, yet at the time the notion of planning for the market was novel in Ireland, and propounded only by a section of the trade union movement.*

Finally, a number of constraints were inherited from the outside that made the practice of planning rather restrictive. The narrow distinction that the First Programme drew between the productive nature of private investment and, in the main, 'unproductive' public expenditure, and the conclusion that housing and other infrastructural needs of the country were saturated were opinions expressed by the government advisers on the Capital Investment Committee. The limited role for the government and the public sector given in paragraphs 90 and 108 of the First Programme were similarly principles of government policy. The rapid removal of tariffs and the encouragement of foreign capital were again strategies that began earlier in the 1950s and were inherited by the planners.** The absence of commitment to 'full employment' reflected a lack of commitment from the State rather than to any insensitivity on Dr. Whitaker's part to the then existing emigration and unemployment difficulties.

---

* One of the earlier contributions to the debate on planning in Ireland was Planning Full Employment (1956) by the United Trade Union Organisation. In academic circles dissident views on the necessity for planning in Ireland, including a strong support of Keynesian principles on the management of the economy, were expressed by P. Lynch (1959) and C.F. Carter (1959), op. cit. More orthodox views critical of Keynes, while upholding the 'rights' and soundness of free market forces in determining investment and employment, can be found in Professor J. Meenan 'The Political Economy of Development' JSSISI, Vol. XX, Part I, 1957-1958.

** For a discussion on the legislation revoking earlier restrictions concerning the ownership of industrial assets by aliens and on the parallel dismantling of trade protection measures, see C. Brock "Public Policy and Private Industrial Development" in J.A. Bristow and A.A. Tait (eds.) Economic Policy in Ireland (1968).
The authors of the First Programme explained the absence of detailed targets on the following grounds:

"In a country in which private enterprise predominates and which is so exposed to fluctuation in external trade, there would be little point in drawing up a detailed plan based on predetermined production 'targets'" (First Programme (1958), pp. 7-8).

The two main quantitative benchmarks of the plan were the growth in public investment, which proved to be an underestimate, and its expectations about the real growth of output for 1959-1963 which in the event turned out to be twice as high as forecast. Earlier commentators have interpreted the absence of quantitative targets in terms of the lack of expertise in the civil service, to the inadequate time given to its preparation and generally as a flaw in the design, (Donaldson (1966), FitzGerald (1968) and Norton (1973)). This, as it has been argued elsewhere in the thesis, is not a very convincing hypothesis nor does it recognise the nature of 'targets' for indicative planning in a market economy.

On factual grounds, this hypothesis is weakened, for the economists responsible for the Second Programme, with its elaborate 'targets', were available and working for the Government during the First. Furthermore, given the commitment of the Government to an economy based on private enterprise and its main aim of working through psychological impact, as Economic Development argued, detailed targets if not satisfied would have been counter-productive.

But the primary reason why criticisms on the absence of 'targets' in the first plan are misplaced is that given the commitment of the government not to resort to direct planning edicts what was possible then, was to provide the market with estimates of the government's own expenditure forecasts for 1958-1963, rather than commitment to targets on economic activities over which it had no control.

In retrospect it is not difficult to summarise the contribution of Dr. Whitaker's Economic Development (1958) which was subsequently embodied in the First Programme. In the first instance it took stock of the economic development of Ireland in the post-war and compared its low performance to other western economies and especially
to countries of Western Europe (Chs. 2 and 4). In doing this it focussed both on the low growth of output and low and falling share of investment as a proportion of total output, and on the high unemployment and emigration rates. It attempted to take into account the overall trading prospects for Ireland and explain how freer trade could affect particular agricultural and industrial commodities (Chs. 1 and 24). A large part of the study is a detailed survey of agricultural production, including the possibilities for technological improvement and trading prospects for individual commodities, and while stressing the potential output contribution by that sector, to the Irish economy, it emphasised its limited potential for employment expansion (Chs. 5-18). In the following passage Dr. Whitaker explains how he saw the contribution of agriculture in the strategy for development suggested by his report.

"At this point, it need only be emphasised that, if an increase in agricultural production at competitive prices were achieved, the purchasing power of the farming community would be greatly raised and their demand for goods and services stimulated. The effect of this in creating additional employment in industry and services is vitally important because the possibilities of absorbing labour in agriculture are limited. Indeed, the provision of lasting employment turns on the concurrent development of manufacturing industry (mainly for export) and of tertiary industries, particularly tourism. But all this can be set in motion by improvements in agriculture, where the immediate potentialities of increased production are very great" (Economic Development, 1958, p. 20).

Within agriculture stress was placed on increasing the productivity of grasslands, by substituting phosphatic fertilisers and introducing new permanent varieties of grass, and increasing the acreage under pasture to sustain a greater cattle stock (Chs. 6 and 7). According to FitzGerald (1968), Whitaker's policy of extending pasture even

---

* It was suggested elsewhere, Ch. 1 par. 19, in Economic Development that the expansion of the economy relied not only on the traditional sector, viz., Agriculture, Forestry and Fisheries, but also on manufacturing and on sections of the service sector, especially tourism. This is clearly in contrast to the inference drawn by R.D. Crotty on the same document that "... agricultural expansion was regarded as a sine qua non of future economic growth and, indeed, of the viability of Ireland as a political entity" (Irish Agricultural Production (1966), p. 192).
at the expense of tillage involved a reversal of the traditional policy of the Fianna Fail Government then in power.* It would be misleading, however, to give the impression that Economic Development relied on a single strategy or elixir for inducing changes in agriculture. It is in their attention to detail on specific problems (ranging from the treatment of bovine tuberculosis to the production and marketing of chocolate crumb) that most of the 130 pages of the section on agriculture are concerned.**

It inaugurated a discussion on the role of public expenditure and in particular on the different functions of the capital budget for the duration of the Programme. In this it accepted the dubious monetary criterion suggested in the Third Report of CIAC on productive and unproductive public investment. However, it attempted to qualify this by pointing out that:

"In the case of public investment, the term "productive" cannot be limited to investments yielding an adequate direct return to the Exchequer. It extends also to investment which enlarges the national income by creating a flow of goods and services which are saleable without the aid of subsidies" (Economic Development (1958), p. 3).

A major unrealised assumption of the First Programme was that the social component of public capital expenditure was likely to decline, in absolute terms, because of what the report deemed as the near saturation of certain social needs including subsidised housing.*** Yet despite this assumption

---

* cf. Planning in Ireland (1968), p. 34.

** On this point it may be noted that the incidence of bovine tuberculosis affected, approximately, 20 per cent of the cattle stock - on estimates given in Economic Development, Ch. 7, par. 25-30. According to Crotty (1970, p. 197) this was virtually eliminated, within five or six years after the intensive campaign called for by Dr. Whitaker's document.

*** cf. First Programme (1958), par. 3, p. 7. A similar opinion is also expressed in Economic Development (1958), Ch. 1, par. 9, namely, that: "... a slowing down of housing and certain other forms of social investment will occur from now on because needs are virtually satisfied over wide areas of the State". According to FitzGerald (1968) this view was somewhat ironic for early in the 1960s Dublin was facing a severe housing shortage because of the collapse or near collapse of numbers of dwellings. Moreover, as F. Kennedy's (1970) study revealed during 1958 there were 11,000 working class families on local authorities' lists awaiting re-housing.
which has been subsequently shown by F. Kennedy (1970) to have been erroneous, the First Programme was left sufficiently flexible to allow for an expansion of all components of public capital expenditure beyond its projected estimates. Table 4.2 summarises the projected estimates and actual expenditure of the growth of public capital expenditure for the course of the First Programme. Having endorsed the policies for encouraging foreign industrial investment and the repeal of legislation concerning foreign ownership of domestic firms Dr. Whitaker's study argued that the balance of payments constraint should be treated more liberally so that the strategy for growth would not have to be terminated prematurely (Chs. 3 and 4). It was a breakthrough for Irish fiscal policy at the time that the management of the external account was not sought as an end in itself but rather related to the strategy for growth and employment expansion. To this end the study declared "it may be that the balance of payments will go wrong temporarily, but, taking the five year period as a whole, fluctuations - both in external payments and in savings - may not push us off balance. This, at any rate, is a chance we should take and we should not be frightened by any manageable deficit in the balance of payments into restricting productive capital investment" (Economic Development (1958), p. 37).* As Table 4.3 shows the current balance of payments was mostly in the red for the duration of the First Programme but official reserves rose because of the inflow of foreign capital and the liquidation of part of the external assets.

It was the facility to embark upon a course of growth without major interruptions in the form of 'prudent fiscal correctives' 

* FitzGerald (1968) seems to be unaware of this point in Dr. Whitaker's argument for he maintained, p. 79, that an acceptance of an external payments deficit in pursuit of other objectives was first canvassed by the Second Programme.
Table 4.2
Projected and Actual Public Capital Programme, 1959-1964

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Building and Construction ......</td>
<td>11.56</td>
<td>15.22</td>
<td>13.22</td>
<td>15.02</td>
<td>15.20</td>
<td>13.97</td>
<td>17.02</td>
<td>13.07</td>
<td>21.94</td>
<td>12.50</td>
<td>78.94</td>
<td>69.78</td>
</tr>
<tr>
<td>Transport (1)</td>
<td>6.35</td>
<td>3.22</td>
<td>10.58</td>
<td>2.38</td>
<td>6.71</td>
<td>2.68</td>
<td>6.41</td>
<td>2.67</td>
<td>8.94</td>
<td>2.42</td>
<td>38.99</td>
<td>13.37</td>
</tr>
<tr>
<td>Agriculture, Forestry and Fishing ......</td>
<td>13.43</td>
<td>9.76</td>
<td>13.05</td>
<td>10.85</td>
<td>17.48</td>
<td>12.20</td>
<td>16.85</td>
<td>11.60</td>
<td>16.93</td>
<td>11.80</td>
<td>77.74</td>
<td>56.21</td>
</tr>
<tr>
<td>Industry and Industrial Credit ..</td>
<td>3.22</td>
<td>4.30</td>
<td>4.23</td>
<td>6.60</td>
<td>7.28</td>
<td>7.40</td>
<td>8.86</td>
<td>8.35</td>
<td>9.77</td>
<td>9.65</td>
<td>33.36</td>
<td>36.30</td>
</tr>
<tr>
<td>Fuel &amp; Power</td>
<td>7.45</td>
<td>6.74</td>
<td>7.40</td>
<td>6.88</td>
<td>7.68</td>
<td>7.16</td>
<td>11.25</td>
<td>5.74</td>
<td>15.26</td>
<td>5.30</td>
<td>49.04</td>
<td>31.82</td>
</tr>
<tr>
<td>Telephones</td>
<td>1.35</td>
<td>1.65</td>
<td>2.10</td>
<td>1.95</td>
<td>2.40</td>
<td>1.95</td>
<td>3.68</td>
<td>1.95</td>
<td>4.61</td>
<td>1.95</td>
<td>14.14</td>
<td>9.45</td>
</tr>
<tr>
<td>Miscellaneous (2)</td>
<td>0.73</td>
<td>0.80</td>
<td>0.69</td>
<td>0.81</td>
<td>1.87</td>
<td>0.45</td>
<td>1.03</td>
<td>0.60</td>
<td>1.05</td>
<td>0.85</td>
<td>5.37</td>
<td>3.51</td>
</tr>
<tr>
<td>Annual Total</td>
<td>44.09</td>
<td>41.69</td>
<td>51.27</td>
<td>44.49</td>
<td>58.62</td>
<td>45.81</td>
<td>65.10</td>
<td>43.98</td>
<td>78.50</td>
<td>44.47</td>
<td>297.58</td>
<td>220.44</td>
</tr>
</tbody>
</table>

Note: (1) Transport, here, includes Ports, Harbours and Airports.

(2) Miscellaneous includes Tourism and a small subvention to Radio Eireann.

A detailed description of the various services provided under each category is contained in Part III, pp. 62 - 82, of the Capital Budget (1964).

Source: Projected figures have been taken from Appendix II of the First Programme (1958) and the actual estimates from Table 5 of the Capital Budget (1964), Pr. 7600.
Table 4.3

Ireland's Balance of Payments
1959-163 (£m)

<table>
<thead>
<tr>
<th>Year</th>
<th>Balance of Trade</th>
<th>Balance of Invisibles</th>
<th>Current Balance of Payments</th>
<th>Changes in Official Reserves</th>
<th>Net Capital Inflow</th>
</tr>
</thead>
<tbody>
<tr>
<td>1959</td>
<td>-82.3</td>
<td>73.6</td>
<td>-8.7</td>
<td>4.4</td>
<td>13.1</td>
</tr>
<tr>
<td>1960</td>
<td>-73.8</td>
<td>73.0</td>
<td>-0.8</td>
<td>-0.3</td>
<td>0.5</td>
</tr>
<tr>
<td>1961</td>
<td>-81.8</td>
<td>83.0</td>
<td>1.2</td>
<td>14.6</td>
<td>13.4</td>
</tr>
<tr>
<td>1962</td>
<td>-100.2</td>
<td>86.8</td>
<td>-13.4</td>
<td>9.5</td>
<td>22.9</td>
</tr>
<tr>
<td>1963</td>
<td>-111.2</td>
<td>89.1</td>
<td>-22.1</td>
<td>2.9</td>
<td>25.0</td>
</tr>
<tr>
<td>Average 1959-163</td>
<td>-89.9</td>
<td>81.1</td>
<td>-8.8</td>
<td>6.2</td>
<td>15.0</td>
</tr>
</tbody>
</table>


that appears a positive change in the management of the economy after the publication of the First Programme. Indeed Kennedy and Dowling concluded in their study on Ireland's post-war economic performance that:

"After 1959 both exports and domestic expenditure contributed to a rapid rise in aggregate demand. The period 1959-168 in general exemplifies a much bolder approach to demand management and a greater willingness to take risks with the balance of payments in the determination to maintain a high rate of growth of aggregate demand" (Economic Growth in Ireland (1975), p. 232).

It may be counterargued that the above neglects the relatively slow growth of prices and industrial earnings and that this enabled expansion to have taken place. No doubt these may have been contributory factors yet even the depressed years, 1953-1958, preceding the period of rapid expansion were characterised by a
slow growth of industrial earnings and prices. That is what separates the five years preceding the introduction of the First Programme and the five years after is not a more moderate growth of incomes and prices for the latter period but rather the maintenance of buoyant aggregate demand via the growth of industrial output and exports complemented by increases in capital public expenditure. Perhaps it is this combination of events that led Professor Lynch to state that for that period Keynes had a greater influence on Irish economic policies than James Connolly.* Table 4.4 sets out, for the duration of the First Programme, the average percentage changes of certain economic variables, including the aggregate current and capital expenditure and the external account at constant prices, which in their totality describe the behaviour of GNP for the 1958-’63 period. A comparison of this Table’s last column with its equivalent for 1953-’58, given in Table 4.1, offers an estimate of the progress made. Such a comparison highlights the improvement made, particularly, in overall output, and within this, of investment, between the two sub-periods. In the case of real output, GNP at constant prices, a weak downward trend, averaging -0.3 per cent per year, for 1953-’58 was reversed to an annual growth rate of 4.5 per cent for the next five years. There was also a decline in investment, averaging -6.0 per cent annually, for the first sub-period which was converted to an increase, on average of 15 per cent per year for 1958-’63. Moreover, an examination of the individual rows of Table 4.4 reveals that the progress achieved for 1958-’63 was relatively free of fluctuations. That is there is a discernible steady pace of achievement for the intermediary period apart from the overall gains registered by comparing the index values of the variables between the base and terminal years. When disturbances did appear, e.g., a decline in investment between 1959 and 1960 and a small fall in exports during 1961-’62, they were relatively unimportant in comparison to the progress registered elsewhere so that, for the same calendar period...
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Expenditure on Consumers' Goods and Services</td>
<td>101.1</td>
<td>106.7</td>
<td>110.0</td>
<td>114.1</td>
<td>118.8</td>
<td>3.5</td>
</tr>
<tr>
<td>Public Authorities net Expenditure on Current Goods and Services</td>
<td>101.8</td>
<td>104.1</td>
<td>106.5</td>
<td>109.9</td>
<td>114.5</td>
<td>2.74</td>
</tr>
<tr>
<td>Gross Domestic Capital Formation</td>
<td>149.5</td>
<td>139.3</td>
<td>156.2</td>
<td>181.2</td>
<td>200.4</td>
<td>14.92</td>
</tr>
<tr>
<td>Exports of Goods and Services</td>
<td>101.7</td>
<td>114.9</td>
<td>134.6</td>
<td>133.4</td>
<td>146.2</td>
<td>7.89</td>
</tr>
<tr>
<td>Imports of Goods and Services</td>
<td>109.1</td>
<td>114.8</td>
<td>130.7</td>
<td>137.8</td>
<td>152.5</td>
<td>8.81</td>
</tr>
<tr>
<td>Net Factor Income from Abroad(1)</td>
<td>98.1</td>
<td>102.8</td>
<td>109.6</td>
<td>109.9</td>
<td>107.1</td>
<td>1.38</td>
</tr>
<tr>
<td>GNP at Constant Market Prices</td>
<td>104.3</td>
<td>109.7</td>
<td>115.1</td>
<td>118.9</td>
<td>123.8</td>
<td>4.36</td>
</tr>
<tr>
<td>GNP at Constant Market Prices and Adjustment for Terms of Trade</td>
<td>105.7</td>
<td>110.3</td>
<td>115.5</td>
<td>119.7</td>
<td>124.7</td>
<td>4.51</td>
</tr>
</tbody>
</table>

Note: 1. This category, whose main items are emigrants' remittances and net dividend and interest payments from abroad, is given separately here, whereas for Table 4.1 it was subsumed under 'exports' or 'imports'.

period, aggregate growth was maintained.

The expansion achieved between 1958-63 was far higher than the general expectations written into the First Programme. Dr. Whitaker noted that the annual growth of output between 1949 and 1956 was, on average, about 1 per cent and suggested that this could have been doubled if the strategy for expansion, outlined in his document, was followed.* In the event, the average annual growth of output, as shown by Table 4.4, was near 4.5 per cent. The divergence between Dr. Whitaker's expectations for growth and the actual outcome was subsequently used as a criticism of the 'loose methodology' followed by Economic Development. It is difficult, however, to sustain this particular criticism which has been made, inter alia, by FitzGerald (1968) and Norton (1973). As we have seen Dr. Whitaker argued that there was inherently a limited role for 'targets' in the First Programme given the commitment of the government to suasive means and the danger, at that time, of lapsing into further despondency if targets were not achieved. The main focus, therefore, was not on targets but rather that growth was possible on the assumption that the external account could have been interpreted more liberally by taking into consideration accumulated reserves and Irish foreign holdings. In addition a case was made for a greater reliance on the 'productive part' of the capital budget for maintaining aggregate demand together with further suggestions on the encouragement of manufacturing exports and private investment. Finally, given the experimental nature of the First Programme there may have been a deliberate policy of under rather than overestimating the potential for expansion so that the possibility of failure in the sense of 'non-achievement' of targets was reduced.

A second criticism raised against the First Programme was that its views on the role of the State and public finance were, in

general, too conservative. This criticism of the two documents is more difficult to rebuff directly. The following views expressed in Economic Development have provided ample material for such a contention by successive reviewers:

(i) The undesirability of creating jobs in general via public investment - Ch. 1, par. 8.

(ii) Its assertion that the housing and other infrastructure needs of the country were saturated - Ch. 1 par. 9.

(iii) Its treatment of capital as a fixed quantity, so that public borrowing would have deprived the private sector from productive investment - Ch.2, par.30, Ch. 24, par.2.

(iv) Its way of making investment, on occasions, the outcome of current saving - Ch. 2, par. 27, Ch. 4, par. 7-9.

(v) Its assertion that taxation was one of the greatest impediments to economic progress and its notion that social insurance and welfare benefits were disincentives to private saving - Ch. 2, par. 24, Ch. 3, par. 2-3.

(vi) Its implicit abhorrence of deficit current budgets and reluctance to stem outflow of investible funds from Ireland.

In retrospect, these appear particularly weak arguments for the situation of large scale unemployment and underemployment, and falling investment and output. Contrary to the views of the First Programme on the need to reduce social public investment the Kennedy and Dowling study on fiscal management of the economy, in the 1950s, concluded that "...the massive cut-back in public investment in 1957 and 1958 unnecessarily deepened and prolonged the depression in the economy" (Economic Growth in Ireland (1975), p. 246). The same study, far from seeing social and private investment competing for the same resources, doubted whether the investment acceleration in the post 1959 period could have been sustained without the unanticipated growth of infrastructural investment.
The categorical statements contained both in Economic Development and the First Programme about the short-duration and general undesirability of creating jobs with public capital expenditure has been questioned many times by commentators. What appears particularly contentious, given the depressed output and investment conditions, at that time, was the following:

"The jobs that can be created, to a limited extent, by public works have no lasting basis; they add nothing to the national output of saleable goods and services and can survive only as long as the works themselves last or other works, involving a similar redistribution of the community's income, are substituted for them. In any case, the capital available for public works of any kind is not unlimited and can be used for one purpose only at the expense of others. In a very real sense the direct provision of work on unproductive schemes prevents the provision of lasting and useful work in as much as scarce capital is used up for wasteful ends, the burden of taxation is made heavier, costs are raised and productive enterprises hindered and discouraged" (Economic Development (1958), p. 206).

Against a background of massive emigration and unemployment, falling investment and total output, and given that neither foreign reserves nor price rises could have been claimed to be the binding constraint, this proposal for further curtailment of public capital expenditure appeared, to some economists, remarkably shortsighted.*

The study also quotes at length and approvingly Professor Cairncross' views that enterprise was the 'nerve centre of the whole forward movement'. Moreover accumulation and infrastructural facilities are given in the subsequent paragraphs second place to entrepreneurial capacity and individual drive. That such a sharp distinction was made between, on the one hand, organisational ability, technological

* See Tait (1968), and Kennedy and Dowling (1975, Chs. 3 and 14) for a discussion of the Government's budgetary priorities and the balance of payments position for the 1952-1958 period. Both studies describe public policy for those years as primarily concerned with price stability and the balance of payments position which was in marked contrast to the brief period of fiscal expansion for 1949-1951. Though external reserves declined for some years, notably 1951 and 1955-56 (Kennedy and Dowling (1975) Table 15), the ratio of reserves to the imports bill was still very high by international standards.
progress and individual initiative and, on the other, capital accumulation and public infrastructural expenditure meant that the First Programme's attention was channelled in the direction of 'enterprise' individual inventiveness and the virtues of a market economy. Yet the situation, given the traditional form of the depression, demanded collective action and the First Programme was conceived as such a strategy.

Chapter 3 of Economic Development presents a polemical view of the disincentive effects of taxation with scant attention to the possible economic uses of such revenues. In its introductory paragraphs that chapter states:-

"High taxation is one of the greatest impediments to economic progress because of its adverse effects on saving and enterprise...... Unless our taxation is relatively light, this country can scarcely hope to attract foreign capital, enterprise and organisational competence. The way to stabilisation and eventual reduction of taxation clearly lies; (inter alia) ... in deferring further improvements in the social services and ... in keeping subsidies to the minimum. The positive objective of financial policy must be to arrive as quickly as possible at the point at which it will be possible to give the economy the tonic of a significant reduction, above all, in direct taxes on incomes, profits and savings... until unproductive outlay is reduced and resources are set free for productive enterprise by means of lower taxation we can hope for little in the way of economic progress."

Yet the standard rate of direct taxes, the share of this tax as a proportion of all taxes and the share of total taxes as a proportion of GNP was, at the time, lower in Ireland than in Britain - the report's favoured country for comparison.* Another piece of evidence left out of consideration by the First Programme was that the tax base in Ireland was small, partly because of the

government's policy of taxing agricultural incomes at a notional rather than an actual basis. This way of estimating the taxable income of farmers favoured the latter in two ways. The valuation was based on the rateable value of the land which on occasions was unchanged since the 19th century and second taxable income was reduced if it was found that the notional income exceeded actual income but not increased if vice versa. The Income Tax Commission also showed that the number of persons liable for income tax in 1960-1961 was estimated at 175,000 out of a total 1,112,000 at work - a large part of the discrepancy arising out of the exemption of farmers.* But the main reason why the First Programme's fiscal views appear arrogantly partisan is that there is no examination of the economic role of the government expenditure and glaring unawareness of the complementarity that exists between public and private investment especially in the Irish construction industry. Whether in view of subsequent events, i.e., the relative rise of both direct taxes and social public investment, the then government felt bound to the fiscal views expressed in the First Programme remains very doubtful.

By eliminating much of the detailed discussion, presented in Economic Development, on individual sectors the First Programme's views appear, in comparison, much more rigid. While the First Programme uses the rationale and conclusion of Economic Development it weakens its more substantative parts, dealing with the problems and possibilities within each sector. For example, the attempt of the First Programme to draw general conclusions in agriculture misses the specific policy suggestions of Dr. Whitaker about the production and marketing possibilities for individual commodities. Yet to a large degree the views and policies suggested by the two documents, which have provided a handsome sustenance for successive critics were inherited from other official documents and past economic strategies. The views on the largely unproductive nature of public expenditure can be found in the reports of the Capital Investment Committee and in previous statements by the Central Bank. Equally well the idea that infrastructural needs

The government's policy of taxing agricultural incomes at a notional rather than an actual basis. This way of estimating the taxable income of farmers favoured the latter in two ways. The valuation was based on the rateable value of the land which on occasions was unchanged since the 19th century and second taxable income was reduced if it was found that the notional income exceeded actual income but not increased if vice versa. The Income Tax Commission also showed that the number of persons liable for income tax in 1960-1961 was estimated at 175,000 out of a total 1,112,000 at work - a large part of the discrepancy arising out of the exemption of farmers.* But the main reason why the First Programme's fiscal views appear arrogantly partisan is that there is no examination of the economic role of the government expenditure and glaring unawareness of the complementarity that exists between public and private investment especially in the Irish construction industry. Whether in view of subsequent events, i.e., the relative rise of both direct taxes and social public investment, the then government felt bound to the fiscal views expressed in the First Programme remains very doubtful.

By eliminating much of the detailed discussion, presented in Economic Development, on individual sectors the First Programme's views appear, in comparison, much more rigid. While the First Programme uses the rationale and conclusion of Economic Development it weakens its more substantive parts, dealing with the problems and possibilities within each sector. For example, the attempt of the First Programme to draw general conclusions in agriculture misses the specific policy suggestions of Dr. Whitaker about the production and marketing possibilities for individual commodities. Yet to a large degree the views and policies suggested by the two documents, which have provided a handsome sustenance for successive critics were inherited from other official documents and past economic strategies. The views on the largely unproductive nature of public expenditure can be found in the reports of the Capital Investment Committee and in previous statements by the Central Bank. Equally well the idea that infrastructural needs

---

and especially housing were saturated appeared in the majority view of the Second Report of the Capital Investment Committee.* In fact, had the Minority Report of the Committee been accepted this would have led to an increase in housing expenditure which would have cushioned the then recession.** Finola Kennedy (1975) also demonstrated that contrary to the views expressed in the two documents on the increasing share of social expenditure in public investment this ratio had been declining throughout the 1950s.***

The study's view that foreign capital and enterprise were needed to complement the domestic pool of enterprise were the embodiments of legislation in the 1950s, including the Industrial Development Authorities Act (1950), Industrial Grants Act (1956) as well as the partial repeal of the Control of Manufacturing Acts of 1932 and 1934. Those acts prepared the ground for freer trade as well as repealing legislation concerning foreign ownership of Irish enterprise. Hence the views on the management of public finances, the unwelcome trends in public expenditure and the role of foreign capital were not conservative discoveries of Economic Development but rather the received doctrine and one which

* cf. Capital Investment Advisory Committee, Second Report (Pr. 4406), 1957. The main recommendations of the majority report were, par. 16-25, the abolition of the rent control acts, the reduction of new building to an 'economically justifiable level', and the reduction of public expenditure, both current and capital, on housing 'to the minimum level consistent with reasonable social requirements'.

** Significantly two of the criticisms raised by signatories of the Minority Report, were that the Majority Report "(5) Makes recommendations whose total effect would be damaging to the establishment of an expanding economy. (6) Fails to consider the steps which might usefully be taken to relate the housing programme to a capital investment programme designed to achieve an expanding economy" (Second Report (1957) p. 14).

*** cf. Finola Kennedy, Public Social Expenditure in Ireland (1975), ESRI Broadsheet No. 11, particularly, Table 2, p. 8.
reflected the Government's economic policy.*

What we are arguing here is not that the numerous criticisms of the First Programme on the treatment of public investment are not well based, rather that neither the First Programme nor Economic Development can be looked at in isolation or independently of the political beliefs of the Government and a series of economic measures and views promulgated throughout the 1950s. Above all the role of the government in the inauguration of the First Programme appears ambiguous. It sanctioned Dr. Whitaker's study but did not give it political support preferring its own interpretation in the form of the First Programme.** Furthermore, while refraining from giving direction about socio-economic priorities, it proceeded to saddle it with its previous commitments, e.g., of not interfering with the market and fiscal policies some of which appear, in retrospect, erroneous. Otherwise, it is difficult to explain how Dr. Whitaker's Economic Development having focussed on high unemployment, underemployment, falling output and investment and while asserting that past policies had failed proceeded to advocate them, in part, as the only strategies acceptable to official circles.

Several other differences marked Economic Development from the First Programme. Dr. Whitaker's study was intended "to help the preparation of a programme for economic expansion" in the event it became the First Programme shorn both of its detailed proposals and discussion. Within its overall strategy for growth the study did not offer a single prescription rather it offered a myriad of small changes especially with

* It is interesting to note that none of the above views on taxation, the management of the economy and on investment, expressed in Economic Development (1958) appeared contentious at the time. In a JSSISI (1958-1959) Symposium on Dr. Whitaker's study most of the discussion and dissension centred on agriculture. See, in this respect, the short papers or comments presented by L. Smith, J. Johnston and P. O'Keeffe.

** In this respect the publication of Whitaker's Economic Development (1958) bears some affinity to the Beveridge Report (1942) as both studies were first published under personal authorship to be followed, subsequently, by official interpretations. In the case of the Beveridge Report, according to Roy Harrod (1963), a reason for this was the reluctance by members of the then Coalition government to commit themselves to all the underlying principles and suggestions of the Report. cf. R. Harrod, The British Economy (1963), pp. 42-44.
regard to agriculture. In the First Programme, many of these disappear, to be substituted by more general prescriptions. Moreover, Whitaker's study, despite its views about the limited role of public investment and the saturation of social needs, did attempt to give the other view depicting public and private investment as complementary in times of depression (Economic Development Ch. 1 para. 8). Economic Development discusses the role of Trade Unions in a development programme, the need for a more flexible lending policy by banks to the farming community and how external assets could be used to supplement the domestic sources of investible funds. The first two issues are omitted from the First Programme and the question of external assets is narrowed down to a discussion of the official reserves but does not discuss external private investment (pp. 47-48, First Programme).

4.3

SUMMARY AND CONCLUSIONS

The First Programme (1959-63) was primarily the product of the Irish administration and in particular the work of Dr. T.K. Whitaker, the then Secretary of the Department of Finance. In this respect the origins of planning in Ireland differ from certain other European countries where the initiative was said to be, primarily, political.* Planning, in short, was neither the outcome of an ideological commitment of the major political parties nor the result of a wider and long standing debate on the scope of the State in managing a market economy. Dr. Whitaker's endeavours were stimulated, rather by the economic depression of the 1950s, the prospect for freer trade, including possible entry into the European Economic Community, and a perceived need to dispel the prevalent doubts concerning the future of the country.** In undertaking the study, Dr. Whitaker also pointed out that given the then impending visit of a World Bank Mission, it was an opportune


** Ireland's first application for EEC membership was in 1961. This was rejected a year later alongside the British application mainly because of opposition by the French. For a discussion on the negotiations at the time and possible grounds for the refusal of the Irish application, see P. Keatinge, The Formulation of Irish Foreign Policy, (1973), Ch. 8.
time to undertake an overview of Ireland's economic prospects.*

Though in Economic Development the high rates of unemployment and emigration were given as the proximate reasons for attempting a planning exercise, these phenomena were by no means new. The novel characteristic of the 1950s was that unemployment and emigration were on the increase and total output falling at a time when the rest of Europe was experiencing a period of expansion and high employment levels.

In launching Economic Development Dr. Whitaker emphasised, pp. 6 and 226, that his study was a contribution to the 'framing of a programme of national development'. In the event, this document provided the material for the First Programme. While the two documents are usually treated interchangeably, a number of differences separated them:

(i) The First Programme lacked the detailed analysis and many of the specific proposals for agriculture included in Economic Development.

(ii) The strategy for development argued in Economic Development and the stress placed on manufacturing output and exports was modified in the First Programme. For example the argument presented in Economic Development that the pivot for further employment expansion lay in manufacturing output and exports is not followed closely in the First Programme.

(iii) The suggestions in Economic Development for institutional arrangements relevant to the implementation of the programme, including the setting up of a planning review body and the involvement of trade unions, find no counterpart in the First Programme.**

In general, the brevity and simplifications characterising the First Programme diluted an avowed aim of Economic Development to break with

---


** cf. Economic Development (1958), Ch. 3, para. 14, and Ch. 24 para. 44.
some of the traditional economic policies.*

Although the government accepted the proposal of Dr. Whitaker and introduced the First Programme, within the same year, the political status of planning remained ambiguous. It is rather significant that the document was introduced not as a 'plan' but as a programme and was not tabled for discussion in the Dail.** Moreover, the intense adherence of Economic Development to 'pragmatism' or political neutrality meant that not only the First Programme but also its successors, the Second and Third, developed outside the locus of party politics. Initially, this was seen as a great merit of Irish planning for it was thought that the planning experts could carry out their functions free of partisan politics. Yet subsequently, with the abandonment of the Second and early obsolescence of the Third Programme, the arbitrary division between planning and the political process was no longer thought desirable. The relevance of this to the First Programme is that technocrats like Whitaker who initially sought to ensure that planning was free from political interference became, through time, more critical of the government for not giving leadership or commitment to the principles of the successive plans.***

* cf. Economic Development (1958), Ch. 1, para. 4.

** The First Programme was introduced by the last Fianna Fail Government to be headed by Mr. E. de Valera. To a large extent, Irish politics in the 1950s were still dominated by personalities and nationalist issues that could be traced back to the foundation of the State in 1922. Traditional differences on nationalistic issues (viz., the signing of the Treaty with Britain in 1922), according to Professor Chubb (1970) separated the two main parties to a far greater extent than any divergence on economic policy or planning.

*** Compare, for example, Dr. Whitaker's strong adherence to 'non-political' planning in Economic Development (1958) and the defence of the same principle, in "Merits and Problems of Planning", Administration, Winter 1964, with the unveiled criticism of the political process, and the government, for its lukewarm commitment to planning in "Planning Irish Development" ICTU, Summer Course, July 1976.
Both FitzGerald (1968) and Norton (1973) have been critical of the absence of specific objectives, e.g., regarding employment in the First Programme. The vagueness over specific objectives, however, could be interpreted more accurately as a constraint imposed by the political sphere rather than a technical weakness in the construction of the programme. It is interesting to note that this constraint was recognised at the time when the two documents were introduced. D. Nevin (1959), for example, though welcoming Economic Development as a major contribution noted the absence of government commitment to a specific employment target. Carter (1959) in response to the First Programme called for greater government involvement in investment decisions and in the generation of specific projects to reduce unemployment. In general, both commentators thought that the diffuseness or non-specificity of the First Programme was mainly a product of the government's own low commitment to specific objectives rather than to Dr. Whitaker's reluctance to offer quantitative targets. The decision, however, of the then government in not interfering with Dr. Whitaker's Economic Development did not imply, by any means, that planning remained unaffected by politics. On the one hand it imposed a number of constraints on the scope of planning in a market economy, yet on the other hand, it did not provide either an agenda for the state or a clear statement of its own economic commitments outside those limits. It was precisely this type of illusory neutrality that some economists, including Carter and Lynch, at the time, urged the government to abandon.*

Despite the constraints imposed on Dr. Whitaker in writing Economic Development, his message on the need for a new strategy for development

and the reorientation of fiscal policies were a breakthrough for Ireland. He did this by identifying the potential areas for growth and stressing that the stimulus of employment expansion lay within the manufacturing sector. In relation to fiscal policy he argued for more active use of the Capital Budget and suggested that, at times, a current deficit on the external account could be tolerated in pursuit of the employment objective. As he stressed "The aim should be not just to maintain a balance but to bring external payments into line at a higher level of employment and economic activity" (Economic Development (1958), para. 23, p. 16). While Dr. Whitaker's specific forecasts and prescriptions were, in some instances, open to question, he nonetheless laid the foundations that marked a new direction in economic strategy. One aspect of this was, as we have seen, the emphasis placed on aggregate demand, the role of public capital expenditure and on incentives for manufacturing activities and exports. Yet, an equally important element of his work was the attention paid to the domestic aspects of underdevelopment.* This was counter to the ideas held by a section of the community which interpreted most of Ireland's economic difficulties as externally induced and particularly the outcome of British interference.** Precisely because some of the economic problems were now seen as being internally generated it allowed a certain measure of optimism about the prospect of being able to deal with them. This optimism displayed by Economic Development 'against a background of profound gloom' was seen by Kennedy and Dowling as one of its chief merits.*** A more balanced way, therefore, for appraising these planning documents must focus, inter alia, on the strategy for development advocated (including the means for industrialisation) and on the positive role of the State in the management of the economy rather than on the scarcity or plethora of 'targets' which has preoccupied a number of contemporary economists.

* In the preface to his work, Dr. Whitaker posed the issue in unequivocal terms "After 35 years of native government people are asking whether we can achieve an acceptable degree of economic progress" (Economic Development) (1958), p. 5, para. 12).


Chapter 5: THE IRISH PLANNING EXPERIENCE, 1964 - 1972


This chapter deals with aspects of the organisation, including the formal methodology, and strategies pursued in the Second and Third Programmes.* The objective will be, in part, to trace the affinity between the First and latter Programmes and re-examine the alleged methodological breakthrough achieved by the Second Programme. A number of economic commentators, Donaldson (1966), FitzGerald (1968) and Norton (1973) as well as the administrators involved in the design of the Second and Third Programmes, interpreted the introduction of such methods, e.g., the iterative procedure, as the progressive sophistication and the coming of maturity of Irish planning.

It will be argued, to the contrary, that there were serious weaknesses in the theoretical premises of the iterative procedure, in particular concerning output and employment relationships, while the method was not geared to plan implementation. A detailed reappraisal of the methodology is warranted to isolate the procedures for setting 'targets', and their status for plan implementation, and to examine whether such techniques led to 'significant political implications' in committing the State to the execution of the plans.**

The exaggeration given to the possibilities offered by the new techniques went hand in hand with a neglect of important planning areas including its organisation, consultative procedures and means for implementation. While both Programmes stressed that there was an important connection between the growth of money incomes and prices, and that the output and employment targets of the plans

---


** See, G. FitzGerald Planning in Ireland (1968), p. 72, op.cit.
required considerable increase in investment, the organisation and criteria governing the wage bargaining process and the use of the investible surplus were determined outside the plans. In the field of industrial relations the McCarthy, O'Brien and Dowd (1975) study demonstrated that the institutional changes in wage bargaining procedures which were actively encouraged by the Government in the late 1960s had little to do with the then planning objectives.* The Industrial Development Authority which was effectively the most influential body in determining the composition and level of State aid to industry also operated outside the planning framework.

It may appear absurd at present, that a technique such as the iterative procedure was ever served as the means to enable the Government to decide its planning priorities without entering into a debate on such contentious areas as the strategy for expanding output, the norms and direction of income distribution, and on the role of domestic versus foreign induced capital accumulation. Yet a reading of the literature of that time suggests that these techniques were considered as impartial scientific substitutes for more political or controversial ways for deciding the relationship between planning objectives and planning means.** This attitude was reinforced by the format of the Second and Third Programmes which relegated the planning role of the State to that of an agent seeking to influence the economic environment in a way that was conducive to the fulfilment of market expectations. A basic

* W.E.J. McCarthy, J.F. O'Brien and V.G. Dowd, Wage Inflation and Wage Leadership in Ireland (1975) ESRI, Paper No. 79. The above is corroborated also by the C. Mulvey and J. Trevithick study "Wage Inflation and Wage Leadership in Ireland 1954-1969" (1972) where changes in money wages were explained in terms of key settlements in a small number of industries or trades while the rest of the non-agricultural workforce was linked to these by means of a 'comparability principle'.

** See, for example, the views expressed by FitzGerald (1968), Ch. 6 on "Genesis of the Second Programme" pp. 68-81. Similar views are also expressed by Donaldson (1966), particularly in Ch. 5 "Implementation of Program Goals for Industrialisation", pp. 70-88.
supposition in this, shared also by Meade's theory of indicative planning, is that market forces are inherently self-regulating and that they coincide with the objectives and aspirations of the planner. The role of the State, in such a scenario, is not to do the things that the market cannot do but rather to contain or remove extraneous disturbances, e.g., uncertainty, and complement the information at the disposal of individual market agents.* In this respect the Second Programme declared -

"A programme is an attempt to apply to the management of the nation's economic affairs the same foresight, organisation and determination as a competent and prudent person applies to the management of his own household and business... It is educative and indicative... The penalty - and it is no light one - involved by failure to reach a target is the slowing down both of individual and national progress" (Second Programme, Part I, p. 9).

If the following sections lean unduly on the side of a critique rather than covering in detail the factual content of the plans it is that the latter has not been the primary source of disagreement. It is our contention that by isolating the major methodological and strategic weaknesses of the last two Programmes, one can gain a better understanding of their disappointing progress and be able to make a contribution to the current debate concerning the prerequisites and priorities of future Irish plans. The next section is a brief review of some of the explanations offered to date for the casting aside of the Second and Third Programmes.

5.2 PLANNING SETBACKS, 1964-1972

Earlier commentators, by taking the methodological aspects of the Second and Third Programmes for granted, or by interpreting these as definitive progress over the First Programme were then bereft of any convincing explanation for the discardment of the plans. Such studies, usually, terminate with a description of the methodology

* For an early development of the distinction between an 'agenda' and 'non-agenda' for the State, together with an attempt to clarify the role of the Government in a market economy, see J.M. Keynes "The End of Laissez-Faire" (1926) reprinted in his Collected Writings, Vol. IX, pp. 272-294, 1972.
of the Second Programme or else pin the cause of failure on extraneous factors.* Two official explanations often quoted as responsible for the abandonment of the Second Programme were the non-fulfilment of the assumption about EEC membership and the non-cooperation of Government Departments. Neither explanation appears satisfactory. On the assumption of EEC membership the Second Programme states, Part 1, p. 10,

"It is impossible to predict when the way will be open to membership of the community but for the purposes of this programme it is assumed that Ireland will be in the community before 1970."

The vagueness of this statement together with the absence of further discussion would suggest that the Second Programme planners did not anticipate any immediate and direct benefits from EEC membership but rather that the benefits would have been in the form of preparing for freer trade conditions. It would seem that preparation for competitiveness within Europe rather than post entry gains could have been the expected benefit of the EEC assumption made in the Second Programme.** If 'post-entry' gain was crucial to the targets of the Second Programme, as the official Review of Progress (1964-'67) subsequently maintained, then the question arises as to why the planners made such an unrealistic assumption given that a few months prior to the inauguration of the Second Programme, in 1964, Ireland's application to the EEC was unconditionally rejected. The other factor that makes the EEC explanation a deus ex machina is that the Second Programme was abandoned in mid-term, by 1967, much earlier than that document's vague stipulation of the date for entry. In any event the Third Programme made the correct assumption on EEC membership, viz., no membership between 1969-1972, but fared no better, than its predecessor, in its achievement of its objective.


** NIEC also expressed the view that Ireland could not hope to benefit from EEC membership within the duration of the Second Programme. In its overall review of the Second Programme it states ".... it would seem that the target for agricultural output was too high, bearing in mind that at the time at which it was set there could have been little prospect that Irish agriculture would have been enjoying the full benefits of EEC by 1970 even if membership were in fact achieved towards the end of the nineteen sixties" (NIEC, Report 24 (1968) p. 7).
The second overall factor stressed by the Review of Progress 1964-1967 was that the Second Programme did not secure adequate cooperation from sections of the community. For example, in the chapter on 'Lessons of Experience' it states,

"National commitment to the programme was, however, not sufficiently complete to prevent the emergence of disruptive factors. Deviations between target and out-turn can be attributed in large part, therefore, to actions both in the public and private sectors that were out of line with the programme's objectives. This meant, in turn, that the internal consistency on which the programme was based, was not achieved in practice" (Review of Progress, 1964-1967, p. 30).

The sentiments voiced about the low cooperation of the public sector have also been reiterated by FitzGerald (1968), Norton (1973) and Kennedy and Bruton (1975). While there may be some validity in this criticism there is little direct evidence in the Second and Third Programmes concerning planning tasks for individual Departments. This is not to imply that the pivotal Departments, including Finance, Agriculture, Industry and Commerce and Local Government, acted in accordance with the plans. Rather, that in the absence of specifications or planning directives for the various Departments one has no yardstick by which to judge deviations from prescribed policy. It is also noteworthy that at no time did the official annual reviews for the Second and Third Programmes appraise individual Government Departments for their planning activities. Yet after the abandonment of the Second Programme the general statement was made attributing failure, in part, to the non-cooperation of the public sector. Even if one accepts, for the sake of argument, that individual Departments did operate either in an obstructive or random way towards the plans this does not exonerate the Government from its collective responsibility. The essence of the matter is not that the priorities and functional responsibilities of Departments may direct their activities outside the guidelines of a plan but rather that the Government validates this by letting sectional interests or immediate commitments take priority over the objectives of the plan. As Dudley Seers
commented in this respect,

"Perhaps the most important job of a planning office is to plan planning itself - to aim at the improvement of a government machine as an instrument of influencing social and economic development" (The Crisis of Planning (1972), Vol. 1, p. 33).*

It is precisely that such overhauling of the government machine was not deemed necessary for the implementation of these programmes that ex-post criticisms on the non-cooperation of the public sector appear not so much untrue but secondary. What the above explanations, in the official Reviews, share in common is that they exonerate both the organisation of the plans and their methodology from any subsequent difficulties. The general reluctance to appraise either the method by which targets were set or arrangements for implementation has left, in our view, one of the major weaknesses of Irish plans, viz. its methodology, unexplored.

What little we know, that is not included in the plans, is that the Second Programme (1964-’70) was abandoned in 1967 and the Third (1969-’72) was 'forgotten even before the ink was dry on the printed version'.** Since then there has been, surprisingly, little discussion as to why these plans fell into disfavour or what went wrong in the planning process. Unlike Dr. Whitaker, the architect of the First Programme, who wrote extensively on the aspirations and problems of that document the authors of the Second and Third Programme kept, after the event, silent. The Government which did not hesitate to bask

*A similar point was made repeatedly by NIEC, Economic Planning (1965, p. 15) and Comments on Second Programme Review (1968, p. 14) for Ireland. Yet as NIEC was to observe, Report 24 (1968) pp. 12-16, little was accomplished for the duration of the Second Programme either by way of an appropriate consultative machinery for setting targets or for reviewing sectoral progress in the economy.

commented in this respect,

"Perhaps the most important job of a planning office is to plan planning itself - to aim at the improvement of a government machine as an instrument of influencing social and economic development" (The Crisis of Planning (1972), Vol. I, p. 33).*

It is precisely that such overhauling of the government machine was not deemed necessary for the implementation of these programmes that ex-post criticisms on the non-cooperation of the public sector appear not so much untrue but secondary. What the above explanations, in the official Reviews, share in common is that they exonerate both the organisation of the plans and their methodology from any subsequent difficulties. The general reluctance to appraise either the method by which targets were set or arrangements for implementation has left, in our view, one of the major weaknesses of Irish plans, viz., its methodology, unexplored.

What little we know, that is not included in the plans, is that the Second Programme (1964-'70) was abandoned in 1967 and the Third (1969-'72) was 'forgotten even before the ink was dry on the printed version'.** Since then there has been, surprisingly, little discussion as to why these plans fell into disfavour or what went wrong in the planning process. Unlike Dr. Whitaker, the architect of the First Programme, who wrote extensively on the aspirations and problems of that document the authors of the Second and Third Programme kept, after the event, silent. The Government which did not hesitate to bask

---

* A similar point was made repeatedly by NIEC, Economic Planning (1965, p. 15) and Comments on Second Programme Review (1968, p. 14) for Ireland. Yet as NIEC was to observe, Report 24 (1968) pp. 12-16, little was accomplished for the duration of the Second Programme either by way of an appropriate consultative machinery for setting targets or for reviewing sectoral progress in the economy.

In the popularity of the First Programme, and seek credit for the economic prosperity that accompanied it, did not deem it relevant to comment on the ill-fortune of the latter two and the then Opposition did not view it necessary to seek a Dail debate.* Finally, NIEC which remained optimistic that some of the weaknesses which led to a premature termination of the Second Programme could have been rectified in the Third was itself disbanded in 1971 before preparing its verdict on what went wrong with the Third Programme.

The element of bureaucratic self-interest in the adoption of a narrow framework for reviewing the progress of the plans must not be overlooked in all this. Since the Department, viz., the Department of Finance, charged with reviewing the plans was also the one responsible for drafting the plans, it was unlikely that its major concern, at the review stage, would have been to expose the methodological and implementational weaknesses of the plans. The primary functions of the official annual reviews of the Second and Third Programmes were simply to update data and record the shortfall of outcomes to targets, irrespective of whether or not the original assumptions underlying the projections were valid and much after the plans ceased to be guidance for policy. The absence of a planning debate at the time was less of a conspiracy of silence, as it may appear in retrospect, and more the outcome of the low political status of planning coupled with the acceptance of a planning methodology that left the questions of choice of objectives and plan implementation

* Professor Meenan notes in this respect, "it is remarkable, to take one example, that the Dail did not find time to debate either the First Programme in 1958 or its successor in 1963. If memory serves, Mr. Lemass (the then Prime Minister) actually deprecated a suggestion that the Second Programme should be reviewed by the Oireachtas. It is even more remarkable that neither of the opposition parties pressed for a debate" The Irish Economy (1970), p. 387.
unanswered.* Moreover the unquestioning acceptance, by Government
and Opposition alike, of the framework of the Second and Third
Programmes meant that their abandonment limited official comment
to broad generalisations about the plans being a prey to sectional
selfishness and non-cooperation.** Yet the whole essence of
the pragmatism of the Second and Third Programmes was the assumption
that its implementation was based on the self interests of the economic
agents in the market. The reduction of market uncertainty
was a central objective and planning and forecasting, as in Meade
(1971), were terms used interchangeably. This, it may be stressed,
was not only the theoretical justification for planning offered
in the Second and Third Programmes but also the line of reasoning
accepted by a number of Irish economists favourable to planning.***

There is an unresolved contradiction, however, between the theoretical
rationale of purely indicative planning, viz., helping the
self-interests of economic agents by curtailing uncertainty, and
the practice of attributing the failure of indicative plans on the
selfishness or non-cooperation of individuals or groups in the
market. For if an indicative plan is offered in the spirit that
its purpose is to be an adjunct to the market then its rejection
ought to be interpreted as an indication that the market did not
find it helpful. If the market is the judge of the goodness
of a plan then a rejection of that plan is no more selfish than its
acceptance. In this light the non-realisation of the planning

---

* Whatever differences may have existed between the two major
parties over the economic management of the economy, they were
not at the time over the planning format or the means for
implementation. To this end see, for example, "Political
Culture and Cleavages", pp. 42-60, in B. Chubb The Government
and Politics of Ireland (1970), and "The Role of Planning in

** A most recent example of how the myth persists that the
weakness of the Irish planning process is simply the existence
of unruly minorities in the market is given in the discussion
paper Economic and Social Development 1976-'80, (Prl. 5758, 1976).

*** See, for example, Lynch (1963), Whitaker (1964), Donaldson (1966),
FitzGerald (1968), Chubb and Lynch (1969) and Dowling (1975).
forecasts or indicative targets is not so much that the market, through sectional interests, has let down the plan but rather that the planners misjudged the potentials of the market. The implication of all this is that commentators that cannot conceive the existence of plans on criteria other than what is acceptable to the market have no right, in logic, to moralise about the sectional greed existing in the market when the plans fail.

5.3 TARGETS AND REVIEWS OF THE PLANS

Given the wealth of information already existing it would be pointless to dwell at great length on the planning targets and economic expansion that occurred for the duration of the Second and Third Programmes. A factual account of 'targets' and 'outcomes' is presented, inter alia, by the annual progress reviews of the Department of Finance, by NIEC Reports, and more recently elsewhere.* The official commentaries paint a rather dismal picture of planning, since none of the main output and employment targets were achieved, and while they eschewed discussion of the methodology and policy measures, followed by the Second and Third Programmes, draw conclusions on the usefulness of planning by a simple comparison of targets with observed data. Such studies, however detailed, harbour an overriding assumption.

Namely, that a comparison of planning targets and observed data is, without discussion of the policy input of the specific Programme, legitimate in the sense that observed economic performance can be traced to the plans. The ambiguous status of both targets and planning instruments within the realm of a purely indicative framework have been discussed elsewhere in the thesis.

* Department of Finance, Progress Report for 1964 and 1965 (Pr. 8244 and Pr. 8703) also Reviews and Outlook 1969 to 1973 (Prl. 1788, Prl. 2357 and Prl. 3090) and NIEC, Comments on the Department of Finance Reviews of Progress 1964 to 1967 (Reports 7 (1965), 13 (1966) and 20 (1967)). Other commentators reviewing the performance of the economy for the duration of the plans are McGilvray (1968), FitzGerald (1968) and Norton (1973).
It may be noted, at this point, that the targets are often derived from market outlook, usually after consultations or surveys of producers' intentions, while the policy means, whether information flows or fiscal incentives are not exclusive to the plan. What separates a 'planned' period from a 'non-planned' period in an indicative framework aimed at influencing the market, by suasive means, is not at all self-evident. Yet the official reviews conduct the ex-post comparisons of targets with observed data as if the connection is causal. There are two missing links in the official reviews of the Second and Third Programmes. First, there is no explanation of how the measures used for the duration of the plans differ from the measures that would have been used in the absence of those programmes and, second, how in fact the observed performance can be attributed to those measures. These questions are relevant for those studies that explicitly wish to evaluate the contribution of Irish planning within the narrow framework of given 'targets' and observed performance which is termed 'outcome'. The focus of this section is only tangental to the above. It is rather to combat the prevailing view readily drawn from such documents that the Second and Third Programmes have been a failure because no progress was made.

It is worthwhile before proceeding to examine the methodology of the plans to briefly contrast the main objectives and progress achieved for the duration of the Second and Third Programmes. Tables 5.1 and 5.2 present the sectoral economic performance in terms of output, employment and productivity for 1964-'67 and again for 1969-'72.* Even though the shortfall between plan expectations and performance held without exception for the duration of the Second Programme and for many objectives of the Third, one must not be oblivious of the progress that was achieved. It must be stressed that the economic performance recorded for

* Additional indices on macro-economic performance for these sub-periods are given in Appendix B, Tables B1 and B2.
# TABLE 5.1

**SECTORAL ESTIMATES AND PROJECTIONS FOR THE DURATION OF THE**

**SECOND PROGRAMME, 1964 - 1967 (Average Annual % Changes)**

<table>
<thead>
<tr>
<th>SECTOR</th>
<th>Employment</th>
<th>Productivity</th>
<th>Product - GDP at factor cost (1958 Prices)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Projected</td>
<td>Actual</td>
<td>Projected</td>
</tr>
<tr>
<td>Agriculture, Forestry and Fishing...</td>
<td>-1.5</td>
<td>-3.1</td>
<td>+5.3</td>
</tr>
<tr>
<td>Industry...</td>
<td>+2.8</td>
<td>+0.9</td>
<td>+4.1</td>
</tr>
<tr>
<td>Services...</td>
<td>+1.8</td>
<td>+1.2</td>
<td>+1.8</td>
</tr>
<tr>
<td>Total (1)</td>
<td>+1.0</td>
<td>-0.2</td>
<td>+3.9</td>
</tr>
</tbody>
</table>

**Note:**
(1) Projected and Actual GNP, at factor cost, were respectively 4.3 and 2.9 per cent annually for 1964-67. The difference between this and the set of GDP figures shown in the Table is accounted for by a 'better than expected' inflow of net foreign income. In the Second Programme (Table 1a, p.298) net foreign income was expected to fall annually by 9.4 per cent when in fact it rose, on average, by 3.4 per cent.


# TABLE 5.2

**SECTORAL ESTIMATES AND PROJECTIONS FOR THE DURATION OF THE**

**THIRD PROGRAMME, 1969 - 1972 (Average Annual % Changes)**

<table>
<thead>
<tr>
<th>SECTOR</th>
<th>Employment</th>
<th>Productivity</th>
<th>Product - GDP at factor cost (1968 Prices)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Projected</td>
<td>Actual</td>
<td>Projected</td>
</tr>
<tr>
<td>Agriculture, Forestry and Fishing...</td>
<td>-3.0</td>
<td>-3.6</td>
<td>+5.1</td>
</tr>
<tr>
<td>Industry...</td>
<td>+2.5</td>
<td>+0.2</td>
<td>+3.9</td>
</tr>
<tr>
<td>Services...</td>
<td>+1.2</td>
<td>+0.9</td>
<td>+2.1</td>
</tr>
<tr>
<td>Total</td>
<td>+0.4</td>
<td>-0.5</td>
<td>+3.8</td>
</tr>
</tbody>
</table>

**Source:** Third Programme, pp.234-235; National Income and Expenditure (1972) and Trend of Employment and Unemployment (1975)
### TABLE 5.1

SECTORAL ESTIMATES AND PROJECTIONS FOR THE DURATION OF THE
SECOND PROGRAMME, 1964 - 1967 (Average Annual % Changes)

<table>
<thead>
<tr>
<th>SECTOR</th>
<th>Employment</th>
<th>Productivity</th>
<th>Product - GDP at factor cost (1958 Prices)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Projected</td>
<td>Actual</td>
<td>Projected</td>
</tr>
<tr>
<td>Agriculture, Forestry and Fishing...</td>
<td>-1.5</td>
<td>-3.1</td>
<td>+5.3</td>
</tr>
<tr>
<td>Industry...</td>
<td>+2.8</td>
<td>+0.9</td>
<td>+4.1</td>
</tr>
<tr>
<td>Services...</td>
<td>+1.8</td>
<td>+1.2</td>
<td>+1.8</td>
</tr>
<tr>
<td>Total (1)</td>
<td>+1.0</td>
<td>-0.2</td>
<td>+3.9</td>
</tr>
</tbody>
</table>

Note: (1) Projected and Actual GNP, at factor cost, were respectively 4.3 and 2.9 per cent annually for 1964-1967. The difference between this and the set of GDP figures shown in the Table is accounted for by a 'better than expected' inflow of net foreign income. In the Second Programme (Table Ia, p.298) net foreign income was expected to fall annually by 9.4 per cent when in fact it rose, on average, by 3.4 per cent.


### TABLE 5.2

SECTORAL ESTIMATES AND PROJECTIONS FOR THE DURATION OF THE
THIRD PROGRAMME, 1969 - 1972 (Average Annual % Changes)

<table>
<thead>
<tr>
<th>SECTOR</th>
<th>Employment</th>
<th>Productivity</th>
<th>Product - GDP at factor cost (1968 Prices)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Projected</td>
<td>Actual</td>
<td>Projected</td>
</tr>
<tr>
<td>Agriculture, Forestry and Fishing...</td>
<td>-3.0</td>
<td>-3.6</td>
<td>+5.1</td>
</tr>
<tr>
<td>Industry...</td>
<td>+2.5</td>
<td>+0.2</td>
<td>+3.9</td>
</tr>
<tr>
<td>Services...</td>
<td>+1.2</td>
<td>+0.9</td>
<td>+2.1</td>
</tr>
<tr>
<td>Total</td>
<td>+0.4</td>
<td>-0.5</td>
<td>+3.8</td>
</tr>
</tbody>
</table>

Source: Third Programme, pp.234-235; National Income and Expenditure (1972) and Trend of Employment and Unemployment (1973)
the duration of the Second and Third Programmes compares favourably with the growth rates achieved during the 1950s and is at least as satisfactory as the progress achieved in the post planning period. It can be argued that on these criteria the two Programmes were not an abject failure, as suggested recently, but rather that the progress was very uneven. As noted earlier, the most conspicuous failure was the stagnation in total employment, while most other indicators, e.g., output, investment and consumption, and in particular the ones affecting the working population registered some progress. A serious underestimate in both Programmes was the projected labour outflow from agriculture which nullified the modest employment gains obtained in industry and the service sector. In addition, as chapters 7 and 8 suggest, there was a more subtle factor at work affecting the quantitative relationship between industrial output expansion and employment growth. During the latter part of the 1960s the relationship between the growth in industrial output and employment was altering in such a way so that, overall, for a given output growth the gains in employment were relatively smaller than in earlier decades. Thus despite the significant growth in industrial output, for both sub-periods, employment creation was not as expected partly because of a shift to productivity gains.

It is instructive to note that such an exercise, consisting of data collection at the beginning and end of the programmes, cannot settle the argument whether indicative planning in Ireland constituted success or failure. What it does show is that progress, employment apart, was achieved but was not as good as expected. These expectations, expressed in the plans as targets, reflected the planners' views on how the economy, both the private and public

* The increasing predominance of productivity gains in the growth of industrial output, since the second half of the 1960s, was by no means confined to Ireland. To this end, see for example, the evidence presented by T.F. Cripps and R. J. Tarling (1973), Appendix 3 pp. 45-56, for a sample of twelve OECD countries.
the duration of the Second and Third Programmes compares favourably with the growth rates achieved during the 1950s and is at least as satisfactory as the progress achieved in the post planning period. It can be argued that on these criteria the two Programmes were not an abject failure, as suggested recently, but rather that the progress was very uneven. As noted earlier, the most conspicuous failure was the stagnation in total employment, while most other indicators, e.g., output, investment and consumption, and in particular the ones affecting the working population registered some progress. A serious underestimate in both Programmes was the projected labour outflow from agriculture which nullified the modest employment gains obtained in industry and the service sector. In addition, as chapters 7 and 8 suggest, there was a more subtle factor at work affecting the quantitative relationship between industrial output expansion and employment growth. During the latter part of the 1960s the relationship between the growth in industrial output and employment was altering in such a way so that, overall, for a given output growth the gains in employment were relatively smaller than in earlier decades. Thus despite the significant growth in industrial output, for both sub-periods, employment creation was not as expected partly because of a shift to productivity gains*.

It is instructive to note that such an exercise, consisting of data collection at the beginning and end of the programmes, cannot settle the argument whether indicative planning in Ireland constituted success or failure. What it does show is that progress, employment apart, was achieved but was not as good as expected. These expectations, expressed in the plans as targets, reflected the planners' views on how the economy, both the private and public

* The increasing predominance of productivity gains in the growth of industrial output, since the second half of the 1960s, was by no means confined to Ireland. To this end, see for example, the evidence presented by T.F. Cripps and R. J. Tarling (1973), Appendix 3 pp. 45-56, for a sample of twelve OECD countries.
sector, would perform given a specific methodology and a number of assumptions about the interaction of the variables and the implementation procedures. The suitability of indicative plans cannot be judged from the performance angle alone if neither the methodology for choosing targets nor the implementation procedures are examined. Even more inadmissible are the procedures followed by the official annual reviews of the plans.* In these reviews neither the original targets nor methodology of the plans are examined for weaknesses and the analysis is little more than a factual account about the divergence between actual performance and plan expectations.

The NIEC Report (1968) Comments on Second Programme Review of Progress recognised that,

"Only in the case of the industrial sector, however, were the programme's targets publicly reviewed and revised to take account of changing circumstances. All the other targets in the programme were left at their original levels. This meant that some targets were retained after it had become clear that the assumptions on which they had been based would not be fulfilled and that the others remained unchanged even after it had become clear that they had been set at an unrealistic level. As a result, the gap between target and performance in some cases widened to such an extent that the targets ceased to provide a useful framework for present actions" (NIEC Report 24 (1968) p. 12).

Despite this warning by NIEC, which was emphatically offered in the section on "Some Lessons for the Future", the suggestion was not taken up by the subsequent annual reviews for the Third Programme. It is for these reasons that the exclusive concentration on planning targets and performance, which has been the norm of official planning reviews, at the expense of appraising the method that generated the original targets and the means of implementation, has proved counter-productive. The outcome,

* Department of Finance, Progress Reports for the Second Programme, and the annual Reviews and Outlook for the Third Programme.
as we have seen, has been to blame the abandonment of the plans on unspecified selfish interests or else place the causes totally outside the control of Irish society. Before reaching such deeply pessimistic conclusions which, while heightening individual bewilderment, do little to reduce public apathy, it is worth re-examining the methodological goodness that was said to characterise the Second and Third Programmes.

5.4 THE ITERATIVE PROCEDURE

The main elements and workings of the iterative procedure are described below. The sources for this formalisation are the methodological appendices of the Second and Third Programmes for Economic Expansion.* As an ex-post system of sectoral relationships the method can be summarised in the following manner:-

\[ Q_A + Q_S + Q_I = Q \quad \ldots (1) \]

Where \( Q \) is the average annual growth of output and the subscripts \( A, S \) and \( I \) refer to the weighted output contribution in percentage terms by Agriculture, Services and Industry respectively.

Two other subsidiary relationships referring to the sectoral contributions in terms of employment and productivity are similarly specified by the method.

\[ E_A + E_S + E_I = E \quad \ldots (2) \]

and

\[ P_A + P_S + P_I = P \quad \ldots (3) \]

* Second Programme, Part II, Appendix 5 and Third Programme Appendix D, op. cit.
Where the E and P with subscripts are the weighted contributions to total Employment (E) and Productivity (P) respectively by Agriculture, Services and Industry.*

Moreover,

\[ P + E = Q \quad \ldots (4) \]

That is the growth of total output \( (Q) \) is equal to the growth of Productivity \( (P) \) and Employment \( (E) \) defined appropriately for national accounts purposes with the terms deflated by a price index to make them comparable to the rest of the macro economic variables used in the plans. In this respect most of the macro economic variables used in the Second Programme are in terms of 1960 prices while the price deflators for the Third Programme are for 1968 prices.**

For each individual sector the same relationship is postulated so that,

\[ P_A + E_A = Q_A \quad \ldots (5) \]
\[ P_S + E_S = Q_S \quad \ldots (6) \]
\[ P_I + E_I = Q_I \quad \ldots (7) \]

Where the main symbols and subscripts are defined as previously.

Further disaggregation is possible, for as it has been noted in the plan an attempt was made to estimate the individual growth of output, productivity and employment for the sixty industrial

---

* Since at this stage we are only concerned with the formal summary of the iterative method as described in the plans we will postpone comments on the alleged independence of employment and productivity from output growth or on the meaning of productivity for the service sector.

categories for which statistics were collected by the Irish Census of Industrial Production (CIP).* In terms of the above notation this can be expressed as

\[ \sum_{i=1}^{60} q_i = \sum_{i=1}^{60} (p_i + e_i) \quad \ldots \quad (8) \]

Where \( i = 1 \ldots 60 \) refers to the weighted contribution of each of the sixty individual industrial categories identified by CIP and the rest of the symbols are as previously defined.

These, in outline, are the elements and relationships postulated by the iterative method which formed the methodological basis for the Second and Third Programmes as well as NIEC's Report on Full Employment (1967). There are four questions regarding the methodology of the Second and Third Programmes, and in particular the iterative method, which were treated rather unsatisfactorily by the planners:

(a) Were there any postulated relationships concerning output, employment and productivity considered by the planners?

(b) On what criteria were the specific values, or what the Programmes labelled 'targets', chosen for the aforementioned variables?

(c) What policy instruments were specified for the achievement of the 'targets'? Furthermore, which of those policy instruments were endogenous and which exogenous to the plans?

(d) The primary virtue of the iterative procedure is said to be the consistency that it maintains between the aggregate and sectoral values. How is such consistency effected?

The treatment of these questions by the methodological appendices of the two Programmes is dealt with in the remainder of this section. The numerical illustrations, e.g., the choice of aggregative values and their sectoral disaggregation, are mostly drawn from the Second Programme which is the more explicit of the two on the use of the iterative procedure for deriving the plan's targets.

As the Second Programme states the iterative method proceeds by successive approximations. The initial projections are in terms of such aggregates as the growth of output and productivity, on an economy-wide basis, and then a more detailed breakdown by sector is attempted. The purpose of the exercise is to obtain a profile of the economy at some future date in terms of a set of predetermined indicators, e.g., the variables stipulated in identities 1 to 7 above. For the Second Programme three growth rates of total output, 3, 5 and 7 per cent per annum, were said to be considered and eventually a 4 per cent growth rate "emerged as the highest rate which seemed possible in the light of the limitations imposed by the availability of internal and external resources" (Second Programme, Part II, p. 309).* In fact these limitations alluded to in the methodology as the criterion of choosing the target growth rate of overall output are not explicitly discussed in the text of the Second Programme. Instead what was argued by the planners was that the Second Programme "will have as its chief objective the raising of the real income of the community by 50% in the 1960s in line with the collective target of the OECD".

* The time period of the projections offered in the methodological appendix of the Second Programme is for the whole decade, 1960-70, while the duration of the Programme was 1964-70. Thus, all the values quoted for the Second Programme here pertain to 1960-70 as given in the text and tables of Appendix 5. The difference made to the projected growth rates by changing the base date from 1960 to 1964 is summarised in the seven tables of Appendix 1, Second Programme, Part II, pp. 298-300.
What is not clear in the Second Programme is whether the OECD target was accepted as a guideline for the plan, as the previous quote would suggest, or whether the chosen target viz., 4.14 per cent per annum happened to coincide with the OECD rate.*

Given the choice of output growth, expressed in increases of real GNP, the next issue faced by the planners was how to apportion this in terms of employment and productivity growth. This question is again settled in an inadequate and mechanistic manner by the planners. The range of potential increases in the labour force is given between zero and two per cent per annum with seven intermediary projections on a rising scale of 0.25 (i.e., 0, 0.25 .... 2.00).*** Then for each value of labour supply there is a complement value for productivity so that the overall growth of output, viz., 4.14, is approximately maintained. For example, when the growth of labour supply is projected as zero the required growth of productivity is 4.2 per cent per annum, when the labour supply is assumed to increase by one per cent then the required growth of productivity is 3.2 per cent per annum and, finally, when the growth of the labour force is given as two per cent per annum the required productivity growth is 2.2 per cent per annum. This is a simple rearrangement of relationship (4) \((Q = P + E)\), where given \(Q\) as 4.12 and stipulating different values for \(E\), between zero and two, then \(P\) is residually determined.

There are two glaring omissions in the plan at this stage. Given that the increase of the labour supply will not lead, ipso facto, to similar increases in employment there is no discussion

---

* A fifty per cent increase for a decade is equivalent to a 4.14 per cent annual compound growth rate.

** Norton's opinion was that the OECD collective target was assumed at an early stage and the bulk of the subsequent methodological work in the Second Programme was merely a search for plausible growth rates consistent with the overall increase (Norton (1975), p. 15).

*** These potential increases of labour supply are given in Appendix 5, Part II, Table 1, p. 328 of the Second Programme.
of how the planners propose to effect the necessary changes in employment. More particularly there is not even an awareness of the possibility that the mix of policy instruments that may be appropriate for inducing a modest growth of employment may not be suitable when the labour force is expanding much faster. In other words the policy instruments that can be used for job creation when the growth of the labour force is a modest 0.25 per cent per annum are unlikely to remain intact when the rate is 2.0 percent per annum. While both rates of growth of labour supply were shown by the projections as equally likely it is surprising that the implications of these rates on the required policy instruments were not considered. The second omission is the absence of any discussion on the interdependence between productivity and employment. The question relevant here is as follows. Given that the output growth target has been agreed, is any combination between employment and productivity equally likely with any other? The projections carried in the course of the methodological work for the Second Programme give an affirmative answer to this question. The estimates in the plan are constructed on the assumption that for a given growth rate of output (viz. 4.14 per cent per annum) any employment and productivity configuration is as likely as any other. Thus, the combination of an approximately equal growth of the labour force and productivity is deemed to be as likely as no growth of the labour force and maximum growth of productivity in an invariant growth of output. The planners do not discuss the basis for this assumption. Without digressing much further it is worth pointing out that the relevant evidence for the post-war show that the combinations of productivity and employment shares in the growth of output are not random.* Invariably, the share of productivity growth exceeded the growth of employment, in the attained overall growth of output, and this discrepancy widens for recent sub-periods.

* See, for example, K.A. Kennedy, Productivity and Industrial Growth: The Irish Experience (1971), particularly chs. 1 and 2 which surveys the relationship between output and productivity both in the aggregate and separately, for the industrial sector. Further evidence on the recent, last decade, changes in the empirical relationship between the growth of manufacturing output and employment is presented in ch. 7 of this thesis.
In other words, the post-war historical trend has been for productivity growth to predominate in Irish output growth and this predominance is more evident in recent years. Thus the planners of the Second Programme not only failed to make clear what was their working hypothesis or framework for viewing output and productivity relationships but by their mechanical use of the iterative procedure consistent combinations of employment and productivity projections were obtained that were not in accord with reality.

The prospect of freer trade and the probable growth of overall productivity for OECD members are used by the planners to determine the desired overall growth of productivity for Ireland. The whole issue of overall productivity growth for the duration of the Second Programme is disposed of by the following two sentences.

"The prospect of freer trade during the 1960s meant that it was desirable that the rate of productivity increase here should be rather higher than in the countries from which might come the imports with which our industries would have to compete. The information which was then available about the probable development of output per person in the main OECD countries during the period to 1970 suggested an annual average increase in productivity of at least 3% per annum should be looked for in Ireland" (Second Programme, Part II, Appendix 5, p. 311).

How this desirable growth rate of productivity was to be achieved is again left an open question by the planners. In terms of the requirements of the iterative procedure, employed by the planners, the steps followed were:

Specify an expected growth of real output and then estimate a desirable growth of overall productivity so that the competitive position of Ireland with respect to the rest of the OECD countries would not deteriorate (Second Programme, Appendix 5, pp. 308 - 311, and Third Programme, Appendix D, pp. 242 - 244).
Hence where \( Q = P + E \)
and \( \bar{Q} = 4.2 \)
\( \bar{P} \geq 3.0 \)
then \( E \leq 1.2 \)

Where \( Q, P \) and \( E \) are defined as the aggregate average annual growth rates for Output, Productivity and Employment respectively and a hyphen (–) at the top of the symbol meant that the variable was exogenously determined.

The rate of growth of Employment (\( E \)) was then found residually as the difference between the growth of Output (\( Q \)) and Productivity (\( P \)). A major weakness of the use of the iterative procedure at this stage is that while \( Q \) is offered as the expected growth of Output and \( P \) as the desirable growth of Productivity, the values generated by the method are used simultaneously in the same expression, \( Q = P + E \), so as to determine 'the growth of employment'. But what is the status of the employment projections thus generated? They neither express the expected rate nor the desirable rate of growth, but simply a residual hybrid after expected increases in output and desirable increases in productivity have been settled. Thus employment expansion which in the preamble of the Programmes was to be a major objective appears in the formal methodology a residual outside the scope of the plans. Yet even within the iterative procedure an alternative was open to the planners that would have reflected the primacy of the employment issue. This could have been done if (instead of using a predetermined value for the growth of output with fully variable employment and productivity co-efficients) the warranted growth of employment was linked to the expansion of output and then use the latter as the baseline for policy implications. This would have highlighted the difference between the expected rates of growth of output and employment and the warranted expansion which was said to be a major concern of the plans. In the absence of such a methodological procedure criticisms of the low commitment of the State to the plans appear somewhat of an afterthought, for the iterative method was not used to demonstrate any difference between what was likely to happen,
on the then existing trends, and what was required to happen for the purpose of the planning objectives. But for this to have occurred, necessitated not only an abandonment of the static assumption of independence between the growth of output and productivity but furthermore the specification of new functional relationships along the lines originally propounded by Verdoorn.*

The exercise becomes even more tenuous at the level of projecting the sectoral growth of output and then decomposing this in terms of sectoral productivity and employment shares.** First, an attempt is made to project the likely growth of output for Agriculture and the Services sector. The Department of Agriculture offered the planners a single set of projections for the likely expansion of Agriculture on the assumption of Ireland's membership to the EEC by 1970. The alternative assumption, viz., no EEC membership by 1970, was not worked out in the projections. The Second Programme simply states that the Department's calculations "indicated that an annual growth rate of 2.7% per annum would be appropriate and this rate was adopted for the sector, agriculture, forestry and fishing".***

* An attempt to use output and employment regression co-efficients and Verdoorn elasticities, obtained from data relating to 44 Irish manufacturing industries, for employment projections is given in Part 3, chs. 7 and 8, of this work. It is also interesting to note that the model developed by the Cambridge Economic Policy Group (CEPG) is intended, in part, to separate the expected, i.e., the outcome on existing arrangements, from the warranted growth of output - where the latter is related to the employment requirements of the economy. To this end see the leading article "General Review and Policy Analysis" in the Economic Policy Review, March 1977.

** cf. Second Programme, Part II, Appendix 5, pp. 311-316. In the methodological section (Appendix D) of the Third Programme only the growth of sectoral output is given some attention, pp. 242-243, but not the relationship between sectoral output, employment and productivity.

*** The final set of sectoral targets for output, employment and productivity for 1960-1970, as given in the Second Programme, together with the observed performance are contained in Appendix B, Tables B3 and B4. The target growth rate for agricultural output was revised slightly upwards, to 2.9% per annum, in the final projections of the Programme.
For Services "the behaviour of real output was measured for the 1950s as a residual by estimating, (a) the aggregate national expenditure at constant prices, and (b) the product of the agricultural and industrial sectors in quantum terms, and this provided a basis (admittedly slender) for projection" (Second Programme, Part II, Appendix 5, p. 313). The planners also attempted to take into account probable developments in the service sector for the duration of the plan but they could not quantify the various influences identified. Despite these qualifications, the planners thought that the most likely rate of growth for services was within the range of 3 to 4 per cent per annum.

From the order of sequences presented in the methodology of the Second Programme it would appear that the rate of growth for industry was derived on a residual basis. For given the rate of growth of total output and that for two sectors the third sector's output is also determined. Using the earlier notation \( Q_A + Q_S + Q_I = Q \) - the sequence followed was to project \( Q, Q_A \) and \( Q_S \) and when these were found the rate of growth for industrial output, \( Q_I \), was residually determined.* On this basis the rate of growth for industrial output is found to be between 6 - 8 per cent per annum; the exact rate depending on the values decided for the overall growth of output and for the other two sectors.

The treatment of the industrial sector in the methodological appendix does not match its canvassed status in the main body of the Second Programme described as "the main contributor to future expansion of GNP" or "as the main agent of economic growth".**

---

* In the Second Programme, Appendix 5, the estimated projections, in average annual percentage terms, for Total, Agricultural and Service sector output were given as
  
  \[ Q = 4.14 \text{ to } 4.20 \]
  \[ Q_A = 2.70 \text{ " } 2.90 \]
  \[ Q_S = 3.00 \text{ " } 4.00 \]

** Second Programme, Part I, p. 34, and Part II, p. 142.
Far from making the behaviour of the industrial sector the core of the analysis the iterative method relegates it to a residual with scant attention to how it was to be achieved. Inter-sectoral complementarities were assumed absent and, particularly, the behaviour of employment outside industry was considered independently of industrial progress. This may have, unintentionally, exonerated the policy makers from responsibility in specifying priorities, for all targets generated by the iterative method were equi-valid. But more pertinently, for the issue in hand, the relationships between targets posited by the iterative method were purely arithmetic. However absurd its initial assumptions on aggregate growth rates provided that the values of one sector are left floating, consistency between the aggregate and sectoral targets can always be effected. Consistency, thus, is not a measure of the goodness of the projections but rather an expedient device that makes the parts equal to the whole. Furthermore, the only units of time relevant for the iterative method as for Meade (1971), are the initial and terminal dates of the plan. The actual duration of the plans and the components of the planning process are not within the orbit of the procedure. Yet the administrators who wrote the main body of the plans offered the projections of the methodology as 'targets' with an implicit policy schedule. This policy schedule was not made explicit for in reality it never existed as part of the plans. That is the methodological framework was barren on this score. In all, the two 'essentials of planning' as stated by E.A.G. Robinson, were left aside by the methodology of the plans and the omission was carried through, by the administrators, in the main body of the Programmes.*

* cf. Economic Planning in the United Kingdom, Cambridge University Press, 1967. Professor E.A.G. Robinson writing from first hand experience on the early post-war planning experiments in Britain thought, p. 12, that the essentials of planning were:

"(1) That if you want to plan something you must create all the essential instruments for planning it.

(2) That it was no use creating a list of objectives and just hoping that somehow they would come about."
Once the output projections, by sector, were determined and matched with the overall output assumption, the planners turned their attention to the apportionment of sectoral output in terms of productivity and employment. That is to provide values for the right hand side of expressions, 5, 6 and 7 below.

\[ \bar{Q}_A = P_A + E_A \quad \ldots \ldots \quad 5 \]
\[ \bar{Q}_S = P_S + E_S \quad \ldots \ldots \quad 6 \]
\[ \bar{Q}_I = P_I + E_I \quad \ldots \ldots \quad 7 \]

where the various symbols have been defined before.

Since the growth of output (Q) for each sector is already inherited from previous forecasts then the projection of one of the other two, Productivity or Employment will be sufficient to determine, residually, the values for the third variable in each sector. The execution of this ambitious task is described in less than two full pages, pp. 316-318, in the Second Programme and in two short paragraphs, 4 and 5, pp. 243-244, in the Third.

The first two sectors to be examined in the methodology of the Second Programme were Agriculture and Services (Other Domestic). Their observations to this end are confined to the following:

"In exploring how these increases in sectoral outputs might be generated - that is, the relative contributions of increases in employment and increases in output per person engaged - a few relatively simple guidelines were followed. First, in the light of past experience, both of Ireland and other countries, it was expected that the smallest increases in productivity were likely to be achieved in the other domestic sector. Second, one aim of policy should be to narrow the gap between income per head in agriculture and other activities and this required a rather faster rate of rise in output per person in agriculture than in the industry or other domestic sectors. Third, changes in sectoral employment and productivity during the 1950s were examined, but because many special factors were at work great care had to be taken in using this experience as a basis for future projections" (Second Programme, Part II, p. 317).
It would appear from the above that 'productivity' in the service sector was an extrapolation from the past, thus, at best, mapping the expected rate of growth while for agriculture it was a desired rate to close the gap between agricultural and industrial incomes. A methodological weakness is that this distinction, between expected and desired growth rates, is lost by the iterative method so that the 'targets' for the plan, were offered as if they were all decided by the same decision rules. Furthermore, the employment and productivity values for industry are, in effect, residually determined for, given these values for two of the three sectors plus the overall requirements, in terms of productivity and employment, then the values for the last sector are also known. Thus sectoral projections were prepared, and consistency of targets maintained, even though the planners found no method for apportioning the ex-ante growth of industrial output as between employment and productivity.* The overall conclusion was that:

"Despite all these difficulties, an attempt was made to separate the relative contributions of employment and productivity to growth in each sector, but it must be recognised that these estimates were based rather more on 'feel' than on objective data. As a result, the employment estimates in their detailed breakdown cannot be accorded the same degree of firmness as the estimates for output...." (Second Programme, Part II, p. 318).

A very striking feature of the sections dealing with sectoral employment and productivity estimates in the methodology of the Second and Third Programmes is the lapse into progressive

* Something curious about these procedures is that the planners found it possible to project output, employment and productivity for Agriculture and Services independent of consideration of the industrial sector. As we have seen the values stipulated for the industrial sector follow naturally as a residual once the growth rates for the economy and the other two sectors were already projected. The method is 'consistent' in that the separate contributions by the various sectors add up to the aggregate performance of the economy but such a consistency is tautological.
determinism on values and projections that in essence remained unresolved. What initially is offered as "simple" non-quantitative "guidelines" on the sectoral outlook for productivity and employment appear a few paragraphs below as "estimates" and finally stated as "planning targets" without an explanation of how these ambitious transformations were achieved. What appears in the main body of the plans is the final gloss of projections, termed 'targets', bereft of even the planners' strictures about weaknesses and without further work on policy implications.

This laborious exercise of tracing the sequences of the iterative method would not have been necessary, if not for—

(a) The widespread complacency that the methodology of the Second and Third Programmes was beyond theoretical reproach. As recently as 1976 these same procedures were used to generate targets which once again were offered independent of any implementation requirements.*

(b) The preoccupation of the official planning reviews with the mechanics of 'performance', i.e., contrasting data targets with data outturn, at the expense of reviewing the planning process itself or the progressive obsolescence of the original planning assumptions.

The purpose of this chapter is not to provide a summary of the findings and implications of the earlier review of individual plans. The intention, rather, is to bring to the fore a few of the overall constraints and problems shared by the later, Second and Third Programmes. This may be helpful for in our quest to provide an examination of specific aspects of the plans we may have lost sight of the wider considerations that have affected the general course of planning. The virtue of the detailed appraisal of specific plans was that concrete, as opposed to hypothetical, weaknesses were highlighted on the strength of available evidence. Moreover, in the case of the methodology of the plans it was suggested that the antithesis between output and productivity posed by the iterative procedure is discredited when dynamic considerations have been taken into account.

The matter however could not be allowed to rest here, for an approach that relies heavily on a detailed examination of specific plans is inevitably timid. Its preoccupation was to focus on what, in our view, had been careless, misleading or wrong with earlier plans, but it did not break out of all the restrictive premises of such plans. On occasions when attempts have been made to provide an alternative to the received doctrine and explain, for example, the relevance of the Verdoorn type relationships or the political aspects of planning, the new constructs appear as missing fragments in the existing scenario rather than stepping stones for a new one. Thus, the purpose here is to widen the framework for examining the recent economic programmes and to discuss, whenever possible, these ideas within the context of the present debate on planning.
6.1 PAST PARABLES

Soothing parables that planning in Ireland has an honourable pedigree in French planning are no longer heard. Even in the sixties when such assertions were readily offered, Lynch (1963), Donaldson (1966), FitzGerald (1968), important considerations were overlooked. The comparison abstracted from the state of development of the two countries, and the imperative elements of French planning, and focussed on the underlying shared commitment to private enterprise. In France, political commitment preceded the plans while direct controls and executive edicts were used to implement investment decisions in 'priority areas', the allocation of state funds and credit to private industry, the outflow of capital funds and the discouragement of large scale foreign investments in specific industries.* Priority planning, where certain lines of economic activity were singled out for special consideration, is a hallmark of the early French Plans. The first three French Plans spanning the years 1947 to 1961 were, characteristically, called 'Modernisation and Equipment Plans' with the emphasis on infrastructure and on a select number of industrial activities which were assumed to be likely beneficiaries of economies of scale and good export performers.** An extension of this is the direct negotiation between the industrial commissions and individual industries on how the latter could achieve planning targets in exchange for special incentives. The active use of the public sector as a planning instrument, the organisation and administrative status of planning and the relatively frequent interventions from the French Assembly reflected the early importance that both the Government and Opposition afforded to the enterprise. In short,


** A summary of the contents of the first three French plans can be found in J. Hackett and A.M. Hackett Economic Planning in France (1964), pp. 25-33. Part one, pp. 36-112, of the same study is a survey of the institutional structure, including the executive and consultative bodies, within which French planning evolved.
the political commitment, organisation and imperative elements of planning in the two countries, were overlooked and the basis for comparison rested elsewhere. Irish economists were impressed by the similarities of the two political cultures, e.g., commitment to personal freedom and private enterprise, and by the performance of the French economy which was seen as the outcome of indicative planning. Even though the first set of issues concerning political values are not to be derided the simplifications engendered by such comparisons cannot be ignored.

Irish planning, for example, operated in an economic environment which, in important respects, viz., nature of labour and accumulation problems, was less developed and the organisation and planning means used in Ireland were weaker and more persuasive than in France. A paradox of Irish planning, and a source of its enduring difficulties, can be located in the discrepancy between the use of its 'non-interventionist' format and the development tasks it was given, or expected to accomplish. Since 1972, Ireland has been, formally, without a plan. Yet there are surprisingly few changes in terms of policy means or in the management of the economy between the previous 'planned' and current 'non-planned' period. In other words, the absence of a plan has not meant a change in the direction of the strategy for development nor changes in the short term fiscal management of the economy. The fiscal instruments are unaltered, industrial and regional policies originate from the same autonomous agencies, regional plans and organisations (viz. RDOs) have the same uncertain status and objectives and the official estimates of job approval and job creation are still subject to large errors and exaggerated bias.*

* By this we mean that it is not only the economic plans in Ireland that have been prone to exaggerate the expected growth of jobs. The official study on EEC entry, The Accession of Ireland to the European Communities (1972) predicted, p. 39, that the net average annual growth of manufacturing employment would be of the order of 6,000 jobs between 1970 and 1978. Between 1970 and 1976, the latest date of the official estimates, manufacturing employment declined - see Annual Report, Central Bank, 1977, tables 54 and 56. It may be counterargued that the adverse results to date have been the outcome of the post 1973 recession that could not have been foreseen. But even if we drop 1974-76 the net yearly growth of manufacturing jobs between 1970 and 1973 has been, on average, 1,350 jobs or approximately one-fifth of the official expected growth.
Finally, the absence of an incomes policy, or anything approaching a 'social contract', marks particularly the duration of the two Programmes while NIEC, which was regarded the hallmark of consultative planning in Ireland, was dissolved during the planned period, in 1971, to reappear with similar functions, and an enlarged membership, in the 'non-planned' period 1973, as NESC.*

The general conclusions that we wish to stress in relation to the legacy left by the Second and Third Programmes are:—

First, one cannot delimitate the planned from the recent (post 1972) non-planned period in terms of structural (i.e., regarding strategies for development) or institutional changes that can be considered as innovations of the two Programmes.** On the contrary broad continuities can be observed in economic strategies, including an increasing dependence on foreign enterprise while fiscal incentives and institutions have remained unaffected both by the introduction and lapse of these plans. Paradoxically, some of the weaknesses associated with the earlier programmes, e.g., the exclusion of the farming interests from such consultative bodies as NIEC, and the initiation of a voluntary incomes policy, with the participation of the State, have been introduced since the termination of the plans. This is not a criticism of the overall objectives of the two Programmes but rather to point that little residual is observed, either in terms of a strategy for development or institutional changes, that can be attributed to the planning exercise.

Second, that the assertions readily offered during the 1960s on the French antecedents of Irish planning were, in some respects, more a source of confusion than enlightenment. Such analogies and


** Aspects of the institutional arrangements and the treatment of the Programmes in Financial Statements are discussed in Appendix F.
the eagerness to equate Irish planning with French experiments, unwittingly stifled discussion on the warranted status and scope of planning in Ireland. A manifestation of this currently is NESC's attempt, viz., Prelude to Planning (1976), to reopen the debate on the role of planning in Ireland - two decades after the introduction of the First Programme. That is, it is not self-evident that the earlier comparisons of French and Irish planning, even when correct, obviated the necessity to discuss directly the role of planning in the Irish context. It may not be an over simplification to state that it has taken the premature termination of two programmes and the ensuing recrimination, before Irish planners have finally left aside the French model as their rationale for planning.

6.2 SOME UNSETTLED ISSUES

6.2.1 A Short and Long Term Perspective

Possible dates for full employment are receding uncomfortably into the future (1976 or 1981 for NIEC, and 1986 for NESC) while full employment is more liberally interpreted as compatible with higher rates of unemployment.* A disconcerting matter is that very little net increase in aggregate employment has been gained since the beginning of the 1960s and despite emigration, low workforce participation by married women and underemployment that is said to exist on farms and the service sector, the rates of unemployment even before the existing recession, have been the highest in Western Europe. Plans that were offered as 'a step on the road to full employment' did not provide a lever, and the employment objective has been the most consistent casualty of the planning experience in Ireland.** Employment is again, at present, at the fore of public policy but the objective itself is ambiguous. In particular, it is not clear whether the government's commitment is limited to a reduction of unemployment


to earlier levels or to full employment.* What was not sufficiently appreciated in Irish plans is that not all factors affecting employment prospects are amenable to short-term fiscal stabilisation or budgetary changes. The sustained expansion of output, the rate of accumulation (whether domestic or foreign induced), the role and channelling of foreign investment, the control of foreign lending by Irish citizens, trading agreements and the changing employment effect of output growth, are a few of the factors that transcend the duration of individual plans.

The Second and Third Programmes are a hybrid of what they defined as long-term objectives, e.g., full employment, and short-term planning instruments for fiscal stabilisation. A crucial weakness of such an approach was the absence of a discussion, within the plans, of the required long-term strategies to achieve such objectives or how fiscal management was supposed to secure the fulfilment of the short-term planning 'targets' and the long-term objectives. It is interesting in this respect to note how both Programmes by-passed the thorny issue of the required long-term strategy. Having stated the long-term objectives of the government, the Second Programme declared that it followed the strategies outlined in the First Programme, while the Third Programme stated that it adhered to the development principles of its two predecessors! The outcome was not, as one was led to believe, a continuation and extension of development strategies but rather that "no such strategy has existed since the mid-1960s" (NESC (1976), Report 21, p. 48).

* Although neither 'earlier levels' nor 'full employment' are unambiguous terms they are an improvement on the complete non-specificity of the employment objective maintained traditionally by the government. Two definitions for full employment have been suggested for Ireland. NIEC's Report on Full Employment (1967) suggested rate was concomitant to 2.5 per cent unemployment, plus 5,000 annual emigration. The more recent report by NESC, Population and Employment Projections: 1971-86 (1975) accepted Professor Walsh's suggestion that full employment in the Irish situation was consistent with 4 per cent unemployment. For the different theoretical ways of classifying full employment, in particular the Keynesian 'involuntary unemployment' concept and Friedman's 'natural unemployment' rate see R. Kahn (1975) and J. Trevithick (1976).
A further complication that occurs when the State's objectives are expressed solely in terms of securing the immediate planning targets is that if a particular plan is abandoned, as in the case of the Second Programme, it destroys, not only the immediate quantitative goals, but affects also the credibility of the final objectives. At this stage, we will note one serious consequence of the failure of past plans to distinguish between short-term objectives and long-term aspirations and the type of policies suitable for each set of ends. The trade union movement is increasingly sceptical of the government's commitment to its long-term objectives and, in the absence of explicit strategies for increasing employment and reducing wealth disparities, they regard such aspirations as a smokescreen for extracting short-term concessions in wage settlements and the possible curtailment of growth of private consumption (Halligan 1976) and O'Riordan (1975)). This may explain in part the discrepancy between the a priori favourable attitudes and disposition of Irish organised labour to planning - evidence embodied in the annual conference resolutions of ICTU, as well as the NIEC and NESC reports - and their cynical treatment of actual plans.* A lesson from the recent planning experience in Ireland would seem to be that, like her advanced neighbour, unless there is agreement and rapport between the government and the main bargaining groups on the overall direction of the economy there is little prospect that short-term policies, however wise, will gain the necessary concessions from market interests for the sake of wider economic considerations.**

* For a discussion of the ICTU resolutions concerning planning and on certain differences between individual unions on their desired participation in the planning process see M. O'Riordan "Economic Planning" ICTU, July 1975. For an extensive discussion on the collective views of the Irish trade unions on planning see ICTU Annual Report, (1975), pp. 170-185.

** On the role and willingness of British Trade Unions to co-operate with Labour governments, in 1948, 1966 and again in 1974, over a wage restraint is discussed by R. Kahn "Inflation - A Keynesian View", The Scottish Journal of Political Economy, February 1976, and by J. Robinson and F. Wilkinson "What has become of employment Policy?", Cambridge Journal of Economics, March 1977. As these authors make clear the problem, in Britain at least, is not the absence of goodwill by organised labour to make concessions but rather that this goodwill is shortlived and dissipated in the absence of a wider consensus on the priorities to be followed by the State's management of the economy.
Another aspect of the relationship between the long and short term perspective may be called the enforced obsolescence, over time, of preconditions within which Keynesian fiscal and monetary policies could have been used for employment expansion. The pursuance of certain policies, outside the plans, limited the number of fiscal and monetary controls that were available, in principle, to the planners. Let us briefly review the long term developments that compromised the use of short-term controls for the management of the economy.

For the duration of the two programmes there was free capital movement, and the absence of control over domestic rates of interest which the planners did not view as necessary to affect. This runs counter to Keynesian ideas for the management of the economy where the domestic control of interest rates and the direction of investible funds are important elements in an employment policy. According to Keynes:

"It is the policy of an autonomous rate of interest, unimpeded by international pre-occupations, and of a national investment programme directed to an optimum level of domestic employment which is twice blessed in the sense that it helps ourselves and our neighbours at the same time. And it is the simultaneous pursuit of these policies by all countries together which is capable of restoring economic health and strength internationally, whether we measure it by the level of domestic employment or by the volume of international trade" (General Theory (1936), p. 349).

But it was not only the ability to vary interest rates to serve domestic goals that attracted Keynes to the idea of State intervention in the flow of investible funds.* It is also because in a situation where the alternative investment outlets presented to potential investors is limited to the domestic opportunities offered by a single country, there is the possibility of satisfying the individual’s proclivities for gain but with lower stakes. That is an Irish investor or rentier locked up, so to speak, by legislation to the opportunities for gain offered by his native land may

act as a profit maximiser and still lend his money, or undertake economic activities, that offer rates of return lower than those ruling outside the country. But this ability to teach investors to play the game at lower stakes is diluted when there is free movement of capital. Then domestic interest rates or prospective rates of return on investment must match the international stakes so as to prevent the outflow of finance and investible funds. But where the rate of interest is exogenously determined, as in the case of Ireland at present, then the domestic economy may miss the opportunity "to reduce the rate of interest to that point relatively to the schedule of the marginal efficiency of capital at which there is full employment" (Keynes, The General Theory (1936), p. 375).*

In Ireland the situation was further complicated by the type of concessions offered to overseas companies and in particular the guarantee concerning full repatriation of profits.** This, together with the traditional freedom, enjoyed by Irish nationals, to lend abroad meant that a deterioration in the external account compromised public expenditure rather than resorting to direct controls over

* Keynes, however, was doubtful whether the domestic control of interest rates, for employment purposes, would on its own suffice to increase investment to a level warranted for full employment. Given this possibility he argued that "Furthermore, it seems unlikely that the influence of banking policy on the rate of interest will be sufficient by itself to determine the optimum rate of investment. I conceive, therefore, that a somewhat comprehensive socialization of investment will prove the only means of securing an approximation to full employment", The General Theory (1936), p. 378.

** A description of the tax and grant incentives offered to overseas manufacturing companies operating in Ireland is contained in the Annual Report and Review, 1970-1974, Industrial Development Authority, July 1975.
such flows.* Such a situation arose in 1965 where in response to a deterioration in the balance of payments the then Fianna Fail Government introduced, in July of that year, exigent deflationary measures which took primarily the form of a reduction in public expenditure - including a cut-back in public investment. Thus the policy for growth advocated by the Second Programme, then in existence, was displaced in favour of short-term 'prudent financial management', advocated by the Central Bank in May, 1965. Similarly, during 1970, the second year of the Third Programme, a supplementary deflationary budget was introduced in October to deal with inflation and a deficit on the current account. The Government's handling of those events has been criticised, inter alia, by Kennedy and Dowling (1975, pp. 233-236), Ryan (1972, pp. 31-37) and FitzGerald (1968, p. 188) on the grounds that the authorities exaggerated the weakness of the reserves, and that the deflationary measures were retained beyond their usefulness. The intention here is not to revive those criticisms for their own sake. Rather, we wish to point out that even if the balance of payments needed attention, since neither trade protection nor the control of the outflow of private capital funds, rents and dividends were deemed permissible policy instruments, the

* The Commission on Emigration (1954), p. 185, stated then that Ireland, was, on a per capita basis, one of the highest capital exporting countries in Europe. Whitaker (1949) estimated that Ireland's gross external assets, for 1947, were £450 million for a total population of 3 million. More tentative estimates of foreign assets holdings by Irish citizens, for recent years, have been put variously between £500 million and £900 million - R. Mottiar "Exchange Rate Change: Implications for Capital Stocks and Flows", Central Bank, October 1975, mimeo. What seems undisputed is that Ireland has, for periods in the past, been simultaneously an exporter of both labour and finance - a point which is conveniently overlooked by some adherents of classical trade theory where 'factor proportions' purported to explain Irish emigration and the foreign inflow of capital.
authorities resorted to short-term 'managed' deflations that compromised both the growth and employment objectives of the then medium term economic plans. Our case, unlike that of the previous authors, does not rest primarily on explanations such as 'errors of judgement' for the recurrent use of deflationary policy, during the Second and Third Programmes, but that the limitations of policy instruments deemed acceptable to the fiscal authorities were in conflict with the objective of planned growth. Thus, the importance of sustained growth as a prerequisite of employment expansion, expressed in the plans, was not shared as a commitment by the fiscal authorities in their short term management of the economy. Furthermore, an indirect effect of the significant presence of foreign multi-nationals in Ireland was that the planners had to work with an additional unknown, namely, how would foreign parent companies react to their proposals, or else attempt to define the feasibility of proposals in terms of whether these would encourage or discourage additional foreign capital.

Finally, the trend towards freer trade which began in the 1950s, including preparation for EEC membership, curbed the potential use of trade protection. By stating this we do not wish to deny that benefits may have been conferred, in particular, for disposal of surplus agricultural products, by such agreements. Yet, a consequence of the agreements for freer trade was to relinquish further Keynesian preconditions for an employment policy. Something overlooked in the plans, which were nominally favourable towards Keynesian state intervention, was Keynes's argument that full employment was unlikely to be secured by pursuing a domestic laissez-faire while relying on international trade.* What we wish to stress here is not that trade, per se, 

made redundant the use of fiscal and monetary policies. But the point is that the strategies and reciprocal agreements accompanying trade, the free movement of capital funds and concessions to overseas subsidiaries in Ireland, eliminated some of those conditions and controls that Keynes argued were of paramount importance in the pursuit of employment expansion by 'domestic means'. In consequence, the two programmes though emphasising the importance of exports and export competitiveness for their employment targets, were relatively silent about the appropriate economic environment and domestic controls for enhancing the same purpose.

In effect the only residual policy control left within the plans was possible variation in government expenditure. Such an instrument was, in principle, directed at taking care of the level of activity in the economy, including employment, the rate of growth of prices, and balance of payments difficulties (mostly on the current account). Not only were many of the Keynesian type instruments in the hand of the government progressively abandoned but where they were used balance of payment considerations appeared to have priority over employment expansion.* In the actual management of the economy, therefore, what was deemed exigent (e.g. difficulties on the external account) took priority over what was regarded as longer term aspirations. Something not fully appreciated, in the process, was that the long term objectives, e.g., the sustained growth of output, do not remain unaffected by short term measures and that, in part, deflationary measures were regarded unavoidable precisely because other possible controls were rejected in principle.

6.2.2 **Discipline, Suasion and the Psychological Effect**

The issues of 'discipline', 'suasion' and the 'psychological effect' are recurring themes of Irish planning. Here we wish to examine, briefly, in the context of Irish planning, the role played by such major tools of indicative planning.

There are two aspects of the psychological effect. First, the provision of 'targets' or a forecasting profile of the economy at some future date, whose very existence is assumed to be an inducement to the market for their fulfilment.* The second aspect of the 'psychological effect' are the means employed to convince the market that the targets are reasonable. In principle, the planner does this both at the beginning and the final stages of plan design. At the initial stage of drafting the plan, targets for individual industries are assumed to be derived through consultations with representative firms, or their delegates, and the targets are a compromise of what is required by the planners and what is deemed possible by the firms. It is at this instance that alternative sets of assumptions are discussed and it is possible to consider several targets for each industry consistent with the different sets of assumptions. Once the individual production targets are aggregated, and before the plan is finalised, they are again returned to the market to check that they are acceptable. It is assumed that when the estimates are returned to the market the overall assumptions, e.g., on trade, inter-industry relations and government activities, given to producers are also the ones to be found in the

plan.* There are no direct incentives or penalties for market performance, *vis a vis*, the planning targets - the indirect penalty, however, incurred by failure to reach a target is, according to the plans, the slowing down of individual progress.** The suasive aspect is complementary to the above, in that there is a reassurance that the norms of the market will not be disturbed. As with the First Programme these assurances were given in the latter two programmes both directly and indirectly. The direct assurances were in the form of a commitment by the State to free enterprise and an undertaking that the incentives given outside the plans would not be disturbed. Indirectly, it did this by specifying that the public sector would not engage in economic activities in which the private sector was already involved.***

In the light of the Irish planning experience the usefulness of these tools ought to be reconsidered. In particular, one cannot be sanguine that the very existence of 'targets' will in themselves provide the means for their fulfilment. Given the failure of the Second and Third Programmes in attaining its major 'targets' any objectives arrived at through a pure consultation with the market will appear 'fanciful'.**** It will be useful if future planning exercises distinguish between the type of 'targets' that are little more than the aggregation of intentions by private producers and the planning

* NIEC Reports 2 (1964), 5 (1964) and 15 (1966) dealt with the consultative machinery and procedures followed for the duration of the Second Programme. Report 20 (1967) was critical of two aspects of the working of the consultative arrangements:

(a) Consultations were confined to the industrial sector and primarily at the design and not review stages of the plan.

(b) Targets were retained after it became clear that the assumptions that they were based upon would not be fulfilled.


*** An explicit commitment to this end can be found in the Second Programme Part 2, p. 236, and implicitly in the Third Programme under "Implementation", pp. 225-233.

**** The danger of setting 'fanciful' targets is well appreciated by Economic Development (1958, p. 228) but lost sight of in the Second and Third Programmes.
objectives to be sought directly by specific planning instruments. The other weakness of using market forecasting for the provision of 'planning targets' is that it will be accidental that such forecasts will match the State's aspired commitments, e.g., full employment. In general there are considerable doubts as to whether planning in Ireland could, in the near future, pursue the range and number of quantitative objectives, or targets, found in the Second and Third Programmes solely by suasive means. A factor which has been discussed at length before and need only be recalled at present is, namely, that the end product of the iterative procedure set in terms of multi-level targets is too ambitious when contrasted with the policy means at the disposal of the planners. Indeed, to enable such a methodological exercise to be undertaken, the theorists abstracted from the realities of implementation.

If the planning targets in the forthcoming programme are intentionally wide ranging and ambitious so as to provide a psychological inducement to the private sector, such a strategy needs rethinking. For a presumption here is that the 'animal spirits' or expectations of the private sector will be singularly influenced by the buoyant mood of the prospective plan irrespective of the performance under previous plans. It is difficult to accept that such a psychological trick can be performed, given that the previous two plans were abandoned because of what was regarded as their over ambitious targets.* It is more plausible to argue that plans that recurrently create expectations that cannot be fulfilled lose credence as a psychological elixir for the private sector. In such instances businessmen will either provide their own subjective discount rate of the government's forecasts on the economy or else exaggerate the importance of the recent past as a guide.

* See, for example, the official Review of Progress, 1964-67, (1968) on "Lessons of Experience", pp. 29-34, and FitzGerald (1968) on "Measuring Progress with the Second Programme", pp. 182-195.
for the future. That is business uncertainty cannot be dispelled by using the forthcoming plan as a means for disseminating what is deemed to be 'psychologically pleasing' information when, in the last decade, the information from such a source has proved unreliable. In this respect the considerable doubts of the architect of the First Programme for Economic Expansion, Dr. Whitaker, about the value of multiple and exaggerated 'targets' is even more valid at the present.* Given past experience a more suitable inducement would be, at this stage, a commitment by policy makers that the long term aims of the proposed new plan would not be amongst the first casualties if short term stabilisation difficulties reoccur.**

In summary, the traditional argument for setting, intentionally, multiple and ambitious planning targets is that, somehow, they also provide the psychological will for their achievement. The psychological effect that the two earlier indicative plans attempted to foster was designed to influence current decisions of the market by presenting a rosy future in terms of inflated targets. This argument is again canvassed at present as a guideline to the scope of the next, the Fourth, economic programme. There are two objections to such a strategy, one factual and the other to do with the formation of business expectations. The factual refutation is simply that the last two plans, in so far as they were based on this psychological elixir fell short of achieving their wide ranging targets. Moreover, since so much emphasis was placed on target setting as the lever of performance, they increasingly became


** To do this presupposes, inter alia, that policy makers accept that the sustained growth of industrial output is a major precondition for expanding employment. A simple point yet one that is evidently not shared by either Meade (1971), (where employment is only adjusted by relative prices) or by the users of the iterative method (where, for given output, employment and productivity co-efficients are fully flexible).
irrelevant even as the guide to inter-temporal decision-making and had to be abandoned. The other weakness of the proposal, under the circumstances, is that it imputes to the private sector a peculiarly ahistoric way of determining its own investment, output and employment plans. In particular, it assumes, more or less, that the private sector only takes into consideration the future and that past experience has no relevance on its decisions, whereas we suggest that the greater the business uncertainty concerning the future, the more weight is placed by the market on the recent past as a guide to action.* The argument here does not dispute the value of consultation of planners with market groups, including private employers and labour, for deciding priorities and estimating quantitative targets. It was suggested, on the contrary, that the consultation procedures were not adequate at the design stage and could have been extended to include the annual planning reviews. In the past, however, consultations resulted in an inflated view of the potential of an unregulated market with the implication that neither the State nor the public sector had any independent function in Irish planning. It is this aspect of the suasive or exhortative function, when it abstracts from the existence of the public sector and views the State primarily as an information broker for the market that has been at present under scrutiny.

The issue of 'discipline' is resorted to by the plans to impress upon the community the norms that must obtain, inter alia, between the growth of money incomes and productivity, if the competitiveness of Irish goods is to improve and between the growth of output and additional consumption, if the rate of re-investible surplus is to be expanded. In practice, the wage bargaining process was, for planning purposes, autonomous. On no occasion did the four wage rounds and two national pay agreements negotiated between 1964 and 1972 operate within the guidelines of the plans.**

* On this point see, for example, Keynes Collected Writings (1973) Vol XIV, p. 114.

** A survey of the wage round settlements between 1959-70, in Ireland, is contained in W.E.J. McCarthy, et. al., Wage Inflation and Wage Leadership (1975) pp. 23-54. A summary of the temporal concentration of these wage rounds is given in Table 6, p. 36, of the same study. The First National Pay Agreement was ratified in December 1970 and the Second in July 1972 but without the participation of the government; on this see Review of 1972 and Outlook for 1973 (1973) Prl. 3090 pp. 47-48.
explicit pronouncements in the plans for money incomes to increase pari passu with overall productivity was left for enforcement to the goodwill of the bargaining bodies. The only formal attempt at controlling the growth of money incomes, during the period of the plans, came in the form of proposals for incomes policy legislation during 1970 which were abandoned mainly because of trade union opposition. However, the legislative proposals during 1970 had little to do with planning or with a strategy for development but were rather the hurried reaction of the Government in response to an acceleration of money wages for the duration of the Eleventh and Twelfth Wage Rounds. In so far as that the legislative proposals were concerned mainly with money wages and proposed without prior consultations with the Unions they contravened the explicit strictures of the Third Programme, then in operation, which stated:-

"Unless an incomes policy is clearly seen as relevant to important social, as well as economic aims, it will be hard to induce people to subordinate their sectional interests to the demands which it makes. The government believe, therefore, that a sound incomes policy should have both an economic and social purpose.... The policy should also aim at an equitable distribution of the fruits of economic expansion and a relationship which is generally accepted as fair between the various categories of income.

Since an effective incomes policy calls for discipline — whether self-imposed or otherwise — on the part of those involved in incomes negotiations, the government considers that it must, broadly speaking, cover all classes of incomes. Otherwise the possibility of persuading particular categories, such as wage earners, to accept this discipline is weakened" (Third Programme (1969), p. 144).

In addition to its implementation weakness, the 'discipline aspect'

* The proposed legislation was embodied in the Prices and Incomes (Temporary Provisions) Bill, 1970, which passed the first and second reading in Dáil Éireann. Meanwhile the Employer/Labour Conference reconvened, which resulted in a voluntary pay agreement, viz., the First National Pay agreement, and the withdrawal of the Incomes Bill. The Government's views on the tripartite negotiations at that time, as well as the clauses of the agreement, can be found in the Review of 1970 and Outlook for 1971 (1972), Prl. 1788, pp. 60-66.
of the Second and Third Programmes were based on shaky theoretical foundations and an incomplete specification of group responsibility. There is a certain ambiguity in the minds of the planners whether they considered trade unions responsible for determining the distribution of income between wages and profits or whether money wage settlements were primarily reflected in price changes while leaving distributive shares largely unaltered.* Irrespective of this, the rationale of asking organised labour to accept wage settlements below the rate of productivity growth, given a stable price structure, is only complete when it specifies how the surplus thus released will be used. But the Programmes had no such code of conduct for business or dividend recipients. On the contrary, as it was pointed out, foreign enterprise had the right of full repatriation of profits and there was also freedom of movement of capital funds.** In other words, there was no assurance that the surplus released by the self-imposed discipline of organised labour would not have been leaked to foreign lending, dividends for foreign shareholders or to conspicuous consumption and idle bank balances. The Victorian virtues that demanded moderation in real wage improvements worked on the premise that investment opportunities were available for the ensuing surplus to be re-invested. The benefits of such a strategy would have been passed on to labour in terms of higher productivity and expanding employment opportunities. There is much merit in such strategy, provided the preconditions, viz., expanding markets and investment opportunities, were satisfied and that it was offered in a spirit of quid pro quo for the bargaining groups rather than as a moral story of how labour ought to behave.


** Other factors that tended to alienate organised labour in Ireland from proposals for income restraint were the absence of taxation on capital gains, the favourable treatment of farmers' incomes, and that no statutory limit existed on dividends paid to shareholders. See J.A. Bristow "Public Finance and Fiscal Policy", in N.J. Gibson and J.E. Spencer, (eds.) Economic Activity in Ireland (1977), pp.194-208, for a review of the Irish Taxation System; for the effect of dividend restraint on profits, A.Wood, A Theory of Profits (1975) pp. 169-170.
This was the argument which led the Irish trade unions to 'call the bluff' of the planner's tale for an incomes policy. What they failed to see was that, irrespective of the format and bias of the tale, part of the prescription was along the right lines but incomplete.

Critics point out that the Irish trade union movement's response to the government's initiatives in the areas of planning and the management of the economy during the 1960s had been conditioned, mainly, by what they disliked rather than positive ideas on how to deal with inflation and unemployment. On one hand they accepted the role of an incomes policy when it was discussed by NIEC (Report 27, 1969) but also continued to favour free wage bargaining or the process of wage rounds which was independent of both the plans and the precepts of an incomes policy. Irish trade unions reacted firmly against the government's initiatives to introduce legislative controls over incomes and industrial disputes, while pointing out the hollowness of the participation process during the Second and Third Programmes. The 'right to be heard', it was said, was not a concession to trade union power but rather an integral part of participatory democracy, coupled with the realisation that economic policies, however wise, had a slim chance of success if not seen as necessary and equitable by the working people. Yet, the recent, October 1976, experience of the tripartite talks on the next plan and the income guidelines does not leave one very sanguine. These formal consultations, prepared for over a year, offered an opportunity and a platform for organised labour to exercise its long sought right to be consulted on future plans and the management of the economy. However, no document or clearcut views emerged from the Unions about their ideas for strategic planning or of acceptable policies to deal with the immediate problems of unemployment and inflation. The tripartite talks were restricted, against their formal agenda, to a bargaining process very much on the lines of the earlier national pay agreements. The only notable difference was that the government attempted to mediate over income increases by offering tax concessions in return for wage moderation. The crucial point was that the Unions rejected the government package, not as narrow but as ungenerous. This attitude runs counter to the basic criticism by the trade union movement that the traditional wage bargain procedures in Ireland were too narrow
to allow expression of labour's views on planning and on the promotion of industrial democracy. It also goes against the raison d'être of having tripartite talks on planning and the management of the economy which were supposed to offer the means of breaking out of the narrow confines of the traditional wage bargaining. One cannot escape the unpalatable conclusion that, irrespective of the underlying motivation of the Irish government for the timing of the tripartite talks, labour missed the only outstanding opportunity to date for shaping the course of planning ahead, and placing on the development agenda those items that have been conceived in the past as prejudicial to its involvement.

6.2.3 Output and Employment Relationships

An earlier part of the thesis described the iterative procedure which was central to the methodology of the Second and Third Programmes. It was argued that this technique had the property to secure consistency between the aggregate and sectoral values, viz., of output, employment and productivity growth, given the initial assumptions on the aggregate requirements. The reason for this is that essentially the technique used two types of variables, the first based on historic data and the other set was 'floating' so that it compensated for any difference between the aggregate warranted values and the sectoral values based on historic data. Consistency, therefore, was not a policy goal but a property of the iterative procedure and is obtained because the value of the floating variable made up for any residual between the warranted and the historic values of the variables. The iterative method is more of a system of simultaneous linear identities on output, employment and productivity, rather than equations; for ex-post the relationship is invariably true while ex-ante no functional relationships are specified. The most serious miscalculation by some Irish economists was their belief that such techniques (e.g., the iterative method) would have resulted in government commitment to the plan while providing the practical means (viz., the targets) for securing political involvement in the planning process. Not only did this expectation
fail to materialise but to the extent that the government perceived such techniques as a substitute for more active involvement, or reduced its responsibility for plan implementation, it pushed the political and the planning process further apart.

The earlier vision was built on very slender foundations and turned out to be irredeemably mistaken. The very word 'target' for the values of the variables obtained through the iterative procedure is inappropriate. They were mutually consistent identities that could never be found out of balance. There are two important questions not dealt with by the formal methodologies of the Second and Third Programmes, and bypassed by such economists as Donaldson (1966) and FitzGerald (1968). First, what criteria does one use, within the iterative method, to separate the variables to be determined on historical experience from the ones to be left 'floating'? Second, what is the policy status of the floating values? We know that their formal function was to close the system and provide consistency between the aggregate and sectoral projections. What was absent in the plans' section on formal methodology was a discussion on how the values of the floating variables were to be achieved.* The instrumentality aspect of the floating variables was simply ignored.

Another difference between this work and the methodology followed in the Economic Programmes was in the treatment of the service sector. The projections of the service sector in the Second and Third Programmes were carried out, in the main, independent of any considerations about the prospective overall growth and more

* It has been noted that the 1976 discussion document, Economic and Social Development, 1976-1980 (Prl. 5758) still relies heavily on the iterative method for effecting consistency in its targets. As it will be argued in chapter 8 the optimistic employment projections in that report, e.g., Table 13, are based partly on the assumption that the employment share out of additional industrial output can be chosen independently of any consideration on the likely growth of productivity.
particularly of industrial output. Moreover, a relatively high growth of service sector employment was predicted by extrapolating the trend observed for the earlier decades. Such analysis overlooked the possibility that part of the service sector in Ireland behaved as a haven for employment when unemployment was consistently high (1950s) or during recessions (e.g., in the post 1973 period). If this is the case then it is not valid to assume that, in future, employment prospects in the service sector can be determined without due attention to overall prospects and the behaviour of the manufacturing sector. Rather the warranted employment growth in industry for full employment purposes, must allow not only for the outflow from the land but also for a possible downturn in the employment growth of the service sector. That the post-war growth of industry in Ireland has proceeded without, apparently, attracting potential recruits to the service sector does not imply that the two activities are unrelated, but that industrial employment expansion was insufficient to absorb the demographic increase of the labour force plus the outflow from the land.* In other words one cannot discount the possibility, as the previous plans have done, that it is only when the labour supply constraint begins to operate that industrial employment exerts a pull on the service sector.

The other reason for disputing the Economic Programmes' treatment of the service sector is that in these reports employment and productivity appear as independent entities. Since there is no index of productivity for parts of the service sector and given the existence of pools of underemployment the growth in the volume of trade is likely to be reflected, more as a higher turnover per employee rather than an increase in employment. This is in addition to changes that are already taking place in the organisation and location of service activities (supermarkets and other self-service outlets) that require a lower wage bill relatively to turnover.

The following two chapters examine, in some detail, certain aspects of the association between the growth of manufacturing output and employment before posing further issues regarding the future scope of Irish plans.

* In contrast to recent plans, NESC, in its reports and some of its commissioned studies, has consistently emphasised the sectoral interdependencies that exist in the process of growth. See, for example, Prelude to Planning, October 1976, or G.E.J. Llewellyn The Potential for Growth in Irish Tax Revenues, Report 31, forthcoming.
PART THREE: OUTPUT AND EMPLOYMENT RELATIONSHIPS IN THE IRISH MANUFACTURING SECTOR
PART THREE: OUTPUT AND EMPLOYMENT RELATIONSHIPS IN THE IRISH MANUFACTURING SECTOR
Chapter 7: VERDOORN RELATIONSHIPS AND THE IRISH MANUFACTURING SECTOR, 1953 - 1974

A recurrent weakness of Irish planning, as we have seen, was in the treatment of output and employment relationships. Repeatedly the methodological sections of the Programmes exaggerated the likely growth of employment and underestimated the gains in industrial productivity. More serious than this, at crucial points, it was postulated that for a given growth of output, i.e., 'the target' all combinations between employment and productivity were possible so that by deliberately selecting low productivity coefficients the expected growth in employment was shown to be very satisfactory. Thus, the pivotal issues, in the plans, were neither on the warranted growth of output consistent with labour force projections nor on direct employment policies, but that given the output estimate what minimum rate of productivity gain would have been compatible with a desired growth in employment. The associated question whether it was feasible for a small market economy, with its considerable reliance on trade and foreign technology, to decide autonomously the rate of growth of industrial productivity was not considered in the plans. At the more practical level, on no occasion did the planners examine the long-term relationship between the growth of manufacturing output and employment and if such relationships did exist whether they could have been useful adjuncts in employment planning. In this respect the arithmetic consistency of the targets effected by the iterative procedure could have been checked against evidence drawn on past Irish experience and on studies undertaken for other countries. It is with these issues that the following two chapters are, mainly, concerned.

The objective of this chapter is twofold. The first part reviews the evidence on the association between the growth of industrial output and productivity (or employment) as expounded
by Verdoorn (1949), Kaldor (1966,1967) and Kennedy (1969, 1971).* The first two authors examined, in the main, the statistical association between the growth of industrial output and productivity using cross-section data and other evidence from a number of countries. A more immediate forerunner to the present work is the Kennedy study which is concerned with output and employment relationships in the Irish manufacturing sector. A brief review is also given of the criticisms raised, inter alia, by Wolfe (1968) and Rowthorn (1975) on Kaldor's work, and more generally on the method and findings associated with Verdoorn type analysis.** It must be stressed that the criticisms focussed, essentially, on studies dealing with inter-country comparisons of the growth of industrial output and productivity and not on single-country, disaggregated, analysis as provided by Kennedy. As will be made clear the critics, and especially Wolfe, expected that a detailed examination of the experience of a single country would have reinforced the validity of their overall criticisms against Kaldor and Verdoorn. The second part of this chapter reconsiders the Irish post-war experience by presenting further findings on the association between the growth of manufacturing output and employment for different sub-periods between 1953-1974. At this stage


Rowthorn's charge that extreme observations within the sample may be responsible for the type of statistical associations found by Kaldor is re-examined at a disaggregated level.

Chapter 8 reverts to the original purpose of Verdoorn's celebrated article, namely, that if there are long-term structural relationships between the growth of manufacturing output and employment how could they be used for employment planning? It is this aspect, that initially preoccupied Verdoorn and subsequently neglected by his critics, which is of particular relevance to the contemporary debate on employment planning in Ireland.

7.1 ANTecedents

7.1.1 Verdoorn, Kaldor and Inter-Country Comparisons

The original statement of the Verdoorn effect (Verdoorn, 1949) concerned the long-term association between the growth of industrial output and labour productivity for a number of countries for the period 1870 to 1914 and 1914 to 1930.* More precisely, Verdoorn's proposition was that -

"From analysing the historical series for industry as a whole and for individual industrial sectors, for the two time periods, it is found that the average value of the elasticity of productivity with respect to output is approximately 0.45 (with limits of 0.41 and 0.57)."

The main evidence offered to this end by Verdoorn is summarised in Table 7.1 overleaf.

* I thank G. and A.P. Thirlwall, University of Kent (England), for providing me with a full translation of Verdoorn's original article.
TABLE 7.1

Annual Increases in Volume of Production and Labour Productivity in Industry

<table>
<thead>
<tr>
<th>Period</th>
<th>Country</th>
<th>annual Change</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(1) Production</td>
<td>(2) Productivity</td>
<td>(3) Elasticity</td>
<td></td>
</tr>
<tr>
<td>1913-1930</td>
<td>Switzerland</td>
<td>2.40</td>
<td>1.03</td>
<td>0.43</td>
<td></td>
</tr>
<tr>
<td>1841-1907</td>
<td>UK</td>
<td>2.40</td>
<td>0.98</td>
<td>0.41</td>
<td></td>
</tr>
<tr>
<td>1907-1930</td>
<td></td>
<td>1.28</td>
<td>0.605</td>
<td>0.47</td>
<td></td>
</tr>
<tr>
<td>1869-1899</td>
<td>US</td>
<td>5.61</td>
<td>2.31</td>
<td>0.42</td>
<td></td>
</tr>
<tr>
<td>1899-1939</td>
<td>Germany</td>
<td>3.35</td>
<td>1.91</td>
<td>0.57</td>
<td></td>
</tr>
<tr>
<td>1882-1907</td>
<td></td>
<td>4.38</td>
<td>2.14</td>
<td>0.49</td>
<td></td>
</tr>
</tbody>
</table>

Note (1): It can be observed that Verdoorn derived the simple elasticity ratios by dividing the average annual percentage changes of labour productivity (Column 2) by the average annual percentage change in the volume of production (Column 1).

Source: Verdoorn (1949) Table I.

The alternative method used by Verdoorn to explore the statistical association between the growth of industrial production and labour productivity was regression analysis. A linear equation relating the growth of Productivity (P) to the growth of Output (Q) was estimated for a sample of 14 countries for the inter-war, 1924-1938, period. He found, once again, that apart from a small intercept, the coefficient of the exogenous variable Q was 0.57 - which was in accord to his earlier specification on the long-term association between the growth of productivity and industrial output. Mathematically, these relationships have come to be expressed as:
### TABLE 7.1

**Annual Increases in Volume of Production and Labour Productivity in Industry**

<table>
<thead>
<tr>
<th>Period</th>
<th>Country</th>
<th>Annual Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(1) Production</td>
</tr>
<tr>
<td>1913-1930</td>
<td>Switzerland</td>
<td>2.40%</td>
</tr>
<tr>
<td>1841-1907</td>
<td>UK</td>
<td>2.40%</td>
</tr>
<tr>
<td>1907-1930</td>
<td></td>
<td>1.28%</td>
</tr>
<tr>
<td>1869-1899</td>
<td>US</td>
<td>5.61%</td>
</tr>
<tr>
<td>1899-1939</td>
<td></td>
<td>3.35%</td>
</tr>
<tr>
<td>1882-1907</td>
<td>Germany</td>
<td>4.38%</td>
</tr>
</tbody>
</table>

**Note (1):** It can be observed that Verdoorn derived the simple elasticity ratios by dividing the average annual percentage changes of labour productivity (Column 2) by the average annual percentage change in the volume of production (Column 1).

**Source:** Verdoorn (1949) Table 1.

The alternative method used by Verdoorn to explore the statistical association between the growth of industrial production and labour productivity was regression analysis. A linear equation relating the growth of Productivity (P) to the growth of Output (Q) was estimated for a sample of 14 countries for the inter-war, 1924-1938, period. He found, once again, that apart from a small intercept, the coefficient of the exogenous variable Q was 0.57 - which was in accord to his earlier specification on the long-term association between the growth of productivity and industrial output. Mathematically, these relationships have come to be expressed as:
\[ P = a + bQ \quad \ldots \quad 1 \]

Where \( a \) and \( b \) are constants and \( 0 < b < 1 \)

Moreover, given that

\[ Q = P + E \quad \ldots \quad 2 \]

Then

\[ Q = a + bQ + E \quad \ldots \quad 3 \]

and \( E = -a + (1 - b)Q \quad \ldots \quad 4 \)

Where \( -a \) and \( (1 - b) \) are constants with

\[ 0 < 1 - b < 1 \]

As Kaldor has observed expressions 1 and 4 are a mirror image of each other since their intercepts add up to zero while the coefficients of \( Q \) add up to unity.* Moreover, it can be seen that the nearer the intercept \( (a) \) of equation 1 is to zero then the closer the approximation of the coefficient \( (b) \) in the same expression, is to the simple elasticity ratio of productivity on output provided by Verdoorn's first method.

In all, there are two similar measures used by Verdoorn to establish his proposition on the positive association between the growth of industrial Output \( (Q) \) and Productivity \( (P) \). The simple elasticity measure is a ratio of the average changes in industrial productivity divided by the average increases in industrial production. The more usual method, and the one favoured by subsequent researchers, is a regression estimate of the productivity series on industrial output growth, subject to an intercept and a positive coefficient of less than unity.

The renewed interest in the existence and economic significance of the Verdoorn effect is associated in recent years with the work of Professor Kaldor (1966, 1967). What interests Professor Kaldor, though, is not only whether the initial propositions advanced by Verdoorn are still empirically operative but that the same propositions, if valid, can be usefully integrated into a theory of growth of capitalist economies. In his 1966 Inaugural Lecture Professor Kaldor, on the basis of data drawn from 12 OECD countries for 1953-1954 to 1963-1964, offered the following two regressions as a strong confirmation of the Verdoorn effect.

\[
P = 1.035 + 0.484Q \quad R^2 = 0.826
\]

(0.070)

and

\[
E = -1.028 + 0.516Q \quad R^2 = 0.844
\]

(0.070)

(Standard errors in parentheses)

Where Q, P and E are the average growth rates of manufacturing output, productivity and employment respectively, measured as annual exponential growth rates.

These results by the usual statistical tests were highly significant and apart from an 'autonomous' annual rise in productivity of one per cent the coefficients were within the range of values specified by Verdoorn.* But more important for the ensuing

* In an appendix to his Inaugural Lecture, pp. 35-38, Professor Kaldor provided additional tests of the Verdoorn effect for sectors outside manufacturing. Even though in the case of construction and public utilities the equations relating to both productivity and employment, on the growth of output, were similar to the ones obtained for manufacture, this was not the case either for the primary i.e., agriculture, or tertiary, e.g., distributive trades, activities. From this Kaldor concluded that the Verdoorn effect was not confined to the manufacturing trades but embraced, in general, the entire industrial branch of production.
controversy on the Verdoorn effect Kaldor was able to show, subsequently, that these associations were not unduly biased by the presence of extreme, or spurious, observations in his sample.*

On the more general issue about the interaction of the Verdoorn effect with economic growth Kaldor developed his argument in two stages. In the first instance he argued that -

"... Fast rates of economic growth are associated with the fast rate of growth of the 'secondary' sector of the economy - mainly the manufacturing sector - and that this is an attribute of an intermediate stage of economic development."**

To substantiate this Professor Kaldor provided, inter alia, statistical evidence, including a regression equation linking the growth of domestic output (GDP) to the growth of industrial production (Q), from the same sample of countries and period that he used to test the presence of the Verdoorn effect. Something remarkable about this is that later investigators, Cripps and Tarling (1973), were able to offer an empirical verification of the same proposition even for periods, e.g., 1965-1970, for which the Verdoorn effect was not observable in their data.*** One way that Kaldor linked the operation of the


*** T.F. Cripps and R.J. Tarling, *Growth in Advanced Capitalist Economies, 1950-1970*, DAE Occasional Paper 40, 1973. In the section dealing with "Economic growth and the redistribution of the labour force", pp. 29-30, the above authors related the growth of overall productivity (GDP per employed person) to the rate of growth of industrial output and to the relative decline of non-industrial employment with the following results:

\[
P_{GDP} = 1.153 + 0.642 Q_{IND} - 0.872 E_{NI} \quad R^2 = 0.958 \quad (0.058) \quad (0.125)
\]

Where \( P_{GDP} \), \( Q_{IND} \), and \( E_{NI} \) are the rate of growth of GDP per employed person, the rate of growth of industrial production and the rate of growth of non-industrial employment respectively. This result, as the authors stressed, was obtained for 1965-70, a period for which the more orthodox Verdoorn association between the growth of industrial output and productivity failed to obtain for their sample of 12 countries. Appendix D of this thesis provides further results on the predictive capacity of the Cripps and Tarling equation when applied to Ireland.
Verdoorn effect to his discussion on economic growth is by observing that it is primarily associated with the manufacturing sector and that the growth of output in that branch of production is a major stimulus to economies of scale and the growth of productivity. On this Kaldor draws explicitly from the work of Allyn Young and Adam Smith where the interplay of both static and dynamic increasing returns is looked upon as a macro-phenomenon connected both to the expansion as well as the sub-division of markets.* An implication of this is that it is immaterial for the operation of the Verdoorn effect whether increasing returns may cease to operate for some individual units (e.g., plants or firms) within an industry.** For it is the cumulative growth of output that induces dynamic economies of scale for the entire sector or for groups of interrelated production units and not the internal organisation of single firms.

In his reply to Rowthorn, Kaldor summarised, recently his overall position as follows:

"Even if industrial output obeyed the law of constant returns, it could still be true that the growth of industrial output was the governing factor in the overall rate of economic growth (both in terms of total output and output per head) so long as the growth of industrial output represented a net addition to the effective use of resources from one use to another. This would be the case if (a) the capital required for

---

* cf. Inaugural Lecture (1966), pp. 8-10. In his subsequent book Strategic Factors in Economic Development (1967), Kaldor devotes an entire chapter, pp. 3-23, on the connection between increasing returns and the Verdoorn effect, and his own ideas on economic growth. For a detailed discussion on the difference between 'static internal economies of scale' and 'dynamic economies of scale', as highlighted by Allyn Young, see K.A. Kennedy's, Productivity and Industrial Growth, (1971) pp. 201-217.

** In this respect Wolfe (1968, pp. 118-119) is not correct in equating the absence of internal returns to scale for some firms, evidence which he alludes to, as a verification of the absence of increasing returns for entire industries.
Industrial production was (largely or wholly) self-generated - the accumulation of capital was an aspect, or by-product of the growth of output, and (b) the labour engaged in industry had no true opportunity cost outside industry on account of the prevalence of disguised unemployment both in agriculture and services......

The important implication of these assumptions is that economic growth is demand-induced, and not resource constrained - i.e., to be explained by the growth of demand which is exogenous to the industrial sector and not by the (exogenously given) growth rates of the factors of production, labour and capital, combined with some (exogenously given) technical progress over time."*

It may be recalled that in his earlier exposition of his ideas Kaldor (1966, 1967) stressed the narrow proposition by Verdoorn which he put as "each percentage addition to the growth of output requires 0.5 per cent increase in the growth of employment in terms of manhours, and is associated with 0.5 per cent increase in the growth of productivity."** In doing this Kaldor remained scrupulously consistent with his finding that, apart from a small intercept, the coefficient of productivity on industrial output was within the narrow range specified earlier by Verdoorn. From this Kaldor hypothesised, however, that the post-war slow growth of the United Kingdom vis à vis other capitalist economies was to be found, in part, in the relatively low labour reserves in agriculture that constrained the expansion of the industrial sector. As a result of the recent interchange between Kaldor and his critics, viz., Wolfe and Rowthorn,

* N. Kaldor "Economic Growth and the Verdoorn Law - A Comment..." Economic Journal, pp. 894-895, December 1975. It is worth noting that Kaldor's condition (b) in the quote is similar to the one stressed by Keynes (Collected Writings (1973) Vol. XIV, p. 71) in a letter to Hicks as a main methodological difference between him and his critics.

it is now clear that his position, on this matter, has been modified. On the one hand he now stresses that labour reserves are not exclusive to agriculture and may be found in parts of the service sector and on the other hand the emphasis has now shifted even more to demand considerations and particularly to the constraints on the expansion of industrial output and exports.* Thus, it is no longer tenable to interpret the message of Kaldor's work on growth within the narrow view of the existence of labour reserves in agriculture.

The ensuing controversy focussed on the method for testing the Verdoorn associations, on the validity of such estimates (particularly whether a small number of extreme observations in the sample biased the results), and on the possible contributions of the analysis to theories of growth. It will be argued here that studies on the Verdoorn effect, using Irish manufacturing data, are of particular relevance to the first two types of criticism rather than to the more open-ended debate on the significance of Verdoorn's propositions to general theories on modern capitalist growth.

Two of the main critics of Kaldor's work and indirectly of Verdoorn, are Wolfe (1968) and Rowthorn (1975A, 1975B). A basic criticism by Wolfe (1968, p. 119) was that -

"The use of data drawn from more than one country is a peculiarly hazardous undertaking, partly because relative

---

* N. Kaldor "Productivity and Growth in Manufacturing Industry: A Reply", Economica, November 1968 and "Economic Growth and the Verdoorn Law: A Comment...", Economic Journal, December 1968. A comparison of Kaldor's Inaugural Lecture (1966) with his subsequent reply (1968) to Wolfe would clarify that in the latter article Kaldor abandoned his earlier supposition that 'reserves of labour' were found entirely in the primary sector. As a result even when the supply of labour proves to be the effective constraint to the expansion of the industrial sector labour reserves can be found outside the agricultural sector - e.g., services. Yet, a host of writers on Kaldor's work, including Rowthorn (1975) and Cornwall (1976), still interpret Kaldor's message on the labour supply constraint from his Inaugural Lecture rather than from his more recent work.
prices differ from country to country, and partly because the collection of data is never on exactly similar basis.

This criticism, though valid in principle, is not one confined to the testing of Verdoorn propositions but it is shared by all studies using inter-country output and productivity series. Yet it is, to say the least, a case of double standards when Professor Wolfe is prepared to elevate errors present in cross-country data as a major difficulty in undertaking Verdoorn type analysis but not of neoclassical research and findings which he canvassed in the same article. The main rebuttal to Wolfe's criticism, however, is that he is simply wrong in his supposition that the Verdoorn effect has been investigated exclusively in terms of inter-country data. In fact in the original article Verdoorn (1949) employs both methods, i.e., inter-country comparisons and the estimate of productivity elasticities for different industries in a single country, before arriving at his overall propositions.* Closer to hand, Salter's (1960) study, which Wolfe alludes to, examined the association between the growth of productivity and industrial output using data for 28 British manufacturing industries for sub-periods between 1924 and 1950.** Finally, the evidence to be presented from Irish

---

* For example, the second table offered by Verdoorn (1949) in his original article presented productivity elasticities for eleven industrial groups found in the Monnet (France) and Saraceno (Italy) plans and compares these with long-term historical values for other countries.

** It is clear from Wolfe's article, p.120, that he was, in principle, familiar with Salter's work. If this is the case it is very surprising that Wolfe overlooked the fact that considerable work by Salter on output and productivity relationships did not employ data from different countries but from twenty-eight British manufacturing industries. To this end see, Chapter IX, "The Pattern of Inter-Industry Experience" in W.E.G. Salter Productivity and Technical Change, Second Edition, CUP, 1969. In an addendum (found in the same edition) W.B. Reddaway updated Salter's work on this matter, pp. 206-211, using data from the same number of British industries.
manufacturing data, for 44 industries, does not lend support to Wolfe's claim that errors embedded in inter-country comparisons are at the bottom of the associations between the growth of industrial output and productivity observed, inter alia, by Verdoorn and Kaldor.

The more serious doubts about the Verdoorn effect, and its associated propositions, have been raised by R.E. Rowthorn (1975A and 1975B). It must be said, at this juncture, that the empirical part of Rowthorn's critique did not begin with Kaldor but rather with one section of Cripps and Tarling's (1973) investigation of Kaldor's ideas. The particular proposition examined by Rowthorn was given by Cripps and Tarling (1973 p. 6) as -

"In manufacturing the growth of productivity (output per man) is closely related to the growth of employment."*

Using evidence drawn from various countries to generate 32 observations Cripps and Tarling found that for 1951 - 1965 the regression estimates were -

\[ P_m = 3.178 + 0.549 \, E_m \]
\[ R^2 = 0.362 \, (0.133) \]

Where \( P_m \) and \( E_m \) are the average annual growth rates of manufacturing productivity and employment respectively.

Rowthorn (1975A) argued that this association, which he defined as 'Kaldor's Law', depended crucially, on the inclusion of Japan in the sample of 12 countries. By recomputing the results, while excluding Japan, Rowthorn demonstrated that the correlation coefficient almost disappeared while the coefficient

* cf. T.F. Cripps and R.J. Tarling, Growth in Advanced Capitalist Economies 1950-1970, (1973) p.6. This was one of four major propositions that Cripps and Tarling examined with respect to Kaldor's work. The other three were not directly dealt with by Rowthorn. A few of these propositions were verified even for periods, e.g., 1965-70, for which the Verdoorn effect was not substantiated. On this see "Kaldor's empirical laws", pp. 21-30, in Cripps and Tarling, Growth in Advanced Capitalist Economies (1973).
of the regression produced relatively large standard errors.* In his 'Comment', on Rowthorn, Kaldor (1975) made two points. First, that the regression specification in his 1966 Inaugural Lecture was not of the form:

\[ P_m = a + b E_m \]

but

\[ P_m = a + b Q_m \quad \text{with } b > 0 \]

or

\[ E_m = c + d Q_m \quad \text{with } 0 < d < 1 \]

That is, that the association was, as Verdoorn initially stipulated, between the growth of manufacturing Productivity \( (P_m) \) (or Employment \( E_m \)) and Output \( (Q_m) \) but not between productivity rates and employment. Thus, both productivity and employment are the endogenous variables and the growth of manufacturing output the exogenous variable. Second, that even if Japan was omitted from both the Kaldor (initial data series on productivity and output) and Cripps and Tarling's subsequent sample for 1951-1965 the main Verdoorn generalisation on the association between the growth of industrial output and productivity is not unduly impaired.**

In his final rejoinder Rowthorn (1975B) has somewhat shifted the focus of his critique.*** For though no longer disputing the new results, on the association between the growth of manufacturing output

---


** cf. N. Kaldor, "Economic Growth and the Verdoorn Law - A Comment on Mr. Rowthorn's Article", *The Economic Journal*, pp. 891-896, December 1975. Furthermore, in the same note, pp. 891-893, Professor Kaldor explains why for economic, as distinct from statistical, purposes he regards the regression estimates of manufacturing employment on manufacturing output a closer test of the Verdoorn proposition on increasing returns rather than the alternative formulation of manufacturing productivity on manufacturing output.

and employment, he now maintains that there are special conditions for treating manufacturing output as strictly exogenous. At this stage the debate becomes even more general and open-ended for Rowthorn's remarks are not directly addressed to the Verdoorn propositions but rather to Kaldor's theory of growth and to possible interactions between economic management and the behaviour, of output, technology and productivity. There is, however, a point in Rowthorn's rejoinder that may be further clarified with the use of Irish manufacturing data. Rowthorn differentiates between industrial labour markets faced with 'unlimited' supplies of labour and industrial markets with 'strictly limited' supplies and he favours the use of industrial output as the exogenous variable for the first situation and employment for the second. He defines a 'strictly limited' labour supply as a situation -

"...where industrial employment is growing at or near the maximum rate allowed by an exogenously given supply of labour. This situation may have been caused by the spontaneous forces of economic expansion or it may be the result of deliberate government policy designed to bring the employment of labour into some preconceived relation with its supply... When employment is adapted to a given supply of labour in this way it must be taken as exogenous for the purposes of regression analysis and therefore used as the independent variable."

Similarly, Rowthorn terms the industrial supply of labour as 'unlimited' -

"...if there is a large pool of unemployed or underemployed labour and, at the going wage rate, industrialists can get all the workers they may want. Faced with such a huge surplus of potential workers the government may make no attempt to provide jobs for all of them, but may choose its demand management policies to achieve some aim as a sound balance of payments or a stable price level."

As an aside to the above Rowthorn stipulated, further, that -

"This situation is most likely to arise when the unemployed or underemployed are located abroad and lack the political power to influence government policies which are decided primarily by domestic considerations."
and employment, he now maintains that there are special conditions for treating manufacturing output as strictly exogenous. At this stage the debate becomes even more general and open-ended for Rowthorn's remarks are not directly addressed to the Verdoorn propositions but rather to Kaldor's theory of growth and to possible interactions between economic management and the behaviour, of output, technology and productivity. There is, however, a point in Rowthorn's rejoinder that may be further clarified with the use of Irish manufacturing data. Rowthorn differentiates between industrial labour markets faced with 'unlimited' supplies of labour and industrial markets with 'strictly limited' supplies and he favours the use of industrial output as the exogenous variable for the first situation and employment for the second. He defines a 'strictly limited' labour supply as a situation -

"...where industrial employment is growing at or near the maximum rate allowed by an exogenously given supply of labour. This situation may have been caused by the spontaneous forces of economic expansion or it may be the result of deliberate government policy designed to bring the employment of labour into some preconceived relation with its supply... When employment is adapted to a given supply of labour in this way it must be taken as exogenous for the purposes of regression analysis and therefore used as the independent variable."

Similarly, Rowthorn terms the industrial supply of labour as 'unlimited' -

"...if there is a large pool of unemployed or underemployed labour and, at the going wage rate, industrialists can get all the workers they may want. Faced with such a huge surplus of potential workers the government may make no attempt to provide jobs for all of them, but may choose its demand management policies to achieve some aim as a sound balance of payments or a stable price level."

As an aside to the above Rowthorn stipulated, further, that -

"This situation is most likely to arise when the unemployed or underemployed are located abroad and lack the political power to influence government policies which are decided primarily by domestic considerations."
In summary, the essence of Rowthorn's strictures, on this point, seem to be that one should be testing the Verdoorn propositions, with industrial output as the exogenous variable, for economies with a perennial labour surplus and not for a sample of countries, viz., Kaldor's sample, where full employment was more or less secured. This granted, it may be suggested that the Irish economy with its traditional labour unemployment and emigration does not violate Rowthorn's stipulations, and permits even in that critic's judgement, the treatment of manufacturing output as the independent variable.

7.1.2 The Kennedy Study Revisited

The pioneering work on movements in industrial output, productivity and unit production costs for Ireland was undertaken by Kennedy (1968, 1969 and 1971) for different sub-periods, mainly, between 1926 and 1966.* Since two of the Kennedy studies are readily available what follows is simply a reconsideration of those parts relevant to the Verdoorn effect. From the evidence collected by Kennedy, Census of Industrial Production (CIP) reports, one can readily derive the simple elasticity measure of the growth of industrial productivity on industrial output as defined by Verdoorn. The results are given, for various sub-periods in Table 7.2 overleaf.

Kennedy (1971, pp. 45-46) explained that the choice of sub-periods was made to reflect the diversity in the growth of Irish industrial expansion both in the pre and post-war years. For example, industrial output in Ireland grew very rapidly during the 1930s,

## TABLE 7.2

**Average Annual Rates of Growth of All Industry (excluding Brewing and Malting) for various Sub-Periods, 1926 - 1966**

<table>
<thead>
<tr>
<th>Period</th>
<th>1 Output %</th>
<th>2 Employment %</th>
<th>3 Output per head %</th>
<th>4 Verdoorn's Elasticity (3 ÷ 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1926 - 1931</td>
<td>3.14</td>
<td>1.74</td>
<td>1.39</td>
<td>0.44</td>
</tr>
<tr>
<td>1931 - 1938</td>
<td>7.48</td>
<td>6.29</td>
<td>1.12</td>
<td>0.15</td>
</tr>
<tr>
<td>1946 - 1950</td>
<td>14.37</td>
<td>7.06</td>
<td>6.83</td>
<td>0.47</td>
</tr>
<tr>
<td>1950 - 1959</td>
<td>2.14</td>
<td>-0.41</td>
<td>2.57</td>
<td>1.20</td>
</tr>
<tr>
<td>1959 - 1966</td>
<td>6.48</td>
<td>2.62</td>
<td>3.77</td>
<td>0.58</td>
</tr>
</tbody>
</table>

Note: 1. The 'All Industry' classification used by Irish statisticians in CIP surveys includes, in addition to manufacturing, construction, public utilities and mining. Kennedy excluded Brewing and Malting from his estimates because he wanted to offset the effect of the inordinate pre-war decline of that industry on the growth of all industrial output - see Kennedy (1971) pp. 41-43.

Source: K.A. Kennedy (1971), Table 2.6, p. 47.

Partly because of the high tariffs and quotas, and again in the 1960s but slowly before 1931 and for most of the decade beginning in 1950. It can be seen that for three of the sub-periods the values of this simple elasticity concept fall within the range, 0.41 - 0.57, specified by Verdoorn and all values have the expected positive sign. It may also be observed, however, that the simple Verdoorn elasticity seems to obtain for short periods, e.g., 1926 - 1931 and 1946 - 1950, rather than the longer term...
sub-periods selected by Kennedy.* One must point out, in relation to this, that for the 1926 - 1931 sub-period the data series on industrial output and productivity are not available for two out of five years. To avoid a possible misunderstanding let us reiterate what is observable, at this stage, from Kennedy's 'All Industry' Irish data. There is no doubt about the positive association between the growth of industrial productivity and output, as expected by Verdoorn, yet the values obtained for the simple elasticity ratio are often not in accord with Verdoorn's own specification. Two further possibilities must be explored before interpreting Kennedy's work within the context of the Verdoorn analysis.

(a) There is the possibility that the 'All Industry' data classification is not the appropriate series for it includes (in addition to manufacturing), construction, public utilities and mining activities. The inclusion of these other sectors, e.g., construction and mining, may have weakened the observed association or biased it against Verdoorn's proposition.

(b) That there has been an 'autonomous' growth of productivity that is not captured by Verdoorn's simple elasticity concept. As it has been pointed out, the method suggested by Verdoorn to deal with this possibility was regression analysis. This method, which has been adhered to by both Kaldor and Kennedy, does not estimate the 'Verdoorn Law' as a simple ratio of productivity growth on output but rather as the association between the additional growth of productivity associated with the additional growth of output. Thus, the regression

---

* This view is reinforced further if we follow Kennedy (1971), Table 2.1., p. 39, and split the industrial data into two sub-periods (for 1926-’38 and 1948-’66). Then the estimates for Verdoorn's simple elasticity (i.e., as a ratio of average growth of industrial productivity to average growth of industrial output) are almost zero for the pre-war sub-period and 0.62 for the 1948-’66 sub-period - neither of which conform to Verdoorn's stipulation.
coefficient becomes, in effect, the measure of the 'Verdoorn Law' while the constant reflects the 'autonomous' change of productivity.

In the first instance, Table 7.3, Kennedy's post-war output, employment and productivity series were updated and a refinement introduced. In addition to the 'All Industries' sector (which is composed of manufacturing plus public utilities and construction) average growth rates were found for the so-called, 'Transportable Goods' sector - which is primarily manufacturing activities. Given the small share of 'non-manufacturing' activities included in the 'Transportable Goods' category, the main difference introduced by this procedure is to distinguish between estimates which exclude construction and public utilities and other categories, viz., 'All Industry', which include them. It is possible, however, to separate the data even further so that the 'non-manufacturing' activities, viz., mining, included in 'Transportable Goods' are eliminated and hence, obtain detailed manufacturing series from 1953.* Thus, for Table 7.4, the estimates were recomputed exclusively for the entire manufacturing sector and again the simple Verdoorn elasticities found.

It may be noted that the main difference to the values of Verdoorn elasticities is made, as expected, by the inclusion or exclusion of construction and public utilities to industrial activities. Yet there is little difference, for comparable periods, between the estimates obtained for 'Transportable Goods' and 'Manufacturing' and it is equally inconsequential whether one retains Brewing and Malting, Table 7.3, or eliminates it, Table 7.2, for the comparison of post-war sub-periods. It may

* The basis of the present detailed classification of CIP dates from 1953 when considerable revision to the then classification was undertaken to bring the census material in conformity with the United Nation's format on Standard Industrial Classification of all Economic Activities. On this see "The Irish Census of Industrial Production" in K.A. Kennedy's (1971) study, pp. 241-251. A more extensive description of the pre and post 1953 format of the Irish census of industrial production is contained in J. McGilvray, Irish Economic Statistics, Dublin, 1968, pp. 73-107.
coefficient becomes, in effect, the measure of the 'Verdoorn Law' while the constant reflects the 'autonomous' change of productivity.

In the first instance, Table 7.3, Kennedy's post-war output, employment and productivity series were updated and a refinement introduced. In addition to the 'All Industries' sector (which is composed of manufacturing plus public utilities and construction) average growth rates were found for the so-called, 'Transportable Goods' sector - which is primarily manufacturing activities. Given the small share of 'non-manufacturing' activities included in the 'Transportable Goods' category, the main difference introduced by this procedure is to distinguish between estimates which exclude construction and public utilities and other categories, viz., 'All Industry', which include them. It is possible, however, to separate the data even further so that the 'non-manufacturing' activities, viz., mining, included in 'Transportable Goods' are eliminated and hence, obtain detailed manufacturing series from 1953.* Thus, for Table 7.4, the estimates were recomputed exclusively for the entire manufacturing sector and again the simple Verdoorn elasticities found.

It may be noted that the main difference to the values of Verdoorn elasticities is made, as expected, by the inclusion or exclusion of construction and public utilities to industrial activities. Yet there is little difference, for comparable periods, between the estimates obtained for 'Transportable Goods' and 'Manufacturing' and it is equally inconsequential whether one retains Brewing and Malting, Table 7.3, or eliminates it, Table 7.2, for the comparison of post-war sub-periods. It may

---

* The basis of the present detailed classification of CIP dates from 1953 when considerable revision to the then classification was undertaken to bring the census material in conformity with the United Nation's format on Standard Industrial Classification of all Economic Activities. On this see "The Irish Census of Industrial Production" in K.A. Kennedy's (1971) study, pp. 241-251. A more extensive description of the pre and post 1953 format of the Irish census of industrial production is contained in J. McGilvray, Irish Economic Statistics, Dublin, 1968, pp. 73-107.
### TABLE 7.3

**Average Annual Growth Rates of 'All Industries' and of 'Transportable Goods', 1946-1973**

<table>
<thead>
<tr>
<th>Period</th>
<th>1 Output</th>
<th>2 Employment</th>
<th>3 Output per Worker</th>
<th>4 Verdoorn Elasticity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All Industries</td>
<td>Trans-</td>
<td>All Industries</td>
<td>Trans-</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>portable Goods</td>
<td>%</td>
<td>portable Goods</td>
</tr>
<tr>
<td>1946-50</td>
<td>13.24</td>
<td>10.73</td>
<td>6.92</td>
<td>5.43</td>
</tr>
<tr>
<td>1950-59</td>
<td>2.05</td>
<td>2.83</td>
<td>-0.39</td>
<td>0.71</td>
</tr>
<tr>
<td>1959-66</td>
<td>6.19</td>
<td>6.32</td>
<td>2.85</td>
<td>2.71</td>
</tr>
<tr>
<td>1966-73</td>
<td>7.04</td>
<td>7.27</td>
<td>0.96</td>
<td>2.10</td>
</tr>
<tr>
<td>1946-73</td>
<td>6.00</td>
<td>6.02</td>
<td>1.86</td>
<td>1.02</td>
</tr>
</tbody>
</table>

**Notes:**
1. The Transportable Goods category comprises manufacturing and mining plus quarrying; All Industries includes, in addition to Transportable Goods, construction, public utilities (gas, electricity and water) and transport (docks, harbours and railways).
2. The small difference between the growth rates for 'All Industry', given here, and the ones found in Kennedy (1971, Table 2.6), for comparable periods, is accounted for by our inclusion of the 'Malting and Brewing' industry and by the use of more updated figures.

**Source:** Census of Industrial Production 1973, Irish Statistical Bulletin, June 1976, Table 6, p. 179.

### TABLE 7.4

**Average Annual Growth Rates of the Manufacturing Sector, various sub-periods, 1953-73**

<table>
<thead>
<tr>
<th>Period</th>
<th>1 Output</th>
<th>2 Employment</th>
<th>3 Output per Worker</th>
<th>4 Verdoorn Elasticity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>1953-59</td>
<td>2.28</td>
<td>0.18</td>
<td>2.10</td>
<td>0.92</td>
</tr>
<tr>
<td>1959-66</td>
<td>6.29</td>
<td>2.75</td>
<td>3.44</td>
<td>0.55</td>
</tr>
<tr>
<td>1966-73</td>
<td>6.76</td>
<td>2.18</td>
<td>4.48</td>
<td>0.66</td>
</tr>
<tr>
<td>1953-73</td>
<td>5.24</td>
<td>1.77</td>
<td>3.40</td>
<td>0.65</td>
</tr>
</tbody>
</table>

also be observed from Table 7.3 that the range of values obtained for the simple Verdoorn elasticity, for successive sub-periods, is smaller for the Transportable Goods sector (0.52 to 0.76) than for 'All Industries' (0.44 to 1.17). Something significant in this is that the range of estimates obtained for the Transportable Goods industries are closer to the values specified by Verdoorn than if the 'All Industries' specification is used. The overall impression, however, formed by examining Kennedy's data, Table 7.2, is still confirmed by our results. Namely, that despite the positive association between the growth of industrial output and productivity, which is found throughout the values of the simple Verdoorn elasticity are often outside and generally higher than the ones stipulated in Verdoorn's (1949) article. Thus, the first possibility we set out to explore has not improved the results, considerably, in favour of Verdoorn's elasticity ratio and we now turn to examine the Verdoorn effect as a statistical association between the growth of additional manufacturing output and additional productivity subject to a positive constant.*

As with Kaldor (1966), the primary method employed by Kennedy (1971) to examine the statistical association between the growth of manufacturing output and productivity is cross-section regression analysis. The pair of observations used by Kennedy are average annual growth rates of manufacturing output, as the exogenous variable, and productivity or employment, as the endogenous

* It may be recalled, p.7-5, that Verdoorn used also regression analysis as the alternative method to his simple elasticity ratio when examining the association between the growth of industrial output (Q) and productivity (P). What prompted Verdoorn, however, to use the results obtained from the two methods interchangeably was that the intercept of his regression estimate of P on Q was negligible. It is the subsequent investigators, including Kaldor (1966, p. 11) and Kennedy (1971, p. 47), rather than Verdoorn himself who paid attention to the possibility of a positive intercept and had carefully specified the Verdoorn effect as the regression coefficient of P on Q or E on Q rather than as a simple productivity/output ratio.
variables. The difference between the Kennedy and Kaldor studies is, in this respect, that the former employs data drawn from individual manufacturing industries of a single country, Ireland, while the latter uses data for entire manufacturing sectors of various countries. The following table 7.5, summarises the main regression results presented by Kennedy on the association between the growth of output (Q) and productivity per man-hour (P*) for the post-war years.

**TABLE 7.5**

**Summary of Regression Results: Irish Manufacturing Industries, 1953-’68**

\[ P^* = a + bQ \]

<table>
<thead>
<tr>
<th>Period</th>
<th>a</th>
<th>b</th>
<th>r</th>
<th>No. of Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1953-’59</td>
<td>0.871</td>
<td>0.423</td>
<td>0.737</td>
<td>44</td>
</tr>
<tr>
<td>1953-’66</td>
<td>1.072</td>
<td>0.413</td>
<td>0.750</td>
<td>43</td>
</tr>
<tr>
<td>1953-’68</td>
<td>1.219</td>
<td>0.437</td>
<td>0.775</td>
<td>44</td>
</tr>
<tr>
<td>1959-’68</td>
<td>1.540</td>
<td>0.431</td>
<td>0.706</td>
<td>44</td>
</tr>
</tbody>
</table>

(Standard errors in parentheses)

Where Q and P* are the average annual (compound) growth rates for manufacturing output and output per man-hour respectively.

*Source:* Kennedy (1971), Ch. 4 pp. 90-105, and Ch. 7 pp. 223-240.

The consistency of these results, and particularly of the regression coefficient, are, in the context of what we have already said, quite impressive. Given the diversity of the Irish industrial structure and the changes it has undergone between 1953-’68, the stability observed in the association between the additional growth of manufacturing output and output per man-hour
is also noteworthy. Besides the relative stability and values of the regression coefficients, which fall within the range specified by Verdoorn, the intercept of the regression until the middle of the 1960s (1953-1966) was relatively small. It may be recalled that such a value, approximately one per cent per annum, of the regression constant was also found by Kaldor (1966) for a similar sub-period, viz., 1953-1964, using manufacturing data for 12 countries. Yet, it is also true that when Kennedy, Table 7.5, divided the 1953-1968 period into two consecutive sub-periods and re-estimated the regressions he found that the value of the intercept was, almost, twice as high for the recent, i.e., 1959-1968 years than for the earlier, i.e., 1953-1959 sub-period. It remains to be seen in the next section whether this shift in the intercept was then a temporary phenomenon or whether it can be observed for the post-1968 period. A comparison of the regression estimates, given above, with the results obtained for the simple Verdoorn elasticity (Tables 7.2 - 7.4) highlights a weakness of Verdoorn's simple elasticity concept. That is, that it is possible to obtain statistically satisfactory results on the association between the growth of industrial output and labour productivity which are not apparent when considering the values of the simple elasticity ratios. The reason for this is that the Verdoorn effect is an association between the additional growth of output and productivity subject to 'an autonomous' constant. This constant, which presumably reflects an 'unexplained' portion of productivity gains common to all industries, when it is high or changing between sub-period, is not adequately reflected by an aggregative ratio of productivity increases on output changes. Thus, it can happen for the simple Verdoorn elasticity to show significant variability from one sub-period to the next, viz., Table 7.4, when in fact the association between the additional growth of output and productivity, as reflected by the regression

* The individual countries and regression estimates of Kaldor's sample is found in Table 2, p. 12, of his Inaugural Lecture (1966). The individual industries and associated growth rates used by Kennedy are found in Table 4.3, pp. 96-97, in his Productivity and Industrial Growth (1971).
There is little support for Wolfe's (1968) a priori fear that the statistical association between the growth of output and productivity could only be sustained by dubious inter-country comparisons. Of course, there is still the possibility, to be examined in the next section, that extremities of data, or a small number of observations, may have been the reason for the association observed. In relation to Irish planning these results are contrary to the assumption, found in the methodology of the plans, that industrial productivity and employment gains from a given growth of output are random or anarchical. Outside the static concept of employment as the difference between output and productivity rates the two, i.e., industrial productivity and employment, are found complementary and linked to the growth of output. Finally, productivity gains, as measured in relation to total industrial output, have been increasing rather than decreasing since the middle of the last decade - an effect opposite to the one expected in recent planning documents.*

---

* An example of this is the projection of industrial productivity and employment growth for 1977-1980 in the green paper Economic and Social Development, 1976-1980, Prl. 5758, 1976. In that document, Table 13, p. 33, the ratio of the average growth of industrial productivity to the average growth of industrial output is set at 0.44 for the years 1977-1980, or that given the overall growth of industrial output (i.e., of manufacturing, construction, public utilities and mining) more than half will be accounted by gains in employment. Estimates for the decade up to 1974, Table 7.3 in this chapter, indicate that the ratio of productivity growth to industrial output was almost twice as high as the predicted one and may have increased growth since the 1974 economic recession. While the authors of the green paper did not examine the empirical association between the growth of industrial output and productivity, or make explicit their assumptions, they were still satisfied that the desired growth of employment would be effected by a paper procedure of suppressing the productivity coefficient of the expected output growth.
7.2 FURTHER RESULTS ON THE VERDOORN EFFECT, 1953–'74

One purpose of this section is to update Kennedy's work on the Verdoorn effect by extending the period considered from 1953–'68 to 1953–'74. A more immediate aim is to examine the post 1966 evidence in its own right. The results of such an examination are not only of relevance to our work on Ireland but they impinge on the recent debate on Verdoorn relationships. Kaldor (1975) pointed out that in their extension of his work Cripps and Tarling (1973) found that for 1965–'70 the Verdoorn effect ceased to be observed for cross-country data drawn from a sample of advanced capitalist economies. In the light of the same evidence Cripps and Tarling (1973, p. 29), having noted the recent instability of Verdoorn's propositions with cross-country data, asked for an examination of the same phenomenon at a disaggregated level. The purpose here is to test the Verdoorn effect for the post 1966 period using observations drawn from up to 44 Irish manufacturing industries. Finally, an important outcome of the recent interchange between Rowthorn and Kaldor was an appreciation of the inordinate effect that a single country's observations may have on a cross-country regression analysis. The same problem may be equally present in a cross-industry analysis, for a given country, where a single industry or a small group of industries in the sample may affect disproportionately the overall regression estimates. This and the allied problem of industries susceptible to measurement inadequacies is also explored in this section.

7.2.1 Data Sources and Procedures*

As with Verdoorn (1949), Kaldor (1966), and Kennedy (1971) the data used here is drawn from the manufacturing sector to estimate, by regression analysis, the association between the

* Appendix C deals in greater detail with the same topic and contains also some of the principal tables, data sheets and other regressions not found in this section.
additional growth of industrial output and productivity (or employment). The main source is the Irish Census of Industrial Production, published annually, and the information was complemented for more recent years, e.g., 1974, by evidence from the Quarterly Industrial Production Inquiries. All data, for the 42 manufacturing industries, are given as average annual (compound) growth rates and the series, both by source and method of calculation, are fully comparable with Kennedy's study. The base year, 1953, coincides with the beginning of the official classification of manufacturing output and productivity series now in use and the terminal year (1974) is the most recent year for which the necessary data was available. An additional reason for the choice of 1974 as the terminal date is that it is the last year before the effects (in terms of falling industrial output and employment) of the world economic recession were reflected in Ireland. Within this, two other sub-periods were examined, one to reflect the duration of planning in Ireland, 1959–1972, and the other, 1966–1974 updates the Kennedy results while it makes the findings of interest to the Cripps and Tarling's (1973) study on the behaviour of the Verdoorn effect for recent years.

There is a choice of working with either numbers employed or man-hours and all the ordinary least square regressions were estimated by both methods. Thus, in principle, for each sub-period and set of data four regression estimates are available:

\[ (i) \quad P = a + bQ \quad \text{with } b > 0 \]

\[ (ii) \quad P^* = a + bQ \quad \text{or} \]

\[ (iii) \quad E = c + dQ \quad 0 < d < 1 \]

\[ (iv) \quad E^* = c + dQ \]

Where \( Q, P, P^*, E \) and \( E^* \) are the average annual growth rates for manufacturing output, output per worker, output per man-hour,
numbers employed and total man-hours respectively. (The individual growth rates for each one of the 42 Irish manufacturing industries can be found, for example, in Table 7.6 in the text).

The results obtained, though similar, are usually presented in this section in terms of output per man-hour, rather than output per worker, a measure which takes into account factors, e.g., changes in part-time or over-time working, not adequately reflected by the 'numbers employed' concept. In all, the statistical methods used are, in the main, the ones followed by other investigators, including the critics of Verdoorn's propositions, while the sources and choice of manufacturing industries enables a direct comparison between our results and those obtained by Kennedy (1971).

7.2.2 The 1953-’74 Period

A preliminary scrutiny of the data, Table 7.6, yields some interesting observations. A feature that is immediately apparent is the pronounced diversity in output, employment and productivity experience of individual industries. With one exception, the manufacture of railroad equipment (industry 44), the growth of output was invariably positive and this was the case for productivity for 39 out of the 42 manufacturing industries. Employment, however, shows marked changes in performance particularly between high and low growth industries. If one takes the top one third of industries, ranked by output growth, both productivity and employment rates were positive. At the other end of the table, (bottom 14 industries) ten of the fourteen industries experienced, on average, a decline in employment with only one industry, railroad equipment, registering a decline in productivity. Moreover, for the large majority (9 out of 13) of these low growth industries output per worker exceeded the growth of output. Comparisons across columns reveals an equally discernible pattern. If one takes the top one third of industries - which by definition
<table>
<thead>
<tr>
<th>Industry Classification</th>
<th>Volume of Output</th>
<th>Employment</th>
<th>Manhours</th>
<th>Output per Employee</th>
<th>Output per Manhour</th>
</tr>
</thead>
<tbody>
<tr>
<td>42</td>
<td>11.489</td>
<td>7.518</td>
<td>6.873</td>
<td>3.693</td>
<td>4.320</td>
</tr>
<tr>
<td>47</td>
<td>11.224</td>
<td>5.681</td>
<td>5.251</td>
<td>5.246</td>
<td>5.675</td>
</tr>
<tr>
<td>33</td>
<td>9.34</td>
<td>4.408</td>
<td>4.130</td>
<td>4.724</td>
<td>5.003</td>
</tr>
<tr>
<td>8</td>
<td>8.958</td>
<td>6.683</td>
<td>6.379</td>
<td>2.132</td>
<td>2.424</td>
</tr>
<tr>
<td>21</td>
<td>8.888</td>
<td>2.584</td>
<td>2.250</td>
<td>6.146</td>
<td>6.493</td>
</tr>
<tr>
<td>22</td>
<td>8.713</td>
<td>1.256</td>
<td>3.334</td>
<td>7.365</td>
<td>8.005</td>
</tr>
<tr>
<td>40</td>
<td>8.380</td>
<td>4.177</td>
<td>6.608</td>
<td>1.674</td>
<td>1.145</td>
</tr>
<tr>
<td>13</td>
<td>7.828</td>
<td>7.106</td>
<td>1.894</td>
<td>5.854</td>
<td>5.666</td>
</tr>
<tr>
<td>17</td>
<td>7.667</td>
<td>1.713</td>
<td>4.309</td>
<td>2.612</td>
<td>3.208</td>
</tr>
<tr>
<td>41</td>
<td>7.656</td>
<td>4.915</td>
<td>1.523</td>
<td>5.093</td>
<td>5.459</td>
</tr>
<tr>
<td>29</td>
<td>7.065</td>
<td>1.877</td>
<td>3.355</td>
<td>2.704</td>
<td>3.556</td>
</tr>
<tr>
<td>37</td>
<td>7.030</td>
<td>4.213</td>
<td>3.116</td>
<td>2.243</td>
<td>2.518</td>
</tr>
<tr>
<td>20</td>
<td>5.713</td>
<td>3.394</td>
<td>5.055</td>
<td>4.307</td>
<td>4.746</td>
</tr>
<tr>
<td>43</td>
<td>4.848</td>
<td>5.359</td>
<td>-1.717</td>
<td>-1.485</td>
<td>-1.158</td>
</tr>
<tr>
<td>7</td>
<td>4.283</td>
<td>2.015</td>
<td>-0.72</td>
<td>2.223</td>
<td>2.702</td>
</tr>
<tr>
<td>45</td>
<td>4.255</td>
<td>2.979</td>
<td>2.016</td>
<td>1.239</td>
<td>2.104</td>
</tr>
<tr>
<td>34</td>
<td>4.101</td>
<td>1.134</td>
<td>1.102</td>
<td>2.934</td>
<td>2.966</td>
</tr>
<tr>
<td>4</td>
<td>4.048</td>
<td>0.047</td>
<td>-0.625</td>
<td>3.998</td>
<td>4.702</td>
</tr>
<tr>
<td>3</td>
<td>3.313</td>
<td>1.096</td>
<td>-0.925</td>
<td>2.193</td>
<td>2.391</td>
</tr>
<tr>
<td>26</td>
<td>3.071</td>
<td>-4.57</td>
<td>-1.58</td>
<td>3.544</td>
<td>4.033</td>
</tr>
<tr>
<td>27/28</td>
<td>3.007</td>
<td>-0.218</td>
<td>-0.925</td>
<td>2.783</td>
<td>3.170</td>
</tr>
<tr>
<td>24.2</td>
<td>2.825</td>
<td>1.248</td>
<td>1.558</td>
<td>1.944</td>
<td>-1.054</td>
</tr>
<tr>
<td>46</td>
<td>2.657</td>
<td>2.98</td>
<td>-3.14</td>
<td>2.719</td>
<td>2.537</td>
</tr>
<tr>
<td>16</td>
<td>2.608</td>
<td>-1.08</td>
<td>3.179</td>
<td>2.926</td>
<td>3.379</td>
</tr>
<tr>
<td>31</td>
<td>2.045</td>
<td>-0.856</td>
<td>-1.290</td>
<td>3.379</td>
<td>3.797</td>
</tr>
<tr>
<td>4</td>
<td>1.904</td>
<td>1.325</td>
<td>-1.290</td>
<td>.907</td>
<td>.989</td>
</tr>
<tr>
<td>32</td>
<td>1.899</td>
<td>1.026</td>
<td>.907</td>
<td>1.864</td>
<td>1.765</td>
</tr>
<tr>
<td>8</td>
<td>1.781</td>
<td>-.509</td>
<td>-1.313</td>
<td>2.301</td>
<td>2.34</td>
</tr>
<tr>
<td>36</td>
<td>1.731</td>
<td>.066</td>
<td>-1.546</td>
<td>2.301</td>
<td>2.34</td>
</tr>
<tr>
<td>24.4</td>
<td>1.598</td>
<td>-1.113</td>
<td>-1.745</td>
<td>2.164</td>
<td>2.477</td>
</tr>
<tr>
<td>12</td>
<td>1.412</td>
<td>-.072</td>
<td>-1.407</td>
<td>2.742</td>
<td>3.402</td>
</tr>
<tr>
<td>23</td>
<td>1.394</td>
<td>-1.409</td>
<td>-1.707</td>
<td>1.339</td>
<td>1.826</td>
</tr>
<tr>
<td>24.1</td>
<td>1.164</td>
<td>-.407</td>
<td>-2.124</td>
<td>2.843</td>
<td>3.593</td>
</tr>
<tr>
<td>18</td>
<td>.834</td>
<td>-.732</td>
<td>-2.891</td>
<td>1.577</td>
<td>2.072</td>
</tr>
<tr>
<td>10/11</td>
<td>.748</td>
<td>-.552</td>
<td>-1.707</td>
<td>1.169</td>
<td>2.076</td>
</tr>
<tr>
<td>9</td>
<td>.555</td>
<td>-.607</td>
<td>-1.301</td>
<td>1.307</td>
<td>1.638</td>
</tr>
<tr>
<td>44</td>
<td>-4.312</td>
<td>-2.551</td>
<td>-3.139</td>
<td>-1.808</td>
<td>-1.21</td>
</tr>
</tbody>
</table>

Source: Census of Industrial Production Reports and Quarterly Industrial Production Enquiry. For details, including the names of the individual industries together with their CIP classification, see Appendix C.
comprises the fourteen industries arranged by output decrease - eleven of these industries appear also in the top fourteen industries ranked by productivity growth. Similarly, at the bottom of the table, the last one third of industries, nine out of the fourteen industries are also the lowest in terms of productivity gains. Thus, one could state, broadly, that high growth industries, ranked according to output, are also associated with high productivity increases and low growth industries are characterised by relatively low productivity gains. The last observation, concerning the output and productivity pattern between high and low growth industries, is also confirmed by Kennedy's data relating to 43 Irish manufacturing industries for the 1953-'68 period.* However, something striking about Table 7.6 is that there seems to be a positive lower limit, or 'floor', for productivity gains even where output growth is below this rate and as a result employment is declining. If there were a one to one relationship between the growth of output and labour productivity, for individual industries, then the distribution of the latter would be a mirror image of the former but on a smaller scale. For low growth industries, however, employment falls significantly so that proportionately the ratio of productivity growth to output growth is much higher for low growth than for high growth industries. This is where Kaldor's insistence that the Verdoorn effect, where it obtains, is an inter-industry phenomenon, involving external economies of scale, and that it cannot be interpreted in the narrow sense, as an intra-industry proposition, is worthy of note.** The misunderstanding

* cf. Productivity and Industrial Growth (1971), p. 99. Kennedy found that of the top quarter of industries in his sample "8 of the top 11 are in the top 11 as ranked by growth of output per man-hour, while at the other end of the scale, 6 of the bottom 11 as ranked by output growth are in the bottom 11 as ranked by output per man-hour". Reddaway (1969), however, while updating Salter's results for British manufacturing industries, 1954-'63, found that, pp. 206-208, the rule worked well "for industries which showed the biggest rises in output also showed the biggest rises for output per head" but not for slow growth industries ranked by output growth.

** See for example, Kaldor's 'Reply' to Wolfe, Economica (November 1968) and his 'Comment' on Rowthorn's article, The Economic Journal (December 1975).
by Wolfe (1968) was that he interpreted the Verdoorn effect as necessitating a positive association between the growth of manufacturing output and productivity (or employment) for every industry in the sample. This, as the regressions generated from Irish manufacturing data will show, is not a necessary condition for it is possible to obtain a strong association between the growth of manufacturing output and employment, in toto, irrespective of whether such an association is observable for every industry in the sample.

The first set of regression estimates for the entire period, 1953-174, using the data for the forty-two industries as given in Table 7.6 are:

1. \[ E^* = -1.32 + 0.59Q \quad r = 0.84 \]
   \[ (0.37) \quad (0.06) \]
2. \[ P^* = 1.38 + 0.38Q \quad r = 0.70 \]
   \[ (0.37) \quad (0.06) \]
3. \[ E = -0.94 + 0.59Q \quad r = 0.84 \]
   \[ (0.36) \quad (0.06) \]
4. \[ P = 0.98 + 0.38Q \quad r = 0.72 \]
   \[ (0.36) \quad (0.06) \]

(Standard errors in parentheses)

Where Q, E*, P*, E and P are the average annual growth rates of manufacturing output, man-hours, output per man-hour, employment and output per worker respectively. It may also be observed that the regression coefficients add up to slightly less than unity because, as with Kennedy's study, annual compound growth rates were used for estimating changes in output and labour input.

The results are satisfactory. The correlation coefficients are relatively high and the regression coefficients carry the expected sign and are highly significant. The Verdoorn coefficient, obtained by regressing productivity on the growth of output, remains unaltered, 0.38, whether we use output per worker (P).
or output per man-hour ($P^*$) as the dependent variable. The value of the Verdoorn coefficient, 0.38, is a little lower than the original specification by Verdoorn - which was stipulated in the range of 0.41 to 0.57.* More significant than this is the size of the constant, in the regressions of $P^*$ on $Q$, which is much higher than the value found by Verdoorn (1949). These regression estimates, particularly $P^*$ on $Q$, can be compared directly with the results obtained by Kennedy (summarised in Table 7.5) for the periods 1953-'66 and 1953-'68. It can be seen that the regression coefficient is marginally higher in Kennedy's estimates (0.41 for 1953-'66 and 0.44 for 1953-'68) but the value of his constants are lower (1.07 and 1.22 respectively). Such small differences, however, are not statistically significant and do not provide strong grounds for expressing a preference for one set of the results rather than the other. This, in itself, is not very surprising given the overlap that exists between Kennedy's period, 1953-'68, and the one used here, 1953-'74. The more critical test, whether differences do exist in estimating the Verdoorn effect, will arise when we compare the results obtained for the post 1966 era with the sub-periods preceding it.

The next stage was to re-estimate the regression equations in an attempt to take into account two further possibilities revived in the recent debate on the Verdoorn effect. The first is the case where a single or a small number of extreme observations, in the data, affect disproportionately the overall regression estimates. The essence of this criticism, which can be traced to Rowthorn's (1975) article, was that the inclusion of a single country, viz., Japan, by Kaldor (1966) and Cripps and Tarling (1973) in their sample of twelve countries affected, unduly, some of the results in favour

---

* Given the size of the standard error associated with the estimated coefficient in the regressions $P$ or $P^*$ on $Q$, it is clear that Verdoorn's hypothesis, on the value of the regression coefficient, is not contradicted by these results.
of Verdoorn. Since we have already dealt with Kaldor's (1975) reply on this matter let us consider the relevance of this point for cross-industry comparisons of a single country — namely the Irish case. An inspection of the Irish manufacturing data, Table 7.6, would indicate that no single high growth industry can be set aside, from the other forty-one observations, on Rowthorn's criterion of extremity. What is observable is a gradation of the growth pattern of industries even though the range, in terms of output growth, between the highest and lowest industries is considerable. There is also a conceptual problem concerning the procedure of excluding individual industries, in testing Verdoorn's propositions, at the level of a single country. The merit of attempting to isolate and exclude individual economies in a relatively small cross-country sample was based partly on the premise that Japan's economic experience was essentially different from that of other countries.* Yet at the single country level some of the factors that Rowthorn thought of importance, e.g., overall availability of labour and socio-economic institutions, are shared by all industries. In the absence of evidence to the contrary, i.e., specific reasons for omitting particular industries from the manufacturing sector, it does not appear very prudent to exclude industries for no other reason than to generate 'new' regression estimates. Thus, the re-estimating of the Verdoorn effect, below, by omitting a group of six high growth industries was undertaken more in the spirit of a concession to the critics' curiosity rather than of a conviction that such a procedure is entirely permissible.

There is, however, an allied case, highlighted also by Kennedy (1971), that is worth investigating. It is known that the

---

estimated values, concerning output and productivity, for a small group of industries within the Irish manufacturing sector are statistically unreliable. Kennedy has isolated four such cases, ship and boat building, miscellaneous foods, other vehicles and railroad equipment, where measurement problems are thought to be particularly acute.* None of these industries, incidentally, are to be found within the high growth industries ranked by output increases. In this case, since it was known a priori that the observations obtained were unreliable, it was decided to exclude them and re-estimate all the regression equations.

Table 7.7 presents the results of our attempt to account for these two possibilities, i.e., 'extremities of data' and 'deviant industries', in the regression estimates. First, the top six high growth industries,(nos. 35, 42, 47, 33, 5 and 21 in Table 7.6) were excluded to see whether the regression estimates generated by the remaining thirty-six industries were unduly spoilt. Second, we omitted those industries made unreliable by measurement difficulties (nos. 13, 43, 46, and 44) in two stages. The first stage was to omit the manufacture of railroad equipment, no. 44, not only as a deviant industry but also as the only industry that registered a decline in the volume of output in the manufacturing sector.** The second stage was to exclude industry 44, railroad equipment, along with the other three industries (nos. 13, 43, and 46) singled out by Kennedy.

We will confine our comment here to a brief comparison of the re-estimated regressions, by splitting the data, with the results obtained for all manufacturing industries. The correlation


** As Verdoorn's propositions are usually expressed in terms of the positive association between the growth of manufacturing output and productivity and given that the 'volume of output' for railroad equipment was declining throughout the 1953-174 period this was deemed an additional reason for its exclusion, irrespective of measurement difficulties.
### Summary of Regression Results: Irish Manufacturing Industries, 1953-74

\[
P^* = a + bQ
\]

<table>
<thead>
<tr>
<th>Industry Group</th>
<th>(a)</th>
<th>(b)</th>
<th>(r)</th>
<th>No. of Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top Six Growth Industries</td>
<td>1.31</td>
<td>0.41</td>
<td>0.64</td>
<td>36</td>
</tr>
<tr>
<td>Omitted</td>
<td>(0.41)</td>
<td>(0.08)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Railroad Equipment (No. 44)</td>
<td>1.49</td>
<td>0.36</td>
<td>0.65</td>
<td>41</td>
</tr>
<tr>
<td>Omitted</td>
<td>(0.41)</td>
<td>(0.07)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Four Industries (Nos. 13, 43, 46, 44)</td>
<td>1.76</td>
<td>0.36</td>
<td>0.75</td>
<td>38</td>
</tr>
<tr>
<td>Omitted</td>
<td>(0.32)</td>
<td>(0.05)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Industries, (None-Omitted)</td>
<td>1.38</td>
<td>0.38</td>
<td>0.70</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>(0.37)</td>
<td>(0.06)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[
E^* = c + dQ
\]

<table>
<thead>
<tr>
<th>(c)</th>
<th>(d)</th>
<th>(r)</th>
<th>No. of Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top Six Growth Industries</td>
<td>-1.27</td>
<td>0.57</td>
<td>0.76</td>
</tr>
<tr>
<td>Omitted</td>
<td>(0.41)</td>
<td>(0.08)</td>
<td></td>
</tr>
<tr>
<td>Railroad Equipment (No. 44)</td>
<td>-1.41</td>
<td>0.61</td>
<td>0.82</td>
</tr>
<tr>
<td>Omitted</td>
<td>(0.41)</td>
<td>(0.07)</td>
<td></td>
</tr>
<tr>
<td>Four Industries (Nos. 13, 43, 46, 44)</td>
<td>-1.68</td>
<td>0.60</td>
<td>0.89</td>
</tr>
<tr>
<td>Omitted</td>
<td>(0.32)</td>
<td>(0.05)</td>
<td></td>
</tr>
<tr>
<td>All Industries, (None-Omitted)</td>
<td>-1.32</td>
<td>0.59</td>
<td>0.84</td>
</tr>
<tr>
<td></td>
<td>(0.37)</td>
<td>(0.06)</td>
<td></td>
</tr>
</tbody>
</table>

(Standard errors in parentheses)

Source: Table 7.6

Where \(Q\), \(P^*\) and \(E^*\) are the average annual growth rates of manufacturing output, output per man-hour and total man-hours respectively. Further regression estimates using productivity per worker (\(P\)) or numbers employed (\(E\)) as the endogenous variables are given in Appendix C Table C3.
coefficients obtained by the exclusion of the six high growth industries, first and fifth row of Table 7.7, though reduced in comparison to the values for all industries, rows 4 and 8, are still not low. This is particularly the case for the correlation between $E^*$ and $Q$ whose value declined from 0.84 to 0.76 when the six industries were excluded. Furthermore, the effect of omitting the same six industries on the constants and coefficient of the two regressions, rows 1 and 5, was small and working in Verdoorn's favour. That is, the new regression coefficients for the thirty-six industries are just within the 0.41 to 0.57 limits stipulated by Verdoorn while for all industries (forty-two observations) they were marginally outside. Overall, the exclusion of the six high growth industries, which has been used as a proxy for 'extreme data observations', had maintained or improved the results in a way that would not be anticipated by Rowthorn's point.

The two-step exclusion (rows 2, 3, 6 and 7) of the four industries, with known measurement problems, again did not affect adversely the correlation or regression coefficients but left the constants somewhat higher. On the contrary, the values of the correlation coefficients, lines 3 and 7, increased moderately, to 0.75 and 0.89 respectively, when the four 'deviant' industries were omitted. It is interesting to note that the exclusion of these industries by Kennedy, similarly improved the results for the sub-period 1953-1968.*

In general, a striking feature of the exercise is the stability of the regression coefficient in Verdoorn relationships both before and after the two possibilities ('data inadequacies' and 'extreme observations') had been examined. A point reinforced by these new results is that the values of the regression constants

* See, for example, Kennedy, Productivity and Industrial Growth, (1971), p. 98.
are higher, yet statistically satisfactory, than the estimates obtained by other investigators on cross-country comparisons. The comparatively high values for the constants was already evident, in the Irish manufacturing sector, from the regression estimates for the two sub-periods 1953-’59 and 1959-’68 in Table 7.5. This matter will be examined further for the 1966-’74 period in the next section.

7.3 VERDOORN RELATIONSHIPS AND RECENT SUB-PERIODS

In this section we examine briefly the association between movements in manufacturing output and productivity, or employment, for the 1959-’72 and 1966-’74 sub-periods. It was decided, to estimate, inter alia, the Verdoorn associations for the 1959-’72 sub-period for it coincided with the duration of the three Irish plans. Such results are of some interest in their own right, i.e., as a recent test of Verdoorn type relationships, and also because they refer to a period 1959-’72 for which Irish planners had asserted that they could not discern any association between the growth of manufacturing output and productivity.* In addition the regression equations were re-estimated for the period since 1966 on two grounds. The 1966-’74 evidence, together with the estimates already presented for 1953-’74, complements and

---

* In this respect, Irish planners can take little comfort from Rowthorn's critique of Verdoorn relationships. Irrespective of the validity of Rowthorn's views that author attempted to demonstrate that under certain specified conditions productivity gains, and the diffusion of technology, were the dominant influences on the growth of industrial output. On the contrary, as we have seen in Chapters 5 and 6, Irish planners asserted, without producing any evidence, that they could not find a link between the sectoral growth of industrial output and productivity and that their estimates were based 'on feel rather than on objective data' (The Second Programme, Part II, p. 318). This is a totally agnostic stance that follows neither Rowthorn nor the Verdoorn/Kaldor position on these relationships.
updates Kennedy's pioneering study in this field with the use of Irish manufacturing data. As it has been pointed out earlier both the sources and method of estimation make our results directly comparable to the ones obtained by Kennedy (1971). There is, however, a wider issue at stake. This is simply that cross-country comparisons, e.g., Cripps and Tarling (1973), have demonstrated that since the middle of the 1960s some basic propositions by Verdoorn have not been borne out by an examination of recent sub-periods.* It would be of interest, as Cripps and Tarling have suggested, to examine whether the observed weakness of Verdoorn propositions, for recent sub-periods, is reflected in investigations carried out at a more disaggregated level. Since the sources and procedures used have already been described it is intended that only one set of results will be presented here, and comment limited to the overall pattern of associations observed.** Table 7.8 overleaf presents the estimates of the complementary regressions $P^*$ on $Q$ and $E^*$ on $Q$ for the two sub-periods.

It can be seen that the regression results are statistically satisfactory and generally in accordance with prior expectations. The constants and the regression coefficients carry the postulated signs and their associated standard errors are relatively low. In addition the values of the regression coefficients are, with the exception of line 2, closely clustered for each set of regressions. The value of the coefficient


** The relevant data sheets and remainder of the results are given in Appendix C, Tables C1, C2 and C4.
**TABLE 7.8**

*Summary of Regression Results: Irish Manufacturing Industries, 1959-72 and 1966-74*

\[ P^* = a + bQ \]

<table>
<thead>
<tr>
<th>Industry Group</th>
<th>a</th>
<th>b</th>
<th>r</th>
<th>Sub-Period</th>
<th>No. of Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. All Industries</td>
<td>1.52</td>
<td>0.37</td>
<td>0.60</td>
<td>1959-72</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>(0.55)</td>
<td>(0.08)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Four Industries (Nos. 13, 43, 46, 44)</td>
<td>2.28</td>
<td>0.31</td>
<td>0.56</td>
<td>1959-72</td>
<td>38</td>
</tr>
<tr>
<td>Omitted</td>
<td>(0.53)</td>
<td>(0.08)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. All Industries</td>
<td>1.83</td>
<td>0.39</td>
<td>0.63</td>
<td>1966-74</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>(0.51)</td>
<td>(0.08)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Four Industries (Nos. 13, 43, 46, 44)</td>
<td>2.16</td>
<td>0.37</td>
<td>0.62</td>
<td>1966-74</td>
<td>39</td>
</tr>
<tr>
<td>Omitted</td>
<td>(0.52)</td>
<td>(0.08)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[ E^* = c + dQ \]

<table>
<thead>
<tr>
<th>Industry Group</th>
<th>c</th>
<th>d</th>
<th>r</th>
<th>Sub-Period</th>
<th>No. of Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. All Industries</td>
<td>-1.43</td>
<td>0.60</td>
<td>0.77</td>
<td>1959-72</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>(0.54)</td>
<td>(0.08)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Four Industries (Nos. 13, 43, 46, 44)</td>
<td>-2.13</td>
<td>0.66</td>
<td>0.83</td>
<td>1959-72</td>
<td>38</td>
</tr>
<tr>
<td>Omitted</td>
<td>(0.52)</td>
<td>(0.07)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. All Industries</td>
<td>-1.73</td>
<td>0.58</td>
<td>0.78</td>
<td>1966-74</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>(0.49)</td>
<td>(0.07)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Four Industries (Nos. 13, 43, 46, 44)</td>
<td>-2.05</td>
<td>0.60</td>
<td>0.79</td>
<td>1966-74</td>
<td>39</td>
</tr>
<tr>
<td>Omitted</td>
<td>(0.50)</td>
<td>(0.07)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*(Standard errors in parentheses)*

Where Q and P* and E* are the average annual growth rates of manufacturing output, output per man-hour and total man-hours respectively.

**Sources:** Census of Industrial Production and Quarterly Industrial Production Inquiries. The tables compiled from these sources, on individual industries, are given as C1 and C2 in Appendix C.
of \( P^* \) on \( Q \) is close to 0.40 while that for \( E^* \) on \( Q \) is near 0.60 and both are similar to the values obtained for the 1953-'74 sub-period (Table 7.8). Yet such similarities, though important, do not make these estimates a replica of the 1953-'74 results for the correlation coefficients are lower and the constants higher for the shorter sub-periods. An outstanding difference between these results and the ones obtained for earlier sub-periods in Ireland, or by comparison to cross-country investigations, would seem to be the absolute value of the constants. That is, it would appear that the absolute values of the regression constants, of \( P^* \) on \( Q \) and \( E^* \) on \( Q \), are greater (on occasions twice as large), than the ones found for earlier sub-periods. Let us briefly examine this point more closely.

In cross-country investigations undertaken, e.g., Verdoorn (1949), the productivity estimates usually relate the growth of 'output per worker' to the growth of manufacturing output. If we follow this procedure and use the 'output per worker' (\( P \)) specification, rather than the 'output per man-hour' (\( P^* \)), the re-estimated regressions, with Irish manufacturing data, provide constants that are not very different from the values obtained for cross-country studies. This can be readily seen

---

* The term 'absolute value' is used here in the mathematical sense to denote that we abstract from the sign, positive or negative, of the constant and consider only its magnitude. This simplifies description, and avoids recurrent qualification, for a positive increase of the constant in the regression \( P \) on \( Q \) implies an inverse decrease of the constant in the complementary regression \( E \) on \( Q \) and vice versa. Thus, an increase in the absolute value of the constant implies a higher integer irrespective of whether it is positive or negative.

** It seems that this definition of productivity, i.e., as 'output per worker', is also used by Cripps and Tarling (1973), Appendix I, on 'Data sources and definitions', pp. 36-40. In the Kaldor (1966) study, since employment is defined, p. 12, as 'wage and salary earners adjusted for changes in weekly man-hours' then the productivity term is influenced by both man-hours worked and numbers employed.
from the following two regressions on 'All Irish' industries, 42 and 43 observations respectively, for the 1959-’72 and 1966-’74 sub-periods.

\[ P = 0.92 + 0.400Q \]  
\[ (0.08) \]  
\[ r = 0.62 \]

\[ P = 1.14 + 0.400Q \]  
\[ (0.08) \]  
\[ r = 0.65 \]

Where \( Q \) and \( P \) are the average annual growth rates for manufacturing output and output per worker and the periods refer to 1959-’72 and 1966-’74 respectively.

It may be noted that the value of the intercept is near, the modest, one per cent per year 'autonomous' increase in productivity found also by Kaldor (1966) and others for cross-country comparisons. This finding, however, does not dispose of the possibility that for Irish manufacturing data (inter-industry comparisons) the absolute value of the intercept may have been shifting for successive or overlapping sub-periods. What is of importance, for such a test, is not merely the magnitude of the intercept but whether there is a discernible movement for different sub-periods. It was decided to explore this further possibility and as the following chart, Table 7.9, shows a recognisable pattern, regarding the regression constants, emerges.

It is difficult to dispute the moderate shifts of the constants, i.e., the so-called 'autonomous' increase of productivity, for the more recent years. This is strikingly evident whether we compare consecutive sub-periods, viz., 1953-’59 with 1959-’72 or 1953-’66 with 1966-’74, or else contrast the values for the first and last sub-periods. Yet the increase in the productivity constant is still observable for the relatively long-term
TABLE 7.9

Summary Comparison of Regression Coefficients and Constants:
Irish Manufacturing Industry, 1953-1974

\[ p^* = a + bQ \]

<table>
<thead>
<tr>
<th>Period</th>
<th>a</th>
<th>b</th>
<th>r</th>
<th>No. of Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 1953-'59</td>
<td>0.87</td>
<td>0.42</td>
<td>0.74</td>
<td>44</td>
</tr>
<tr>
<td>2. 1953-'66</td>
<td>1.07</td>
<td>0.41</td>
<td>0.75</td>
<td>43</td>
</tr>
<tr>
<td>3. 1953-'74</td>
<td>1.38</td>
<td>0.38</td>
<td>0.70</td>
<td>42</td>
</tr>
<tr>
<td>4. 1959-'72</td>
<td>1.52</td>
<td>0.37</td>
<td>0.60</td>
<td>42</td>
</tr>
<tr>
<td>5. 1966-'74</td>
<td>1.83</td>
<td>0.39</td>
<td>0.63</td>
<td>43</td>
</tr>
</tbody>
</table>

(Standard errors in the parentheses)

Source: For lines 1 and 2 Kennedy (1971) p. 100 and p. 122; for lines 3, 4 and 5, Table 7.6 (this chapter) and Tables C1 and C2 in Appendix C.

overlapping periods (lines 2 and 3 of Table 7.9).* This would suggest that the sensitivity of the intercept cannot be readily accounted for by the relatively short time span of some of the sub-periods.

In summary, the major departure has not been changes in the regression coefficients (the so-called Verdoorn effect) but in an increase of the constant which was evident for sub-periods after

* It may also be noted that by comparison the regression coefficient is stable and within the lower limit specified by Verdoorn. Moreover, the standard errors of the regression coefficient remain unaltered between the short and longer term sub-periods considered while the correlation between growth of manufacturing output and productivity is generally higher for the longer term.
### TABLE 7.9

**Summary Comparison of Regression Coefficients and Constants:**

*Irish Manufacturing Industry, 1953-1974*

\[ P^* = a + bQ \]

<table>
<thead>
<tr>
<th>Period</th>
<th>a</th>
<th>b</th>
<th>r</th>
<th>No. of Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 1953-'59</td>
<td>0.87</td>
<td>0.42</td>
<td>0.74</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.06)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. 1953-'66</td>
<td>1.07</td>
<td>0.41</td>
<td>0.75</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.06)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. 1953-'74</td>
<td>1.38</td>
<td>0.38</td>
<td>0.70</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.37)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. 1959-'72</td>
<td>1.52</td>
<td>0.37</td>
<td>0.60</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.55)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. 1966-'74</td>
<td>1.83</td>
<td>0.39</td>
<td>0.63</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.51)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Standard errors in the parentheses)

**Source:**
For lines 1 and 2 Kennedy (1971) p. 100 and p. 122; for lines 3, 4 and 5, Table 7.6 (this chapter) and Tables C1 and C2 in Appendix C.

Overlapping periods (lines 2 and 3 of Table 7.9).* This would suggest that the sensitivity of the intercept cannot be readily accounted for by the relatively short time span of some of the sub-periods.

In summary, the major departure has not been changes in the regression coefficients (the so-called Verdoorn effect) but in an increase of the constant which was evident for sub-periods after

*It may also be noted that by comparison the regression coefficient is stable and within the lower limit specified by Verdoorn. Moreover, the standard errors of the regression coefficient remain unaltered between the short and longer term sub-periods considered while the correlation between growth of manufacturing output and productivity is generally higher for the longer term.*
1960 and more indisputably for the post 1966 years. A discussion on the plausible factors for the shift of the constant is by necessity inconclusive for, by definition, this reflects the effect of factors other than that of the explanatory variables in the equation. The other reason that makes such a search more an exploration in ideas is, as will be presently made clear, that the kind of evidence required to follow closely suggested lines of inquiry is not always available. Given this proviso, and space limitations, let us review some of the ideas canvassed for the purpose of explaining the increase of productivity gains, in Irish industry, as reflected by the rise of the constant in Verdoorn regressions.

A promising line of inquiry is to link the observed increase of the productivity constant to factors that were either novel or else intensified during the 1960s for the Irish manufacturing sector. For Ireland the two outstanding factors for this period have been the inflow of foreign manufacturing firms and also the progressive reduction of trade protection measures coupled with a rapid rise in manufacturing exports. To this end it has been argued by some Irish economists that part of the productivity increase in the last decade had been the outcome of the influence of the foreign firms on the domestic market and of the stimulus for competitiveness accompanying tariff reductions. In this context, it has been suggested that the new manufacturing firms established during the 1960s were responsible for above average gains in labour productivity, due to their branch of operation and techno-managerial skills, and that their combined contribution and influence on other firms was a powerful inducement to productivity gains. Some evidence in support of this argument is available from the survey of Grant-Aided Industries (1967) which shows that grant-aided firms (mainly foreign subsidiaries) had a higher level of output per employee than existing firms (mainly domestic owned). Moreover, for one Region (the Mid-West) Stewart (1972, 1976) showed that newly established foreign firms had, in general, higher levels of output
per employee than traditional domestic-owned establishments.*

Such evidence, however, is highly speculative for, with existing data, one cannot separate the aggregate growth of industrial output for new (post 1966) firms as compared to already established (pre-1966) firms. Furthermore, even accepting that, in general, this argument is on the right lines it may not be sufficient to account for the observed steady growth of "autonomous" productivity in recent years. Apart from the entry and exit of firms and their impact on productivity growth the other factor that, partly, separates the early (up to 1958) from the latter post-war sub-periods is the liberalisation of trade, the steady growth of manufacturing output and the rapid growth of industrial vis-à-vis other merchandise exports.** It has been argued that the progressive elimination of tariffs (including reciprocal trade agreements with Britain and preparation for entry to the European Community) coupled with the inflow of foreign firms geared for exports had a beneficial effect on the market by increasing competition and making productivity changes at the plant level more pressing. Parallel to this, within the manufacturing sector, the composition of output was changing in favour of new and export-oriented products (e.g., synthetic fibres, consumer durables and pre-packed foodstuffs) where economies of scale and technological improvements were easier.

---

* cf. Survey of Grant-Aided Industry (1967), P1. 117, Government Stationery Office, and J. Stewart, Industrial Development of the Mid-West, unpublished M.A. thesis for Sterling University, 1972, and "Foreign Direct Investment and the Emergence of a Dual Economy", The Economic and Social Review, Dublin, January 1976. Stewart's main conclusion was that the divide between foreign and domestic firms, operating in the region studied, was 'managerial dualism' - that is that overseas companies generally had better access to R. and D. facilities and managerial skills than the domestic firms.

** For a formal treatment of the effect of entry and exit of firms on output and productivity associations see Appendix to Chapter 2, pp. 62-68, K.A. Kennedy Productivity and Industrial Growth (1971).
to exploit. This line of reasoning is not contrary to those
theories that suggest that productivity gains are primarily
induced by the growth of the market (rather than 'exogenously'
given) and by those components of effective demand (e.g.,
industrial exports) which do not necessitate a reduction of output
in one line of production when new lines are being promoted.*

On an empirical level, Kennedy and Dowling (1975) suggested that
the growth of manufacturing output, and in particular industrial
exports, was the catalyst for some of the recent productivity
gains observed for Irish industry. Reddaway (1969), faced
with a similar dilemma in explaining the rise in labour
productivity for the period 1954-'63, as opposed to the period
1924-'50 studied by Salter, stressed the interaction between
the growth of output and labour supply constraints. For the post-
war period even firms in low growth industries, he argued, had to
be productivity conscious because of the overall labour shortage.
He pointed out, p. 207, that -

"firms in such industries could not assume that labour
would always be available to execute such orders as they
secured, so that they had a more direct and compelling
interest in improving labour productivity; moreover they
generally had the financial means to meet the necessary
expenditures, because there was not the same competitive
pressure in the product market - some of their rivals
had switched their plant to other types of production,
others were short of labour".

Unfortunately, this attractive hypothesis cannot be readily
transplanted to the Irish circumstances for even though
unemployment was lower in the 1960s than earlier it was still
considerable (in excess of six per cent of the insured labour force)
and labour availability could have expanded by a reduction in

---

* For a discussion on the interaction between the growth of
output, industrial exports and productivity, in Irish
circumstances, see "Exports and Economic Growth", pp. 65-80,
in K.A. Kennedy and B.D. Dowling Economic Growth in Ireland
(1975).
emigration.*

The above discussion, on possible explanations for the progressive increase of the productivity intercept in post-war sub-periods, is incomplete especially in the absence of direct evidence. The task would have been easier, for example, if data were available on the growth of output and productivity performance of foreign as compared to domestic owned firms.** Even though one is certain that such a consistent increase in the productivity intercept could not be brushed aside as an 'exogenous' phenomenon or the result of a steady increase in the knowledge of industrial arts there is no way at present of disentangling the contribution of the other factors mentioned. Moreover, if further research indicated that both the opening up of the Irish economy (via tariff reduction and foreign capital) and the new institutions in the 1960s were vehicles by which further productivity gains were realised this would not displace the role of the sustained growth of industrial output and of economies of scale in the process. In short, the effect of such factors on Ireland's manufacturing experience would be to make its description more interesting and detailed rather than different.

The tenor of this section may be interpreted by some that our results have introduced a great divide in the operation of the Verdoorn effect for the sub-periods before and after 1966. This is rejected in favour of a less dramatic interpretation. Namely,

* It is interesting to note that one of the few differences in approach that Reddaway (1969) registered in his Addendum, p. 207, was that he attributed "rather more importance than Salter did to the influence of exceptional increases in demand, attributable to factors other than prices - i.e., exceptionally large outward shifts of the demand curve, caused by rising incomes or by consumers becoming familiar with a new product. These help to make increases in output and in output per head mutually stimulatory".

** In this respect, the recent detailed study by P.N. O'Farrell, Regional Industrial Development Trend in Ireland, 1960-73 (1975) which updated information concerning grant-aided and foreign owned firms did not include in its survey, questions relating to the growth of output or productivity.
that the expansion of manufacturing output in recent years has been accompanied by an inflow of foreign firms, by reciprocal trade arrangements (first with Britain and then with the EEC) and by a rapid change in the composition of output. It is not only that foreign firms have been introducing the manufacture of new products in Ireland but that domestic owned firms have been affected by this and by the elimination of trade protection. Some have expanded and others have stagnated or even gone bankrupt in a relatively short period of time. As a result the association that held between the growth of output and productivity for more economically tranquil times has been disturbed. It is too early to label such a 'disturbance' a 'fundamental change' for we do not know whether what has been observed about the growth of output and productivity is of a more permanent nature. Be that as it may the next chapter explores the implications of the Verdoorn effect, and in particular the recent evidence, on employment planning.
Chapter 8: THE VERDOORN EFFECT AND IRISH EMPLOYMENT PROJECTIONS

In this chapter we revert to the primary aim of the Verdoorn (1949) paper, namely, the association between industrial output and employment in long-term planning. The opening paragraph of Verdoorn's famous article begins by stipulating that

"One of the difficulties in long term planning is to estimate the future level of labour productivity. Unless this is known, one does not know the relation between output and employment."

The purpose of Verdoorn's work was, then, not merely to demonstrate that there might be a stable association between movements in industrial output and productivity but to examine the role of such a relationship in long-term development planning. This issue is of particular relevance to Ireland which traditionally has one of the highest unemployment rates in Europe, combined, currently, with one of the highest projected growth rates of the labour force in the European Economic Community.* At the more practical level, it is hoped that these chapters will be a contribution to the required procedures for cross-checking the estimates of the Irish plans, viz., the iterative method, which invariably underestimated the warranted growth of industrial output and exaggerated the expected employment expansion.

It is immediately obvious that even when the Verdoorn effect is stable its importance for employment projections depends on the size and rate of growth of output for the manufacturing sector. Generally, the smaller the share of the manufacturing

* cf. NESC Report No. 5 Population and Employment Projections: 1971-86 (1975), particularly pp. 33-35. The most recent study to argue that the official unemployment statistics in Ireland, the so-called "Live Register", consistently underestimate the extent of the problem is R.C. Geary and M. Dempsey, A Study of Schemes for the Relief of Unemployment in Ireland, ESRI Broadsheet, No. 14, April 1977.
sector in employment then the less important such an exercise becomes for predicting the overall employment performance and requirements. Total job creation, in such circumstances, depends also on what happens elsewhere in the economy, e.g., outflow from the rural sector, and on the progress of 'other' industrial activities such as construction and public utilities. In this respect there is some justification in reserving the explanatory significance of the 'Law' to mature economies as Verdoorn (1949), Kaldor (1966, 1967) and Cripps and Tarling (1973) have done in the past. However, given that the 'All Industry' sector in Ireland is currently employing about thirty per cent of the labour force, and it is expected to provide the main lever to the goal for full-employment, then the association between the growth of industrial output and employment is crucial to employment planning. What would appear questionable is the premise of the alternative approach, used in recent Irish

---

* To this end see, for example, "Problems of Industrialization in Underdeveloped Countries", pp. 53-72, in N. Kaldor's Strategic Factors in Economic Development (1967). In that lecture Professor Kaldor stressed both the role of institutions and cultural factors in the process of development and also whether the supply of foodstuffs and other agricultural commodities will respond to the growth of the 'non-farm' sector. This aspect of Kaldor's analysis is close to the classical economists, Smith and Ricardo, and it by no means neglects the interaction between the farm and non-farm sectors in the process of growth. The weight of the argument, however, relies even less on the existence of 'reserve' labour supplies but on the importance of the 'agricultural surplus' (defined as 'the excess of food production over the food consumption of the food producers') that reaches the 'non-farm' sector. It is worth noting that some of the countries included in both the Kaldor (1967) and Cripps and Tarling's (1973) sample of developed economies, e.g., Denmark, have a labour force structure similar to the one observed for Ireland in the last decade.

** For Ireland, the share of the 'non-farm' sector in total employment (1050 thousand) for 1975 was 76 per cent. Within the 'non-farm' sector the percentage distribution of employment was: Services (61%), Manufacturing (26%), Construction (10%) and Public Utilities and Mining (3%). The source for these estimates is The Trend in Employment and Unemployment in 1975, Prl. 6098, March 1977.
plans, which rejects any association between the growth of industrial output and productivity, or else, as in NESC Report No. 7, views the growth of output and employment as independent entities.*

The use of Verdoorn relationships, to predict employment or output requirements, does not obviate the need for demographic projections of the labour force and its composition. To use a Marshallian term, demographic projections appear, rather as one blade of the scissors with labour representing actual and potential resource endowments, that may or may not be brought into the productive process, while the estimates of the rate of growth of manufacturing output will determine the pace and proportions at which the labour force will be absorbed by the industrial sector.

In the main the following sections are concerned with estimating the warranted expansion in manufacturing output consistent with rates of job creation that would be required in order to make a substantial contribution to the goal of full employment as defined by NESC. The missing link in previous discussions has not been about job-requirements, an exercise that has been carried out repeatedly with Irish demographic data, but rather the inadequate appreciation of the role of growth and composition of output, in short the 'demand' considerations, in Irish employment programmes. What will be examined, particularly, is whether chosen rates of industrial expansion, termed the 'targets' in planning documents, are congruent or imply specific rates of employment growth while precluding others. If this is the case then it would be another reason why Irish planners should abandon the supposition that the association between the growth of industrial output and productivity is random and make explicit both the assumptions and implications of the planning targets. Contrariwise one can examine whether the expected growth of manufacturing output,

found in official reports, is consistent with the projections of job-creation given in the same documents, or carried out independently by other government agencies. Finally, by contrasting the warranted to the expected expansion of industrial output, and their associated employment growth paths, one would provide estimates of the progress required towards given employment targets (including full employment). In the absence of such an exercise, as the examination of the earlier plans has shown, not only the warranted and expected trends were left a tangled hybrid but the iterative method failed to stipulate any boundaries, i.e., the order of magnitude, for the planning task ahead.*

8.1 SOURCES OF INFORMATION

The demographic material for this work is the labour force projections prepared by Professor B.W. Walsh for the National Economic and Social Council.** Since the NESC (1975) estimates spanned the years 1971-1986, and left 'non-farm' employment requirements

* This matter has already been examined, in some detail, in section 5.4 on the "Iterative Procedure" of chapter 5 in the thesis.

** cf. Population and Employment Projections: 1971-1986, NESC Report No. 5 (February 1975). Professor Walsh has kindly provided me with a copy of his forthcoming study for NESC, Projections of Labour Supply: 1976-1986 (Draft Report, June 1977). Professor Walsh points out that differences between the two studies are not on the estimates of the potential growth of the labour force over the years 1971-1986. This is simply because the decline in Irish fertility rates since 1971, which have been one of the most volatile elements in recent population projections, do not affect the prospective increase of persons in the working ages between 1971-1986. The effects of the observed decline in Irish fertility rates noted recently by such demographers as W. Keating, "An Analysis of Recent Demographic Trends" (JSSISI, March 1977), will only influence the numbers in the working-age groups after 1986.
undivided between manufacturing and other economic activities, additional material will be used in the following sections to bring the base year to 1975 while taking into account the employment performance for the intervening, 1971-’75, years.

The NESC (1975) projections estimated that the job requirements for the non-farm sector, between 1971-’86, would be of the order of 300 to 340 thousand depending on specific assumptions relating to emigration and labour force participation rates.* These estimates are compatible with a reduction of unemployment to four per cent by 1986, the target date for 'full employment', and a decrease in the share of farm labour from 21 per cent in 1971, of the active labour force, to just over 10 per cent by the terminal date. On an annual basis the required average growth rate of non-farm employment is in the range of 21,000 to 24,000 for the period 1971-’86 - net of possible redundancies in the same sector. As the NESC (1975) Report makes clear, p. 12, even this relatively rapid increase of the Irish labour force is an underestimate 'because some existing employment will be lost through technical progress and changes in market conditions'. The other factor that makes the above figures a conservative

---

* For the period 1971-’76 zero net migration was assumed for all the projections prepared by Professor Walsh (NESC Report No. 5, 1975, p. 20). In fact this assumption was on the right lines for over the years 1971-’76 there were only 11,000 estimated immigrants (viz., B.W. Walsh, Projections of Labour Supply, 1976-’86, (1977), forthcoming study for NESC). During the same period, however, there was a net outflow of 21,000 in the active ages, 15-64, group which in terms of the overall growth of the labour force is not substantial. It represents, according to Professor Walsh, less than 10 per cent of the projected growth of numbers in the same age interval for 1971-’86 - with the possibility that some of these persons will be returning to Ireland if employment opportunities expand. What such details illustrate is that no Irish population projections have been free from the capriciousness of the migration variables. It is, however, to the credit of NESC that their estimates of job-requirements for full-employment purposes were not unduly dependent on 'the emigration outlet' to be satisfied.
estimate of job requirements is that little progress has been made since 1971 in employment creation. Between 1971-75 non-farm employment has increased, on average by 4,000 jobs per year or less than one fifth of the NESC stipulations.*

The immediate task, before projecting the warranted growth of manufacturing output, is to decide upon the rate(s) of direct job creation by manufacturing that could be regarded as an adequate contribution to the NESC employment goal. A qualitative judgement is involved here for even when there is agreement about the required job creation for the 'non-farm' sector there are still differences of opinion about the required contribution by the manufacturing sector. This can best be illustrated from the papers submitted to the symposium on Increasing Employment in Ireland (1975) which discussed the implications of the NESC (1975) report.** In a paper read by the Director of the Industrial Development Authority it was argued that given the NESC (1975) labour force projections the rate of gross job creation required from manufacturing between 1976-86 was in the range of 17,000-19,000 jobs per year.*** According to the same speaker the

---

* cf. The Trend of Employment and Unemployment in 1975 (March 1977), Pri. 6098, Table 1, p. 7.

** Papers read at the symposium on Increasing Employment in Ireland, Statistical and Social Inquiry Society of Ireland, November 1975.

*** The difference between net and gross job creation, as defined by NESC, is that the former term makes an allowance for possible job losses through redundancies while the latter registers all new jobs as employment creation irrespective of job losses elsewhere in the 'non-farm' sector. This distinction is quite vital for employment projections for, as the recent industrial experience in Ireland has shown, new jobs may be forthcoming but do not lead to commensurate increases in overall employment because of redundancies in existing establishments. For a discussion of this matter see the papers submitted by K.A. Kennedy and M.J. Killean to the symposium on Increasing Employment in Ireland (1975). As both speakers recognised the relevant growth rates for job-creation, given labour force projections, ought to be expressed in net terms - i.e., after allowing for possible job-losses occurring to existing establishments.
net manufacturing requirements compatible with his gross estimates were, on average, 10,000 jobs per year. The General Secretary of the Irish Congress of Trade Unions stated that "about half the additional jobs that need to be created to achieve full-employment must be found in the industrial sector". This estimate would imply a net contribution of between 150 and 170 thousand jobs for the period 1971-’86, or on average 13,600 to 15,500 jobs per year, and even higher rates if the base date is shifted to 1975. Finally, K.A. Kennedy, the Director of the ESRI, envisaged a more modest contribution by the manufacturing sector to the employment goal between 1971-’86. On the assumption that the required share of manufacturing to 'non-farm' employment will rise to 33 per cent by 1986 "then the net jobs target in manufacturing would be about 10,000 per annum for 1971-’86". Dr. Kennedy's figures when placed on a 1975 basis would imply an average net contribution by manufacturing of, approximately, 15,000 jobs per annum.

Having taken into account the NESC estimates on the growth of the 'non-farm' labour force, and the above evidence on what is regarded as the net 'required' contributions by the manufacturing sector, three alternative growth rates for manufacturing employment were, in the main, considered. In an ascending order we considered the implications on the growth of manufacturing output if net employment in the same sector were to increase, on average, by 7, 12, and 17 thousand annually, between 1971-’86. The base year was subsequently updated to 1975 and using the same assumptions about total job requirements, while taking into account the interim progress between 1971-’75, the estimates were then re-computed for the required annual growth of employment and output for 1975-’86. These estimates on the net required average annual growth for manufacturing employment for the sub-periods 1971-’86 and 1975-’86 are given in Table 8.1.
<table>
<thead>
<tr>
<th>Year</th>
<th>Manufacturing Employment at Base Year</th>
<th>Average Annual Growth of Manufacturing Jobs to Target Year 1986</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971</td>
<td>214,000</td>
<td></td>
<td>7,000</td>
<td>12,000</td>
<td>17,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(2.7%)</td>
<td>(4.15%)</td>
<td>(5.4%)</td>
</tr>
<tr>
<td>1975</td>
<td>226,000</td>
<td></td>
<td>9,000</td>
<td>16,000</td>
<td>22,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(3.3%)</td>
<td>(5.4%)</td>
<td>(6.8%)</td>
</tr>
</tbody>
</table>

Note: (1) The number and rate of job creation for the sub-period 1975-1986 was estimated to give approximately the same net total contribution of jobs as the 1971-1986 period while allowing for the change of manufacturing employment between 1971 and 1975.

(2) The figure 226,000 for manufacturing at the beginning of 1975 is deliberately an overestimate. The CSO Quarterly Industrial Inquiry (March 1975) estimated that manufacturing employment then was closer to 205,000, while the annual Trend of Employment and Unemployment (March 1977) gives an estimate of 210,000 for 1975. However, the optimistic estimate is retained, at this stage, so as to guard against a possible criticism that some of the recent job losses are temporary.

Table 8.1 indicates that the employment task ahead for the manufacturing sector is much greater than the one implicit in Professor Walsh's (1975) labour force projections because of the inadequate progress on the employment front since 1971. Furthermore, the required growth of manufacturing employment for either, 1971-86 or 1975-86, sub-period exceeds, on average,
the employment achieved for any comparable period in the post-war era. This applies irrespective of the particular assumption used, A, B or C, on the required growth of manufacturing employment when compared with post-war data. Even with the lowest estimate, assumption A, the required growth of manufacturing employment for the decade 1976-'86 is, on average, twice as high as the comparable rate achieved for the period 1964-'74.* The implied estimates on the relative contribution by manufacturing and 'other' activities, e.g., construction and services, in the 'non-farm' sector at the terminal date, 1986, are presented in Table 8.2. If the rationale of this exercise is to apportion the required growth of 'non-farm' employment so that the manufacturing sector makes a 'substantial contribution' (as the speakers at the Employment Symposium (1975) described it) to the goal of full-employment, then, 7,000 jobs per annum is likely to fall far short of this aspiration. It leaves services and construction to underwrite between 65-70 per cent of the required growth in 'non-farm' employment for 1971-'86 while the share of manufacturing in 'non-farm' employment would remain almost static for the base and terminal dates.** In essence, the growth of manufacturing employment subsumed by assumptions B and C (12 and 17 thousand jobs per annum) are, currently, closer to those suggested by

* Between 1964 and 1974 manufacturing employment increased from 194 to 222 thousand or, at a yearly average of 1.35 per cent. The latter date was the last calendar year for which a positive increase in manufacturing employment was recorded before the impact of the recession. If, to the contrary, we consider the period 1964 to 1975, the absolute increase of manufacturing employment was 16,000, as compared to 28,000 for 1964-'74, or, on average, by 0.7 of one per cent yearly. But the point about the required rapid increase in manufacturing employment, relative to past performance, is self-evident even before the effects of the recent economic recession are taken into consideration.

** To be more exact the share of manufacturing in 'non-farm' employment for 1971 was 27.3% while for 1986, given assumption 'A' on the growth of manufacturing jobs, it would be 28.5 per cent. It may be recalled that, for the reasons argued by Kennedy at the Employment Symposium (1975), this share was envisaged to rise to 33 per cent by 1986.
**TABLE 8.2**

Required net Contribution by Manufacturing and 'Other' Non-Farm Employment and their Relative Shares in Non-Farm Employment, 1971-86 (1)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7,000</td>
<td>214,000</td>
<td>319,000</td>
<td>105,000</td>
<td>195,000</td>
<td>235,000</td>
</tr>
<tr>
<td>12,000</td>
<td>214,000</td>
<td>396,000</td>
<td>182,000</td>
<td>118,000</td>
<td>158,000</td>
</tr>
<tr>
<td>17,000</td>
<td>214,000</td>
<td>469,000</td>
<td>255,000</td>
<td>45,000</td>
<td>85,000</td>
</tr>
</tbody>
</table>

Note:-(1) By 'Other' non-farm employment we refer to the jobs provided by the service sector, public utilities, construction and mining activity.

(2) The additional job requirements in the 'non-farm' sector for 1971-86 were estimated by NESC (1975) to be in the range of 300 to 340 thousand. Assumption A takes the 'non-farm' job requirement as 300,000 while Assumption B was set at 340,000.

(3) Total 'non-farm' employment was estimated at 1,118 thousand in the NESC projection for 1986. To find the share of manufacturing employment in 'non-farm' employment divide the level of manufacturing employment at the terminal date by 1,118 thousand.

K.A. Kennedy and the gross estimate given by the Director of the IDA in the recent Employment Symposium (1975).

Nominally, the facility still exists, on paper, for effecting a more moderate increase in the required growth of employment by postponing, once again, the target date for full employment, relying on emigration as a device for reducing 'excess' labour supply, or else redefining 'full-employment' to be compatible with more than the 4 per cent unemployment rate specified by NESC.* Such devices, however, will be more an admission of failure than of ingenuity in delimiting the employment challenge ahead. Under such circumstances the Verdoorn method for projecting the warranted growth of manufacturing output will, still, be equally valid but the results will be an embellishment of the a priori intentions of the user.

8.2 THE WARRANTED GROWTH OF MANUFACTURING OUTPUT BY THE VERDOORN METHOD

The next step is to use the Verdoorn method for estimating the warranted growth of manufacturing output consistent with the chosen rates of growth for manufacturing employment. Warranted rates of growth for manufacturing output can be obtained by specifying the required employment values in either Verdoorn elasticities or regression equations of manufacturing employment on output. Both measures will be used here, in turn, to generate manufacturing output 'targets' that are consistent with the employment requirements for the same sector.

Verdoorn elasticities derived from Irish manufacturing data indicate, as we have seen in the previous chapter, a modest

---

* It may be recalled that in the NIEC Report on Full Employment (1967) the target date was 1981 and by that year unemployment would have been 2 per cent of the labour force. The same aspirations were maintained in the Third Programme (1969-72) whose authors described it, pp. 8-9, as 'a step on the road' to NIEC's full employment goal. The general trend since then, including the two NESC studies on labour force projections prepared by Professor Walsh, has been to revise the 'target' date for 'full-employment' while re-defining the objective itself to be compatible with higher rates of unemployment.
sensitivity to the choice of sub-period. For the post-war period, Table 7.4, the values of the simple elasticity, of the growth of productivity on manufacturing output, have been high, by Verdoorn standards, and for a recent sub-period, 1966-'73, increasing.* There are a number of ways by which one could attempt to accommodate this variability and the following two criteria were thought suitable to apply in this case.

(i) Since we are attempting to project the warranted growth of manufacturing output by the use of a measure (viz., the simple Verdoorn elasticity) whose value has experienced moderate changes in the past, it would be appropriate to consider a range of elasticity values within which the predictive value is likely to occur.** Thus, for each 'growth of employment target' there will be a set of output growth requirements and each element in this set will be based on a specific value of a Verdoorn elasticity.

(ii) The choice of values is made to reflect the fact that simple Verdoorn elasticities of productivity on output with Irish manufacturing data, have been generally greater than 0.50 but lower than 0.70 for sub-periods over the years 1959-'73.

* The simple Verdoorn elasticity, defined as the ratio of the growth of manufacturing productivity to the growth of manufacturing output, has been increasing for recent sub-periods in Ireland whether we use the 'All Industry' classification (Table 7.3) or, exclusively, the "Manufacturing Sector" (Table 7.4). For 'All Industry' the simple Verdoorn elasticity has increased from 0.56 to 0.81 while for the "Manufacturing Sector" from 0.55 to 0.66 for the sub-periods 1959-'66 and 1966-'74 respectively. These values are relatively high by Verdoorn's own results which fell within the range of 0.41 to 0.57.

** A simpler procedure, yet a less accurate one, would have been to abstract from the results of the different sub-periods and consider a single aggregate value for the Verdoorn elasticity for 1953-'73, also presented in Tables 7.3 and 7.4. The reason for avoiding this short-cut is that all our results with Irish data, in chapter 7, have shown a shift for the Verdoorn elasticity for recent consecutive sub-periods.
The following two tables present estimates on the warranted growth of manufacturing output for the sub-periods, 1971-1986 and 1975-1986, on alternative assumptions about the required growth of manufacturing employment and given specific values for the simple Verdoorn elasticity.

**TABLE 8.3**

<table>
<thead>
<tr>
<th>Alternative Verdoorn Elasticities</th>
<th>Average Annual Manufacturing Job Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7,000</td>
</tr>
<tr>
<td>Warranted Average Annual Growth of Output</td>
<td>%</td>
</tr>
<tr>
<td>0.30</td>
<td>9.00</td>
</tr>
<tr>
<td>0.35</td>
<td>7.70</td>
</tr>
<tr>
<td>0.40</td>
<td>6.75</td>
</tr>
<tr>
<td>0.50</td>
<td>5.40</td>
</tr>
</tbody>
</table>

**TABLE 8.4**

<table>
<thead>
<tr>
<th>Alternative Verdoorn Elasticities</th>
<th>Average Annual Manufacturing Job Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9,000</td>
</tr>
<tr>
<td>Warranted Average Annual Growth of Output</td>
<td>%</td>
</tr>
<tr>
<td>0.30</td>
<td>11.00</td>
</tr>
<tr>
<td>0.35</td>
<td>9.45</td>
</tr>
<tr>
<td>0.40</td>
<td>8.25</td>
</tr>
<tr>
<td>0.50</td>
<td>6.60</td>
</tr>
</tbody>
</table>

*Note:* The number of required manufacturing jobs and their equivalent annual growth rates for the sub-periods 1971-1986 and 1975-1986 are given in Table 8.1. The elements of the required growth of manufacturing output, in average annual terms, are found by dividing the average annual employment requirements, Table 8.1, by the appropriate Verdoorn elasticities, of employment on output, given in the first column of the above tables.
Despite the simplifying assumptions made we are still left with a broad band of warranted values rather than single target figures for output growth. A merit of this method, however, is that the assumptions are explicit and one can trace the implications of any changes on the other variables involved.*

A question that arises is whether something could be done to narrow the range of the required output growth to more manageable proportions. In principle there are three variables (required employment, the choice of sub-period and the values for Verdoorn elasticities) used in Tables 8.3 and 8.4 that, if altered, would affect output requirements. Each factor is considered, briefly, below.

The Choice of Sub-Period: It can be seen, by contrasting the estimates given in Tables 8.3 and 8.4 that the choice of sub-period affects the required growth of manufacturing output (even on the premise that the aggregate job contribution by the manufacturing sector is similar for the two sub-periods). The reason for this is that there has been very little expansion in manufacturing employment since 1971 and the remaining decade has to make good the shortfall in addition to fulfilling its own assigned contribution. Given that a certain employment expansion is required by 1986, what matters is the pace of future progress and not whether the warranted output rates were more modest when considered from the, earlier, 1971 base. It would then appear sensible to regard the output and employment estimates of Table 8.4, with 1975 as the base year, as the more pertinent reference for policy-makers.

* The same cannot be said about the sectoral estimates on output, productivity and employment found in recent planning documents - e.g., The Green Paper (1976) on planning, Prl. 5758. There, since the Irish planners found no way by which the growth of industrial output could be apportioned between productivity and employment the criteria used for selecting the various industrial 'targets' were left obscured. This does not imply that no differences of opinion can exist about the particular assumptions carried in this chapter but rather that such disagreement will not be confined to 'matters of principle'. 
The Choice of Employment Expansion: We have already stated that if the object of this exercise is, inter alia, to find growth rate(s) of manufacturing employment that would make a substantial contribution to employment in the next decade then, from the estimates considered, one ought to think in terms of 16 to 20 thousand jobs per annum. This order of magnitude is, broadly, in agreement with the suggestion of two other contributors, Kennedy (1975) and Killeen (1975), to the employment debate and takes into account the labour force projections prepared by Professor B.W. Walsh for NESC. If this is the case then the options are reduced even further and the output requirements, by the Verdoorn elasticity method, are contained within the last two columns of Table 8.4.

The Choice of Verdoorn Elasticities: Verdoorn acknowledged that his elasticity estimate is only a rough measure in deriving the warranted growth of output compatible with rates of the required growth in employment.* One complexity not captured by the Verdoorn elasticity is that its value may prove sensitive to the sub-period chosen even when the association between the additional growth of manufacturing output and employment is quite stable.** The other difficulty, evident in the previous tables, is that small changes in the values of the elasticities produce magnified changes in

---

* He wrote, for example, that "...in cases in which a plan does not exist, the value of the elasticity gives a rough idea of how much industrial production must expand to absorb a certain availability of labour", Verdoorn (1949) p. 4.

** This can be seen by contrasting the results obtained for Verdoorn's simple elasticity with the estimates of the regressions of productivity (P) on output (Q). While the value of the Verdoorn ratio was altering for post-war sub-periods (Table 7.4) the regression coefficient estimated for P on Q (Table 7.9) remained relatively stable.
the required growth rates for output when the period considered is fairly long (ten to fifteen years). These issues are not easily resolved, especially, with a priori arguments. Some reassurance, however, about particular results obtained by Verdoorn's elasticity technique can be gained by contrasting them with parallel estimates obtained by the regression method.

The next section derives the required growth of manufacturing output, consistent with predetermined employment requirements, by using Verdoorn's regression equation method. By comparing the results obtained from both techniques, Verdoorn's simple elasticity and regression method, one can provide a cross-checking of the estimates and, possibly, a further scaling down of the range of the required output growth. Thus, for this part of the exercise the previous assumptions on employment requirements and time-scale are retained and possible differences in the results will be due to the substitution of the simple elasticity ratio by the Verdoorn regressions. An examination of the previous regression equations, estimated with Irish manufacturing data for chapter 7, provided two regressions that are useful for this task.

(a) \[ E = -0.94 + 0.59 Q \quad r = 0.84 \quad (1953-'74) \]
(b) \[ E^* = -1.73 + 0.58 Q \quad r = 0.78 \quad (1966-'74) \]

Where \( Q, E \) and \( E^* \) are the average annual growth rates of manufacturing output, employment and total man-hours for 42 and 43 Irish industries respectively. It may be noted that the purpose of the second regression is to reflect an adverse shift of the intercept on employment expansion.

The first regression estimates reflect the long-term, 1953-'74, association between the growth of manufacturing output and employment while the second, for 1966-'74, has been selected because it captures the rise of the intercept for recent sub-periods. For projection purposes the differences created by the two regressions lie in the value of their constants and not
in the regression coefficients. Overall, the first regression estimates will appeal to economists that are of the opinion that the long-term association between manufacturing output and productivity is likely to be maintained while the second to those that view the recent increase of productivity's share in the growth of output as a more permanent trend.

The new estimates of the warranted growth of manufacturing output are obtained by combining the results of each regression equation, above, with the predetermined employment requirements (Table 8.1). The following two tables summarise the warranted manufacturing output requirements derived, separately, from these regression estimates.

**TABLE 8.5**

**Warranted Annual Growth of Manufacturing Output, Compatible With Specific Rates of Growth for Manufacturing Employment**

*(Regression Used E on Q for 1953-'74)*

<table>
<thead>
<tr>
<th>Assumption on Employment Requirements 1000</th>
<th>1971-'86</th>
<th>1975-'86</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (1)</td>
<td>2.70</td>
<td>6.15</td>
</tr>
<tr>
<td>B</td>
<td>4.10</td>
<td>8.55</td>
</tr>
<tr>
<td>C</td>
<td>5.40</td>
<td>10.75</td>
</tr>
</tbody>
</table>

*Note: (1) See overleaf.*
### TABLE 8.6

<table>
<thead>
<tr>
<th>Assumption on Employment Requirements '000</th>
<th>1971-’86</th>
<th>1975-’86</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (1)</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>B</td>
<td>2.70</td>
<td>7.65</td>
</tr>
<tr>
<td>C</td>
<td>4.10</td>
<td>10.05</td>
</tr>
<tr>
<td></td>
<td>5.40</td>
<td>12.30</td>
</tr>
</tbody>
</table>

**Note:** (1) Assumptions A, B and C are consistent with a net average annual growth of manufacturing jobs of 7,000, 12,000 and 17,000 respectively, when taking 1971 as base or with 9,000, 16,000 and 22,000 when using 1975 as base year. The symbols Q, E and E* are as used in the text, i.e., for the average annual growth rate of manufacturing output, employment and man-hours respectively.

It may be observed, that the variations of the estimates on the required growth of output between the two tables, while retaining the same assumptions on employment requirements and time-span, is mainly the outcome of the difference in the value of the regression constant. The higher negative intercept of the second regression, Table 8.6, implies that, other things being equal, the required growth of manufacturing output will be higher for given employment requirements. Yet abstracting from the regression constant the association between the growth of manufacturing output and employment remains the same in both instances.*

* The trend of adjustment in the constant rather than in the value of the regression coefficient, the so-called 'Verdoorn effect', is also evident in Table 7.9.
Since the regression estimates refer to two sub-periods, 1953-’74 and 1966-’74, the question may be posed about the ‘appropriate’ sub-period for deriving the output requirements. The normal procedure is to use the regression estimates for the most recent sub-period. That is the weights of the immediate past are given greater influence in projections relative to the distant past. Against this is the fact that the 1966-’74 sub-period may not be regarded as sufficiently long, it is after all 13 years shorter than 1953-’74, and special factors may have intervened to make it rather atypical for the operation of the Verdoorn effect. Moreover, the longer sub-period, 1953-’74, does not completely neglect the post 1966 influences on productivity but rather places their impact in the context of longer term developments. Thus, though our initial predisposition was to favour the estimates generated by using the more recent regression results it is by no means conclusive that this preference can be maintained for all purposes.

It is clear, however, that whichever set of employment assumptions is used, the manufacturing output requirements for 1975-’86 are much higher than the Irish manufacturing performance for the post-war period (Tables 7.2 and 7.3). To put it differently it is not solely the possible shift in favour of productivity shares, as captured by the Verdoorn measures, that necessitates a higher growth in manufacturing output, but in the case of Ireland this is accentuated by the prospective growth of manpower (Tables 8.1, and 8.2). Hence, the immediate issue is how far greater are the manufacturing growth requirements to be consistent with the existing labour force projections and not whether they are greater vis-à-vis past manufacturing performance. To do this entails a comparison of the estimates obtained by the Verdoorn elasticity ratio (Tables 8.3 and 8.4) with the results obtained by the regression method (Tables 8.5 and 8.6). The underlying premises for such a comparison are worth restating:-

(1) Since we are interested in the required growth of output consistent with the prospective, until 1986, growth of the labour force then the suitable time-
span of projections is 1975-’86 and not 1971-’86.

(ii) If manufacturing employment is to make its desired contribution to the employment objective by 1986, its net growth, from those considered, is in the range of 16.0 to 22.0 thousand per annum.

(iii) The Verdoorn elasticity ratio of manufacturing employment on output has been, invariably, less than 0.50 and, generally, above 0.30 for post-war sub-periods in Ireland. In consequence, from the range of elasticities considered in Table 8.4, only values 0.35 and 0.40 are operationally significant.

On these premises the focus of comparison is, primarily, between the middle two rows of the last two columns of Table 8.4 with the last two rows and columns of Tables 8.5 and 8.6. It can be observed from the last two tables, for example, that the results generated by the regression estimates produce a cluster of values within the limits of 10.75 to 14.75 for the required average annual growth of manufacturing output. When the output estimates derived from the simple Verdoorn elasticity are admitted, however, the range alters with the upper limit reaching, in average annual terms, 19.50 per cent. It is only on the assumption that the Verdoorn elasticity in the future is likely to be 0.50 that the desired employment growth 'C' (i.e., 22,000 jobs per annum) is consistent with manufacturing expanding at 13.60 per cent per annum.

On this restrictive assumption then the estimates obtained for the average annual growth of output by Verdoorn’s regression method, viz., 10.75 to 14.70 per cent, envelop the result from Verdoorn’s elasticity ratio, viz., 13.60. Generally, however, for specified employment requirements the output estimates obtained from Verdoorn’s simple ratio, values 0.35 to 0.40,
have a wider range and a lower limit which is higher than the equivalent estimates generated by Verdoorn's regression method. This can be seen, for example, by considering assumption 'B' - that is that the desired growth of manufacturing employment for 1975-'86 is, on average, 16,000 jobs or 5.40 per cent per annum. The average manufacturing output requirements, consistent with the above, are within the range of 10.75 to 12.30 using the Verdoorn regressions and between 12.75 to 15.40 per cent per annum by the simple elasticity ratios. In this limited sense the two Verdoorn regressions for Tables 8.5 and 8.6 give a finer specification of the warranted growth of manufacturing output than the Verdoorn simple elasticities considered. The term 'finer', however, should not be interpreted as 'better' for given the required employment magnitudes and the time-span involved the search for single target output specification is more elegant than valid.

It may be worthwhile, at this stage, to retrace with a diagram (given overleaf) the main steps of the last few sections.

8.3 THE 'EXPECTED' GROWTH OF MANUFACTURING EMPLOYMENT

This section is concerned with Verdoorn estimates of the expected growth in manufacturing employment for 1975-'86 using past-trends and planning projections about the growth of manufacturing output. It must be pointed out that there are good reasons for avoiding the temptation of equating the expected growth of manufacturing output with past growth trends of the same variable. The major one, in the case of Ireland, is that new manufacturing output and employment depends heavily on the prospective attraction of foreign companies. The Head of the IDA suggested that the jobs to be generated by new overseas companies, for 1975-'86, may be as high as forty per cent of all additional manufacturing jobs.* The issue here is not whether such estimates are reliable

Projected 'Non-Farm' Labour Force (Terminal Date 1986)

\[ \leftarrow \text{NESC Report (N=5) and Professor Walsh's updated study (1977)} \]

'Non-Farm' Employment Manufacturing Employment 1971, 1975

\[ \leftarrow \text{CSO Quarterly Industrial Inquiry and Trends in Employment and Unemployment for 1971 and 1975} \]


\[ \leftarrow \text{NESC Report (N=5) and Trends in Employment and Unemployment} \]

(Three growth rates, A, B and C, considered for each sub-period)

\[ \leftarrow \text{Symposium on Employment (1975), NESC Reports (5 and 7) and Tables 8.1 and 8.2} \]


\[ \begin{align*}
\text{Range of Verdoorn Elasticities, } E & \text{ on } Q (\text{Table 7.4}) \\
\text{Projected Warranted Growth of Manufacturing Output} & \text{ (Tables 8.3 and 8.4)} \\
\text{Verdoorn Regression Equations } E & \text{ on } Q (\text{Chapter 7}) \\
\text{Projected Warranted Growth of Manufacturing Output} & \text{ (Tables 8.5 and 8.6)} \\
\text{Selected Growth Rates of Warranted Output based on:} \\
a) & \text{ Sub-period 1975 - 1986} \\
b) & \text{ Required Growth in Man. Employment B and C.} \\
c) & \text{ Verdoorn Regression Equations or Elasticity Values.}
\end{align*} \]
but, rather, to the extent that existing industrial policies are geared to job creation through prospective inflows of overseas investment, then past trends of manufacturing output are of limited value for employment projections. In short, the Verdoorn methods are of assistance for employment estimates once the expected growth of manufacturing output can be stipulated but, in themselves, they do not guarantee that such an expansion will be forthcoming. Under these circumstances what could be attempted is to estimate direct manufacturing employment consistent with given output trends or with output targets that, from time to time, have been suggested as feasible in planning documents.

The method followed here for estimating the growth of manufacturing employment is to use the Verdoorn regressions, E or E* on Q provided earlier, p. 8-16, with output growth rate obtained from Irish historical data and planning documents. In the first instance the output growth rates considered, as the exogenous values for the regressions, were the annual average growth of manufacturing output for the 1959-'73 and 1966-'73 sub-periods.* Thus, the manufacturing data used to estimate the regression equations E on Q and the exogenous values for manufacturing output is fairly comprehensive (42 industrial groups) and spans a good part of the post-war period. In addition two other exogenous values for manufacturing output, taken from past planning papers, were considered in this exercise. The first was the 8.50 average annual percentage increase of industrial output thought feasible by the authors of NIEC's Report on Full-Employment (1967) and the second was the 7.8 average annual expansion considered tenable by the recent Green Paper (1976).

* The years 1959-'73 have been chosen to coincide with the longest time-span of uninterrupted growth for the Irish manufacturing sector - on this see chapter 2 of the thesis. As such, it is relatively free from cyclical fluctuations and the employment estimates would not be biased downwards by the effects of the post 1973 economic recession. The second, 1966-'73, sub-period again pre-dates the recent world recession but it overlaps with the period of increased variations in 'unexplained' productivity already discussed. As will be seen, Table 8.7, however, the growth rate of manufacturing output for the two periods was very similar.
on planning.* In all, four alternative values, 6.50, 6.80, 7.80 and 8.50, were used as the exogenous input for the Verdoorn regressions E or E* on Q to estimate the expected growth of manufacturing employment. Based on these assumptions detailed estimates have been prepared on the growth of manufacturing employment for 1975-1986 and a summary of the results is presented in Table 8.7.**

TABLE 8.7
'Expected' Average Annual Growth in Manufacturing Employment, 1975-1986

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Base Year Employment 204,000)</td>
<td>(Base Year Employment 226,000)</td>
</tr>
<tr>
<td></td>
<td>a (1)</td>
<td>b (2)</td>
</tr>
<tr>
<td>6.50</td>
<td>6820</td>
<td>4550</td>
</tr>
<tr>
<td>6.80</td>
<td>7360</td>
<td>5000</td>
</tr>
<tr>
<td>7.80</td>
<td>9090</td>
<td>6550</td>
</tr>
<tr>
<td>8.50</td>
<td>10270</td>
<td>7730</td>
</tr>
</tbody>
</table>

Note: a and b refer, in turn, to regression equations,

\[
E = -0.94 + 0.59 Q \quad r = 0.84
\]

(0.06)

\[
E^* = -1.73 + 0.58 Q \quad r = 0.78
\]

(0.07)

Where Q, E and E* are the average annual growth rates for manufacturing output, employment and man-hours respectively. The first two exogenous values for output (6.80 and 6.50) have been taken from the Census of Industrial Production Reports for the sub-periods 1959-1973 and 1966-1973 and the latter two values (7.80 and 8.50) from the Report on Full-Employment (1967) and the Green Paper (1976) on planning.

* cf. Report on Full Employment, (1967) NIEC Report No.18, Table 9, p. 40 and Economic and Social Development 1976-1980 (1976), Prl. 5758, Table 13 p. 33. It is interesting to note that the output industrial targets, in average annual terms, of the Second and Third Programmes, set out in Tables 5.1 and 5.2, fell within the limits of 6.50 to 8.50 considered in this section.

** These estimates are presented in Appendix E, Tables E1 and E2.
A cross column comparison reveals that variations in the estimates accounted for by differences in manufacturing employment at the base year (columns 1 and 3 or 2 and 4) are secondary to the effect of the regression constants (columns 1 and 2 or 3 and 4). Hence, it is not entirely of academic interest to have some idea about the minimum growth of manufacturing productivity before the strong association between the additional growth of manufacturing output (Q) and productivity (P) can be observed in the series. The implication of the first regression constant is that, on average, near one per cent growth of manufacturing productivity will be expected to occur yearly irrespective of the growth of manufacturing output while for the second regression is almost two per cent. An outcome of this, for example, is that a 6.50 average growth in manufacturing output is associated with 2.90 average annual growth in employment for regression a and it decreases to 2.00 per cent annually for regression b. Even more important differences (than the impact of the constant) on the employment estimates result from the different output assumptions considered. That is the range of employment variation by column generally exceeds the limits of employment variation across rows.* An implication of this is that over the period considered, 1975-186, what will matter for employment purposes

* More precisely the maximum variation of job estimates for each of the four rows and columns of Table 8.7 are:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>row</td>
<td>3090</td>
<td>3180</td>
<td>3540</td>
<td>3730</td>
</tr>
<tr>
<td>column</td>
<td>3450</td>
<td>3180</td>
<td>3820</td>
<td>3550</td>
</tr>
</tbody>
</table>

Reading across rows, for Table 8.7, implies that for a given assumption about manufacturing output growth employment estimates are generated subject to the time period considered, the Verdoorn regression used and the base year employment. Alternatively, reading down columns implies reversing the order of the assumptions so that for a given assumption about time period, the Verdoorn regression estimates and base year employment one estimates employment changes associated with different rates of manufacturing output growth.
A cross column comparison reveals that variations in the estimates accounted for by differences in manufacturing employment at the base year (columns 1 and 3 or 2 and 4) are secondary to the effect of the regression constants (columns 1 and 2 or 3 and 4). Hence, it is not entirely of academic interest to have some idea about the minimum growth of manufacturing productivity before the strong association between the additional growth of manufacturing output (Q) and productivity (P) can be observed in the series. The implication of the first regression constant is that, on average, near one per cent growth of manufacturing productivity will be expected to occur yearly irrespective of the growth of manufacturing output while for the second regression is almost two per cent. An outcome of this, for example, is that a 6.50 average growth in manufacturing output is associated with 2.90 average annual growth in employment for regression a and it decreases to 2.00 per cent annually for regression b. Even more important differences (than the impact of the constant) on the employment estimates result from the different output assumptions considered. That is the range of employment variation by column generally exceeds the limits of employment variation across rows.* An implication of this is that over the period considered, 1975-'86, what will matter for employment purposes

* More precisely the maximum variation of job estimates for each of the four rows and columns of Table 8.7 are:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>row</td>
<td>3090</td>
<td>3180</td>
<td>3540</td>
<td>3730</td>
</tr>
<tr>
<td>column</td>
<td>3450</td>
<td>3180</td>
<td>3820</td>
<td>3550</td>
</tr>
</tbody>
</table>

Reading across rows, for Table 8.7, implies that for a given assumption about manufacturing output growth employment estimates are generated subject to the time period considered, the Verdoorn regression used and the base year employment. Alternatively, reading down columns implies reversing the order of the assumptions so that for a given assumption about time period, the Verdoorn regression estimates and base year employment one estimates employment changes associated with different rates of manufacturing output growth.
is not simply the 'autonomous' shift of productivity, which has been associated with both high and low growth of manufacturing output, but whether manufacturing output will, on average, exceed its past performance.

The overall result of this exercise, however, is quite clear. That is, on no occasion do the average annual estimates of manufacturing employment associated with the rates of output growth, considered in Table 8.7, approach the required 16 to 22 thousand jobs consistent with the current expansion of the Irish labour force. In fact, if the past 1959-’73 rate of output growth of the manufacturing sector is maintained the direct employment estimates, consistent with such performance, is not greater than 8,000 jobs yearly.* It is in this sense that the growth of Irish manufacturing output for 1959-’73 appears unexceptional when contrasted with the existing employment task. This does not imply that open unemployment, i.e., the official numbers on the 'Live Register', will necessarily reflect the shortfall in employment opportunities if manufacturing expansion is retarded.

First, there is the possibility of resumption of Irish emigration, especially in working age groups, to neighbouring labour markets.**

---

* The same conclusion is reached if one contrasts the estimates of the warranted growth of manufacturing output, Tables 8.4 and 8.6, with the above rates of manufacturing output. It has been argued, in the previous section, that given a number of plausible assumptions that the cluster of values of the average annual growth of manufacturing output consistent with stated employment requirements was in the region of 11 to 14 per cent for 1975-’86. This range of values is substantially higher relative to past manufacturing performance or the industrial targets of recent planning documents.

** W. Keating (1977) found that although between 1971-’76 there was, overall, a small inward movement of people into Ireland, there were still 27,000 net emigrants in the working age groups (15-64). Keating, however, proceeded in the same article, Table 9, to extrapolate relatively large numbers of Irish emigrants, 95,000 in the age group 20-29 for 1976-’86 irrespective of the pace of job creation in Ireland and developments in neighbouring labour markets. The Keating estimates, therefore, are not very appropriate for the purpose of estimating either the potential growth of the labour force or the job-requirements in the 'non-farm' sector which presuppose an interaction between job-creation and migration flows. On this see B.M. Walsh "Expectations, Information and Human Migration: Specifying an Econometric Model of Irish migration to Britain", Journal of Regional Studies, Vol. 14, No. 1. 1974.
It may be counterargued that this would partly depend on the economic prospects of the British economy. This granted, it may be pointed out that despite the slackening of the British labour market the rates of unemployment there are much lower than the above 10 per cent, registered unemployment, recorded since late 1974 for Ireland. The other factor is one of the relative size and proportion of the Irish and British labour markets. Namely, that a 10,000 annual adult emigration from Ireland, which by historical rates is not high, would reduce the prospective growth of the labour force by, approximately, one third yet this is a very small change when considered in the context of the British labour market.* To the extent, however, that the suppositions here about the factors currently inducing a resumption of emigration, in the working age groups, are exaggerated then one would expect that rates of open unemployment in Ireland would be a better reflection of the state of the domestic labour market than they have been hitherto. The second possibility is that the outflow from the farming sector would not be as high as expected by the NESC projections on the 'non-farm' labour force. Finally, manpower participation rates have been found to be inversely related to unemployment rates and married women's activity rates to job opportunities so that there may be either withdrawals from or postponement in joining the labour force that would not be reflected in the insured unemployment statistics,**

* The CEPG, for example, stated that Britain's labour supply which was virtually constant between 1963-73 is currently rising by about 150,000 people or over ½ per cent each year. It is this factor plus the high unemployment rates already existing that have induced the same group of economists to argue that growth rates of output achieved in the last two decades are plainly insufficient to deal with the employment task ahead. To this end see, for example, Economic Policy Review (March 1977) pp. 12-14. The same set of conclusions on British employment prospects was also reached by one member of the CEPG group a few months earlier. Vide T.S.Ward, The Chancellor's December Measures and Economic Strategy, December 1976, mimeo.

In all, a failure to provide jobs is not fully reflected in the statistical classification on unemployment in Ireland because of the emigration outlet, including the proximity of the British labour market, and the relative size of the farming and distributive sectors which can still disguise the shortfall in industrial jobs under such categories as 'unpaid relatives' or 'not gainfully employed'.
In a collective way the dilemma facing the Irish State, at present, is similar to the one posed by Keynes, half a century ago, in his paper "The End of Laissez-Faire" (1926).* Namely, what should be the role of the State at a time when the market cannot be relied on its own to secure major priorities, including adequate growth of employment, while the political preference is for a society upholding the main tenets of the market. The introduction of planning in Ireland was, in essence, a search for an agenda of the state, a vehicle of ideas about a strategy for development and an attempt for a dialogue between the government and the major interest groups. By stating this one does not wish to detract either from the personal contribution of Dr. Whitaker, discussed in chapter 4, or from the more proximate explanations, e.g., the then economic recession, on the timing of the First Programme in 1958.

Dr. Whitaker pointed out, in Economic Development (1958), that his work was a contribution towards a plan but that the debate on planning could not have progressed without a positive response from the political domain - including the

* A major innovation in that paper, published ten years before The General Theory, was the idea of an Agenda for the State. There he distinguished between "those services which are technically social from those which are technically individual". Keynes then proceeded to argue that -

"The most important Agenda of the State relate not to those activities which private individuals are already fulfilling, but to those functions which fall outside the sphere of the individual, to those decisions which are made by no one if the State does not make them" (Collected Writings (1972), Vol. IX, p. 291).

The casual reader may infer that little of this preoccupation with long-term issues, regarding the direction of investment and the social implication of his work, remained in The General Theory. Such an inference would be unwarranted for these matters were once again considered in The General Theory whenever Keynes was considering the long-term aspects of his work (e.g., Chapters 12 and 24).
government.* As we have seen, chapters 5 and 6, the response from the State, especially for the duration of the Second and Third Programmes, was ambiguous. The commitment and emphasis was on 'having a plan' yet the State's planning activity was generally confined to the design stage of the programme. Hence, such issues as the choice of priorities, the role of the public sector and the means for implementation were not adequately resolved. It has also been argued that the low political commitment was reflected by the anomalous status of the planning 'targets' which expressed neither desired outcomes nor expected trends. The tendency for the successive programmes to absolve the State from any responsibility towards implementation would not have maintained its apparent respectability but for the chosen theoretical framework and planning methodology used. That is, it is the type of neoclassical ideas on planning examined in chapter 3 that provided the rationale for the Irish planners for leaving such matters as objectives and development strategies to market forces while viewing the State as an information broker. Irrespective of the logical problems with Meade's scheme, his claims on behalf of 'non-interventionist' planning are much more modest in objectives and clear in its assumptions than the equivalent assertions made by some Irish economists. The culmination of these ideas were embodied in the use of the iterative procedure where the schism between the plan and the State was complete and 'targets' were offered as if they were objective values independent of policy considerations. The major drawback of the iterative procedure was in its use, particularly the way it by-passed issues concerning planning priorities and implementation, rather than the technical weaknesses that have been explored in chapter 5 and elsewhere. It is

* Dr. T.K. Whitaker reiterated his views on the political prerequisites to planning subsequently, in "Economic Planning in Ireland", Administration, Spring 1967, and "Planning Irish Development", a paper read at the 1976 Summer Course of the Irish Congress of Trade Unions. It is noteworthy that over the years Dr. Whitaker has become increasingly concerned with the organisation of the planning effort in Ireland and with the widening of the collective bargaining framework before further plans are committed to print.
singly a rare occasion where the low political commitment of the government to specific programmes could have been validated by an appeal to a theory of planning that deemed this desirable.

The pessimism expressed at present about the prospects of planning in Ireland is only partially the outcome of the ill fate of the last two programmes and the slow progress in the interim, 1973-’77, period. It is also the result of the increasing scepticism about the particular set of ideas that have come to be associated with Irish planning.* The paradox is that though planning is deemed necessary, no less as a statement of intent over employment and a political rallying point, past experience leaves its adherents rather uncomfortable as to its content or direction. In other parts of this work, including chapter 6, we have examined what in our view have been the major weaknesses of Irish planning and suggested how its organisation and implementation procedures could be strengthened. It was also pointed out that the discussion was incomplete without an examination of the output and employment relationship in the industrial sector and labour force projections. Both elements are essential for the development of an employment strategy yet they have been neglected in Irish plans. These issues formed the focus of interest of the last two chapters where it was found, inter alia, that there are structural aspects to the employment difficulties that ante-date the 1974-’76 economic recession and that over the medium or long-term period employment prospects are closely connected to industrial expansion.

* See, for example, the NESC comments on the Economic and Social Development, 1976-’80 (Report No. 33, 1977). NESC was not only doubtful about the validity of particular targets but more significantly about the value of the entire exercise given that the required policies for implementation were not explicitly discussed by the Green Paper. Yet, surprisingly, the methodology and general content of the recent Green Paper differs little from the First Part of the Second Programme (Pr. 7239) and the Third Programme (Pr. 431) which at the time, 1963 and 1969, were favourably received.
The sections that follow though depending on the findings of the earlier chapters are by no means a summary of them. The object, rather, is to simplify further some of the issues and to delimit the prerequisites for a framework within which planning proposals would command a better hearing. That is, where the promotional functions of a plan are subordinated to the requirements for implementation and the aura for having a plan is made a poor second to the determination of its priorities.

9.1 PLANNING STRUCTURE AND DIRECTION

The first possibility is to continue planning on traditional lines with no direct commitment by the State other than that of an adjunct to the market. As we have already argued, this does not imply that there is no planning role for the State but that the responsibilities of the latter are confined to assisting firms with extraneous 'uncertainty' and, indirectly, seek expansion through suasive means.* This approach would be in line with Meade's theory of indicative planning and would also satisfy Marx's aphorism that "the executive of the modern state is but a committee for managing the affairs of the whole bourgeoisie".** We have been critical of the approach both in theory and practice, yet its influence amongst certain academics should not be underestimated. A reiteration of such a viewpoint, for Ireland, is given by Meenan (1970) and earlier commitments to the same end by FitzGerald (1968) and Donaldson (1966). Yet Professor Meenan, unlike Meade, claims much more on behalf of 'non-interventionist' planning for he is convinced that the operation of market forces can result in high employment, social equity and industrial transformation without

---

* cf. Chapter 6 and Appendix F.

the State's intervention.*

The second possibility is, in principle, more ambitious and the one least considered by the present work: namely, the case for a fully centrally planned economy perhaps as described by the small socialist groups in Ireland and certainly Marxist.** A reason for keeping clear of this type of option is that it is based on such fundamentally different political premises, both in conception and implication, that no insights about the merits of that case can be inferred from this analysis. To go one further, it is very doubtful whether the case for this type of socialism for Ireland can be distilled by studying two narrow facets - planning and employment - of that society. That some Irish socialists have used the employment and planning difficulties as the reason for socialism makes their argument appear both a deus ex machina and superficial. To state this in a different manner: does the socialist case vanish when 'capitalist' nations attain near full employment? One can answer this question in the negative, as most socialists would be inclined to do instinctively, provided the case for socialism can be made on its own merits or otherwise irrespective of the existence

** Under the guise of 'liberalism' Meenan was warning Irish policy makers and economists in 1957 against Keynes's ideas about state intervention in investment decisions by invoking the 'threat to freedom' argument propounded by Hayek. As we have seen in chapter 4, Ireland in the middle of the 1950s was undergoing an acute economic recession with falling output and investment, large scale plant underutilization and mass emigration while prices and money incomes were either stable or falling. Moreover, private savings which Meenan thought was the reason for the low investment, at that time, were in fact being transferred overseas because of lack of domestic opportunities. By 1970 Meenan found no difficulty in reconciling his earlier views on the inherent tendencies of the market to satisfy socio-economic objectives with his new conversion to 'non-interventionist' planning which he interpreted as evidence of the State's submission to the self-regulation of market forces. See J. Meenan, "The Political Economy of Development", JSSISI, Part 1, 1957-58, and The Irish Economy, Liverpool University Press, 1970.

** cf. The Irish Industrial Revolution, REPSOL, 1977, or the joint document by Sinn Fein and the Communist Party, Go To Work Ireland, 1976.
of particular economic exigencies affecting non-socialist countries at points in time.* The more basic reason for not pursuing holistic solutions, proffered by some Irish marxists, is that we have been concerned with economic problems whose means of betterment can be found within a system of parliamentary democracy. This is not accepting the conservatism of the existing orthodoxy but rather to recognise that the political culture and certain social values are not tradeable goods vis-a-vis the problems we have examined. Whether one uses the existing political system as a priority to be maintained or as a constraint to be adhered to, the end product points in the same direction. That is, the goodwill of society (including that of the labour movement and the political flexibility of the major parties in Ireland) stopped short of accepting a centrally planned economy, in the marxist sense, as a means of solving the problems we have been examining.

This sharp distinction between 'non-interventionist' planning and a fully centrally planned economy is of assistance in tracing the political and social implications associated with each set of ideas - matters that are usually left obscured by their protagonists. But there is not, perhaps, much more that one can learn about the Irish planning experience by contrasting these pure forms of planning exercises for in reality the options are not presented in these terms. One can observe, in principle, considerable agreement on overall objectives while competing strategies imply different degrees of State intervention and planning responsibility for the government. The difference of opinion was, essentially, how best to serve these objectives - including the agenda of the State, the role of industrialisation and the participation of the

* James Connolly was keenly aware of the need to develop the case for an Irish socialist society in its own right rather than as an escape from particular economic difficulties which may have proved transitory. To this end see, for example, his ironic ridicule of an adherence to 'practical politics' by socialists who are prepared to stake the validity of their convictions on whether capitalism is capable of overcoming given economic difficulties at particular points in time. cf. James Connolly Selected Political Writings, edited by O. Dudley Edwards and Bernard Ransom, London 1973, particularly pp. 250-252 and 375.
labour movement - and not between mutually exclusive planning formats which can be regarded as ends in themselves.

Attention has been given in previous chapters in specifying those proposals that, in the main, can be incorporated within the traditional framework of planning in Ireland from the rest which imply a more radical departure. For example, it has been argued that, granted an acceptance of the iterative procedure, consistency checks can be used on the output and employment relationships posited. These checks are based on the statistical association between the growth of industrial output and productivity that has been found for Ireland and elsewhere. This will enable the planners, inter alia, to separate desired from possible values and also abandon the discredited assumption that the growth of industrial output and productivity are unrelated. Some of the results of this alternative approach have been presented in the last two chapters and their appendices. Yet this does not meet the more inflated claims made on behalf of the iterative procedure which was assumed to separate planning from politics. It was argued in chapter 5 that this type of interpretation was misleading for the setting of targets still presupposed political initiative if not commitment. In short the objectivity of these planning techniques cannot be stretched to replace what have been regarded as more political and controversial ways for setting priorities. It was also suggested that the State, far from remaining the passive agent in the planning process as in Meade's theory, has to bargain with competing groups in the market over strategies and potential controls before the planners can examine whether the objectives of the plan are in accord with accepted policies. Hence, the role of the State is not confined to a broker of information and it becomes the focus for widening the framework of collective bargaining and for establishing priorities that would otherwise be neglected by the market. In this process there is likely to be antagonism between the political party in power and some of its traditional supporters but such antagonism cannot be evaded by exaggerating the
objectivity of the planning techniques. Such an objectivity does exist but it does not neutralise all potential conflict over priorities and policy controls. The issue, is, therefore, whether organisational structures can be developed to channel such differences or whether in their absence this will lead to more open conflict.*

While examining the institutional aspects of planning in Ireland it was found that there was a strong bias to:

(a) Exaggerate the role of the predictive functions of the programme at the expense of considering policies for implementation or attending to the adaptation measures once developments were off-course.

(b) Concentrate unduly the planning process at the design or target setting stage of the plan and treat review and implementation as routine activities. Thus such operations as consultations with industry and labour, departmental estimates for the plan and the commitments given in the Finance Statement were at their peak during the year of plan inauguration and then became less frequent or lapsed.

One suggestion explored for counteracting such tendencies was to strengthen the review and consultative procedures of the

* It may be noted that Kalecki (1943) writing on the post-war prospects felt confident about the capacity of industrialised countries to secure full employment yet he was sceptical whether this advance would have been accompanied by institutional developments 'to reflect the increased power of the working class'. It was this possibility, whose consequences he termed the "political business cycle", which made him doubtful about the long-term maintenance of full employment. A few American economists, some three decades later, have been voicing a similar doubt which has prompted them to consider planning as a means of effecting warranted socio-economic changes. To this end see R.A. Musgrave "National Economic Planning: The US Case", American Economic Association, Papers and Proceedings, February 1977.
plan. Given the difficulty for a small open economy in finding a planning trajectory (i.e., a course of targets for the entire duration of the plan) that will remain unaltered then the review stage should not only be an accounting exercise comparing targets with outturn but reappraise the plausibility of targets and determine whether they are still useful guides to action. To do this it would require, inter alia, the reactivation of the consultative procedures with market groups that were confined to the preparatory stages of the Irish plans. Thus, by not restricting consultation to a 'one-off' activity, the review stage becomes a mini-plan exercise rather than merely updating data while treating all the initial planning assumptions as invariant. All this does not deviate greatly from the existing planning framework but rather brings to the fore some of the lessons that can be learned from the Irish experience.

There is, however, a potentially more controversial possibility for dealing with this as argued elsewhere, e.g., in chapter 6 of the study. We have suggested that part of the inordinate emphasis on projections was related to the narrow scope of planning and to the limitations imposed by what were regarded as 'acceptable' policy controls by the authors of the Irish plans. It was, for example, deemed outside the scope of the Irish plans to consider the flow of investible funds - including the right of overseas companies to a full repatriation of profits - income distribution, and the progressive elimination of trade protection. Yet on two occasions, 1965/66 and 1970/71, the government resorted to deflationary measures, to rectify difficulties on the external account, which compromised the output and employment objectives of the economic programmes then in existence. More explicitly the Second and Third Programmes accepted as parameters the free movement of capital funds, the absence of control over domestic monetary policy and the form of EEC membership. These trends were reinforced by neoclassical and monetarists arguments in Ireland regarding the desirability of a free movement of private capital funds,
against interference with trade flows and maintaining that the rate of domestic inflation was totally independent of market forces - viz., domestic collective bargaining.* Thus, the narrow scope of Irish plans and the attenuation of policies regarding the direction of investible funds, collective bargaining and trade protection came to be regarded as both desirable and irrevocable. Projections and other similar techniques, e.g., surveys and producers' intentions, were used not as ancillary to decisions about implementation but were promoted as substitutes for 'anticipating correctly' developments in areas that were deemed outside the scope of the plan or the influence of the State.**

These examples have been given to demonstrate that there is scope for modest changes and improvements - both in the techniques and in organisational arrangements - within the traditional framework of planning in Ireland. It must also be conceded that the more basic proposals regarding the methodology of the plans, the role of the State and the retrieval of Keynesian prerequisites for the management of the economy cannot be readily reconciled with the form of non-interventionist planning examined in chapters 3 and 5. To state this matter more simply, the direction of planning in Ireland is unlikely to be significantly affected by avoiding the technical pitfalls in the iterative method and by the more frequent use of the review and consultation procedures. It is, however, a qualitatively different argument that the weak

* A recent example of this stance is P.T. Geary's "Wages, Prices Income and Wealth" in N.J. Gibson and J.E. Spencer (eds.), Economic Activity in Ireland (1977).

** It would seem that the tendency to treat optimistic projections as self-fulfilling was not confined to the plans that we have examined already. NESC complained about the now defunct document, Economic and Social Development 1976-1980 that "The major weakness of the Green Paper does not lie in its projections. Nor does it lie in any confusion about the problems that must be resolved if a better economic future is to be assured.... The major weakness lies in the fact that no policies have as yet been put forward by the Government to resolve their problems." (NESC Report, No. 33, p. 20, 1977).
Implementation and high obsolesence of specific Irish plans is not viewed as an incoherent mistake but an attribute of the type of 'non-interventionist' planning used.

9.2 THE CASE FOR A PERSPECTIVE PLANNING DOCUMENT

By a perspective planning document we mean something akin to Keynes's concept of an Agenda of the State rather than the compendium of socialist tools and state controls of 'the commanding heights of a planned economy' that such a phrase has come to characterise.* The idea is for a document to deal with the long-term objectives and other strategic considerations of planning which cannot be explored within the traditional format of Irish plans. This exercise should clear the way on planning objectives and on the admissible policy controls before medium term plans, usually of four to six years duration, are introduced. Hence, for our purposes perspective planning can be described more loosely as a prelude to planning than an actual plan. It may be pertinent to summarise some of the considerations that would make such an approach useful in the present debate regarding the scope of future plans.

It has been argued that a number of objectives are unlikely to be secured within the traditional format and length of the previous Irish plans. As we have seen in the last chapter the employment requirements are likely to be accentuated in the next decade and progress in this direction can be checked by a slow growth of industrial output, absence of agreed norms about collective bargaining and by broader issues regarding social equity. A premise here is that the State's endeavour to reduce unemployment is received with a measure of goodwill by the bargaining groups (as expressed by voluntary wage restraint) yet this sympathy is dissipated if it does not find an expression in a bargaining

process that is more comprehensive than the conventional wages round.* Given that the last two plans fell generally short in achieving their specific objectives the pursuit of ambitious targets by suasive means ought to be reconsidered. For, as a result of the disappointment with the progress of the last two programmes what is at stake currently is not merely whether particular targets appear plausible but also the credibility of planning itself. A demerit of the earlier plans was the assumption that their educative role was clearly recognisable from the targets with accompanying neglect of considerations about the choice of priorities and their implications for the rest of the community.

It would seem that, from past experience, Irish planners cannot proceed on the assumption that the management of the economy will be in accord with the plan's objectives and then provide ambitious estimates or projections that purport to validate this assumption. That is, the traditional separation of the management of the economy, e.g., as expressed in the annual or bi-annual Financial Statements and of planning has not yielded mutually reinforcing results. Indeed on occasions the plan's objectives on output and employment were compromised by what appeared as immediate exigencies. Hence, balance of payments difficulties became synonymous with exigent deflationary measures at a time of high and growing unemployment, and when the classical tenets of free movement of capital funds and a deeply felt commitment against the re-introduction of trade protection were maintained. What is suggested here is not that the perspective document would be able to offer remedies that would banish once and for all difficulties on the external account, but that it would examine the alternative options to managed deflations as the only solution.

* cf. The ICTU Annual Report for 1975 contained a special memorandum, pp. 170-185, on the priorities of the trade union movement. In that document the delegates indicated their willingness to accept a voluntary policy for incomes provided other matters, e.g., employment and social policy, were also placed on the agenda for discussion with the Government and the Employers.
That is in a perspective document the policy options and their efficacy become a legitimate subject of inquiry unlike the restriction placed on successive Irish plans to accept these as given.*

The responsibility for this, however, does not rest entirely with domestic policy makers. The terms of Ireland's entry to the EEC acknowledged the structural economic differences amongst member countries with an accompanying commitment for a 'harmonious development' of member states. An implication of this is that there is a certain responsibility on the part of the richer creditor nations to facilitate the transfer of resources so that difficulties, e.g., on the external account, do not compromise the shared objectives on growth and employment. An alternative would be to allow a certain flexibility for introducing or maintaining measures, e.g., the tax relief on industrial exports, in the effort to encourage the expansion of the manufacturing sector. As we have seen, in the case of Ireland, at least, the expansion of this sector is a necessary precondition if the next decade is not to be a continuation of the unprecedented employment difficulties of the recent past. What would appear unsatisfactory is a regime of inter-country agreements where the onus for correcting balance of payments difficulties is placed on debtor nations while the agreement itself, i.e., EEC membership, precludes, in the main, the introduction of domestic policies other than the ones curtailing effective demand.**

* Contrary to what one may be lead to believe this is not as daunting a task as it may initially appear. Already a number of studies to be carried out by the ESRI or commissioned by NESC are on long-term structural objectives and policy means that could be regarded as potential inputs to a perspective planning document. See, for example, The ESRI Research Plan, 1976-1805 May 1976, and Prelude to Planning - NESC Report 26, October 1976. The danger rather, as in the 1960s is that institutional inertia or 'a wait and see' approach by the State will reinforce the restrictive focus of actual plans so that such efforts are allowed to lapse as with many of the NIEC proposals on planning a decade earlier.

** For a recent discussion on the general difficulties introduced by the instability of the international payments system see N. Kaldor "Inflation and the Recession in the World Economy", The Economic Journal, December 1976.
It is a matter of dispute whether the scope and controls exercised by previous Irish plans were consistent with the specific objectives that the planners were expected to accomplish. Both regional planning and the centralisation of collective bargaining, for example, evolved outside the sphere of the central plans.* It is difficult to see how in the absence of co-ordination between the planners and the groups involved in collective bargaining the authors of the plans could have abstracted from the domestic influences on Irish manufacturing prices.**

In short, though a perspective planning document would examine issues for the longer term it would be the nature of the questions raised, rather than the time period, that would separate it from the framework of the earlier planning experiments. Let us pursue this point a little further by summarising the kind of issues that such a perspective document might be concerned with:-

1. What aspects of the social and economic life are deemed to generate priority objectives and which of these can be dealt with by planning?

2. Within the existing economic and social constraints, what controls can be used by the policy makers? A severe weakness of Irish plans in the past is that they implicitly

---

* In fact the first major study on the effects of regional incentives is only being undertaken currently, on behalf of NESC, by Messrs. B.C. Moore, J. Rhodes and R. Tarling of the D.A.E. (Cambridge University). Yet the Third Programme (1969-72) pp. 167-168, accepted in faith the Buchanan (Regional Studies Report, 1968) thesis for extreme industrial concentration which the above authors have found seriously defective.

** Generally monetarists in Ireland find no difficulty in dismissing the effects of collective bargaining as irrelevant before issuing recommendations regarding anti-inflation measures. (See for example, papers and comments by P. Geary and T. Ryan to A Symposium on Inflation, JSSISI, Part II, 1974-75). For this they rely, rather indiscriminately, on M. Friedman's concept of 'natural unemployment' defined as a rate which if maintained will prevent acceleration of price increases. It is puzzling to see the practical merits of this device (whatever its alleged theoretical foundations) for Ireland, given that insured unemployment increased to over ten per cent and the consumer price index to near twenty per cent during the 1974-76 recession.
accepted a number of norms as constraints without making it clear why they accepted those norms as given. For example, the free movement of capital, the absence of monetary policy (including the autonomous abandonment of interest rate control), trade agreements and industrial strategies were treated by the planners as areas outside their scope of responsibility.

3. Which of the existing constraints are exogenous and which are endogenous or self-imposed? For example, both the components and potential of the tax system as well as the growth of money incomes were treated as data by previous plans when in a more serious planning exercise they would be amongst the first areas to be examined. It is interesting that the trade unions on two occasions in the past expressed their willingness to let the growth of money incomes be a negotiable topic for the plans provided employment and investment were also subject to planning.*

4. What is the role of the State, given the agreed priorities, and how can it plan its own activities? In particular, if output, accumulation and employment are put at the centre of the planning process, what strategies should the State develop in influencing these variables directly, and which for cushioning the impact of recessions on the private sector. In the past, the Irish government had no plan for its own activities, which dovetailed into the central plan, nor did it develop contingency strategies in case the ones outlined in the plans failed to bring about the warranted effect. Irish planning experiments can be described, in this sense, as "fair weather" planning. That is, if everything turned out to be in accord with the initial

* See the NIEC Report on Incomes and Prices (1969, No. 27) which was signed by the nominees of ICTU. But even more recently (November 1976) during the Tripartite Talks with the Government and Employers the ICTU prepared an internal document for its nominees at the discussion stressing that the growth of money incomes was negotiable provided that the policies for employment, planned economic growth and a more just tax structure were equally negotiable. cf. ICTU's Internal Aide-memoire for the Tripartite Discussions, November 1976.
assumptions then the plan was maintained; if not, then the plan was abandoned without an attempt to modify it by taking into account new developments.

5. What would be the role of the bargaining bodies, viz., employers and labour, if the demand for more active planning, which they endorse, is promoted? Both sides of industry have asked for employment and industrial expansion to be the centrepiece of the new deal while they agree on the introduction of policies for taxing farm income and leaving a higher proportion of earned profits for reinvestment. However, an agreement on goals does not imply an agreement on means, nor is there an awareness of the type of implications of the new responsibilities for these bodies if a new social contract, with emphasis on employment expansion, is drawn up.

These issues may be found embarrassing by the orthodox theorists of 'non-interventionist' planning who dislike the intrusion of political and institutional considerations in their subject of inquiry. It is clear from the previous examination of Irish plans, however, that attempts to short-circuit these issues by successive programmes was a major reason for their enduring difficulties.

Finally, there are three sensitive areas, political commitment to the plans, the status of overseas companies and inter-country movement of private capital funds that create their own uncertainties in any attempt at exploring the possible course of planning in Ireland.

Until recently, planning in Ireland has been "above politics" in the sense that the major political parties agreed on its premises, shared broadly the same economic philosophy and did not attempt to capitalise out of a failure of the plans, i.e., non-achievement of targets or abandonment. Though central plans were formally drafted under a Fianna Fail government this, as we have seen, did not imply a political commitment to the plan.
nor were the targets binding on the government. As Chubb and Lynch (1969) argued, the administration rather than the political parties was mainly responsible for instigating planning and for drafting its main contents. It is rather revealing that on no occasion did the main opposition party criticise the type of plans offered—even when such plans were prematurely terminated. The question does arise whether such a blanket uniformity of opinion will be maintained by the various political parties when planning is more active in the sense of directly influencing variables, e.g., the role of the public sector, collective bargaining and the direction of investment. Dr. Whitaker (1976) and Kennedy (1976) have expressed the view that planning in Ireland can only be made effective if it becomes a main criterion of success for a particular government in office. This may appear a simple point yet if accepted it would constitute a radical departure from past practices for it would imply, inter alia, that planning is no longer viewed as a process "above politics". More directly it would disturb the previous tacit agreement of the main parties to leave planning outside the sphere of political interest.

It would seem that the rate of expansion of the foreign sector, i.e., reinvestment by established overseas companies and investment by new ones, is faster than the rate of expansion of domestic owned manufacturing industry. Although there are no available estimates on the share of foreign industry, in terms of net output and employment, in the domestic economy, something is known about the proportion that new overseas companies contribute to investment and projected employment.* The existence of a large and growing overseas industrial sector in Ireland has implications, inter alia, for planning via its effect on the incentives for investment, its economic and technological links with the host economy and its influence on policy-making vis-a-vis flows of capital. In addition, there are political and social

issues at stake which go beyond economic considerations on the role of overseas companies. The Managing Director of the IDA, though acknowledging the importance of these wider considerations, has pointed out that the mandate of his organisation only extends to the encouragement of overseas companies to settle in Ireland.* The role of a perspective plan in this area would be to consider, for example, the contribution and share of overseas companies in output, employment and value added (net output). This kind of material which appears basic to any kind of discussion on the role of overseas companies in Ireland is not available at present. In addition it would include questions about the economic links between the foreign sector and the host economy, the difference between investment and taxation incentives given to domestic and foreign owned enterprises, the managerial and staffing procedures of such firms, and on the possible constraints imposed on fiscal and monetary policy of the domestic authorities via the concessions to overseas companies.

There are also certain legislative anomalies regarding the supply of information to the authorities, under the various companies acts, by overseas and domestic owned firms. Overall, the amount of information required from overseas companies, which are usually branches of multi-nationals is both less detailed and under fewer headings than that obtained from Irish firms. This is because as long as the firm is domiciled abroad or else the offshoot of a company with headquarters outside the country, it is the country of domicile rather than the place of operations that has legal claims over company information. Hence, the existing situation permits overseas companies several times bigger, in terms of employment and output, than their domestic counterparts to avoid divulging company information because of their overseas status. There are two options open to the authorities in seeking more information than at present available. First, informal pressure and

* Paper read to the Symposium on Increasing Employment, JSSISI (1975) op. cit.
suasion on individual overseas companies to adhere to the code applicable to domestic companies regarding information. This may not be the most effective procedure for again, in the final analysis, it leaves the decision in the hands of the company. Second, domicile abroad to be accepted for specified number of years beyond which overseas companies of certain size to be treated, for information purposes, on par with Irish firms. Under this scheme overseas companies will retain their special status, in the various company acts, for a given number of years after which size of operations rather than domicile will be the determining factor whether they will be treated on par with Irish firms.

The Commission on Emigration (1954) gave estimates of the outflow of investible funds by Irish citizens to overseas - mainly British - money and capital markets. The composition of these private holdings are primarily ownership of government stock or minority holdings in companies. No firm estimates are currently available on the size and direction of this outflow of capital funds - though a small internal inquiry was recently conducted by staff of the Central Bank. One question that arises is why such a reluctance to lend to the Irish Government when the rates of return and taxation (i.e., the absence of a capital gains tax in Ireland) on Irish State securities was traditionally more favourable than in Britain.* The availability of investible funds and the cost structure of its supply are additional issues affected by the policy of unhindered capital movements and the absence of control over domestic interest rates. In the Radcliffe Committee Report (1959)

* The Committee on The Functions, Operations and Development of a Money Market in Ireland (1969) concluded that (page 59): "The experience of the period from the early 1930s to the end of the last decade (i.e., 1959) suggested that a differential of from 20 to 25 per cent between Irish and British Government bond yields was usual, Irish yields being the higher of the two." For a comparison of Irish and British behaviour of yields on Government securities, see E. Nevin: The Capital Stock of Irish Industry (1963, ESRI Paper No. 17) and, in particular, Appendix B.
the emphasis was placed on the availability of funds, viz., 'the liquidity position of financial institutions' rather than variations in the cost of borrowing as the determinant for implementing existing investment plans.* That is, interest rate variations affected primarily the ease by which firms and individuals borrowed while demand factors, including expectations, affected the decision to invest. Nevertheless, it was acknowledged that interest rate variations were important for the activity rate in certain sectors depending heavily on external finance, e.g., construction. Whatever the bias of the argument for here, Irish planners proceeded as if the free flow of funds and the absence of autonomous monetary policy had no repercussions on their work.

To recapitulate, this final section has raised a number of issues that need to be examined, preferably, before the introduction of the next programme. Irrespective of the feasibility of the proposals for a perspective document it seems clear that neither the framework of collective bargaining nor the management and openness of the economy can remain outside the planning sphere, as during the Second and Third Programmes, without coming into conflict with the planning objectives or else upset the main assumptions of the programmes. In this light a perspective document is a means for considering

---

* The chapter on "The Influence of Monetary Measures" concluded, inter alia, that: "In theory, monetary action may work upon total demand by changing the interest incentive: we believe that only limited reliance can be placed on this. More certainly monetary action works upon total demand by altering the liquidity position of financial institutions and of firms and people desiring to spend on real resources: the supply of money itself is not a critical factor" (Committee on the Working of the Monetary System (Cmnd. 827), 1959, p. 135). For a recent clarification of that position see R. Kahn, "Mr. Eltis and the Keynesians", Lloyds Bank Review, April 1977.
the direction and controls of planning in a manner that was not possible within the methodology of the recent plans. Moreover, the growth requirements of industrial output and employment, for the next decade, are much higher than the economic performance for the decade terminating with the Third Programme in 1972. The 1974-'76 recession has exacerbated difficulties but to hold it responsible for the employment tasks ahead is to miss the long-term structural elements of the present predicament.

Arguments by analogy, e.g., exaggerating the suasive aspects of French planning, or incantations about the merits of 'non-interventionist' planning for a fully competitive economy are not credible reasons for leaving aside a discussion on the scope of planning or the required strategy for expansion. These issues undoubtedly embrace normative considerations that cannot be resolved by an appeal to a scientific methodology of planning. But this, again, is no reason why Irish planners and the Government can afford to neglect them. In any event were either Meade's theory of indicative planning or the past planning experiments in Ireland free of normative premises?

It is appropriate to end with a quote from a group of economists writing on the eve of the post-war era on the prospect of full employment.

"Many attempts have been made to separate economics from politics. Such a rough separation may be of value from the point of view of exposition of ideas, but that is all. For not only the policy for full employment..., require the intervention of the political executive but already before the war, in unemployment, all kinds of intervention by the State were customary and received Parliamentary support. A full employment programme does not, therefore, mean bringing politics into the sacred groves of economics. Politics has been there for some time, but has not always been very clear what it has been doing" (T. Balogh, G.D.N. Worswick, et. al., The Economics of Full Employment (1944) p. 207).

In the present circumstances this is an apt syllogism for many European economies but particularly relevant for Ireland which has, as yet, to embark upon such a worthy endeavour.
APPENDICES
APPENDIX A

Further Difficulties with Meade's Theory of 'Non-Interventionist' Planning

Two difficulties in relation to Meade's theory of indicative planning remain to be discussed.

First, whether there is an inherent contradiction between the pursuit of the objectives of centralised forecasting or of indicative planning and, what are regarded by some economists, the 'rewards' for risk taking in a free enterprise economy. In particular, would not the elimination of market uncertainty, or the perfection of forecasting by the centre, undermine the entrepreneurial role and 'rewards' in a market economy? Since the apparent contradiction between the logic of indicative planning and the norms of a free enterprise economy has been popularised in recent years by V. Lutz, we will simply call this quandary Vera Lutz's dilemma.

Second, as the basic subject matter of Meade's work is, in part, "to watch a competitive economy moving through time when, because of uncertainties about the future, false expectations are formed" what role does the concept time play in Meade's scheme? In particular, is it time ahistorical where movement of the system is permitted in both directions (H. Bergson's 'time-space') or is it time historical where the past is irreversible, the future uncertain and the present as the moment of transition, embodies both the wisdom and follies of the past (H. Bergson's 'time-duration')?

The first issue, viz., V. Lutz's dilemma, is of some importance in locating the source of disagreement over non-interventionist planning between economists, e.g., Lutz and Meade, who, otherwise, share a conviction of the essential goodness of the price mechanism for clearing the market. The second, viz., the time-dilemma, is to see whether it is possible to use tools and analogies from the physical sciences, in the treatment of time and uncertainty, without compromising the relevance, or 'processing' the qualities, of such concepts in economics.

The Vera Lutz Dilemma

One of the most cogent critics of the implications of planning
for a market economy is V. Lutz.* Her argument simply stated is that the existence of uncertainty is an integral part of the functioning of a free enterprise market economy; it highlights the importance of the entrepreneurial function which cannot be conceived independent of uncertainty, promotes the survival of the fittest or best informed enterprises and it rewards successful risk bearers through profits and quasi rents which are seen as the product of uncertainty. The process of competing for information by companies, is a major aspect of competition and the latter cannot be maintained when uncertainty is accurately forecast, with the information shared. Central forecasting that is capable of installing uniform expectations in producers or of removing entrepreneurial uncertainty will, at the same time, eliminate the raison d'etre of the entrepreneurial function. Her conclusions are summarised below:-

"The existence of common view that is not artificially contrived presupposes a general belief in correct forecasting of all the elements affecting economic decisions. We are faced here with the question, which was often debated in the past of what kind of economic system would emerge in a world of perfect foresight. Although immense logical difficulties stand in the way of exactly visualising such a world, one thing which seems clear is that the entrepreneurial function as traditionally understood would have ceased to exist. Differences in knowledge about market and other prospects in the various lines of activity would have disappeared and risk, in the usual sense of the term would have been eliminated. There would still be the task of continually allocating and reallocating resources between activities in accordance with the pattern required by the changing, but perfectly foreseen, ultimate determinants of the optimum allocation. But it appears incontestable that if this task were left to a multiplicity of independent entrepreneurs as their sole function, the result would be indeterminacy throughout the economic system, and that the task would therefore have to be entrusted to a central agency. This conclusion was drawn many years ago by Professor Frank Knight, who expressed...

It by saying that a state of 'practical omniscience on the part of every member of the competitive system' (such as he thought was a major 'prerequisite for the achievement of perfect competition') would 'force an authoritarian economic system upon society' as a way out of what would otherwise be chaos.

It would therefore seem that the ultimate 'friction' which allows the competitive, free-enterprise system of the real world to work is uncertainty, with its natural concomitant of non-uniformity of expectations. The absence of this 'friction' would be just as destructive of the kind of competition which exists in practice as of the 'ideally' perfect competition which, paradoxically, pre-supposes that absence. In other words, if perfect forecasting were ever achieved, it would spell the natural end of risk-taking, competition and free enterprise, or in short of the market economy" (V. Lutz, Central Planning for a Market Economy, (1969), pp. 135-136).

It must be stressed that one need not share V. Lutz's political outlook on the inherent goodness of laissez faire to follow the issues raised by her argument.* There are two interconnected questions that her work poses:-

(a) Would not the elimination of market uncertainties through central indicative planning or forecasting weaken the entrepreneurial function which is seen as the underwriting of risks in the hope of rewards (in the form of profits or quasi rents)?

(b) Is not the functioning of a market economy intimately connected to the exercise of the entrepreneurial function so that the weakening or elimination of the latter will

---

* On this V. Lutz acknowledges her intellectual indebtedness to F.A. Hayek's work, The Road to Serfdom (1944), and 'The Use of Knowledge in Society', American Economic Review, September 1945, and F. Knight's Risk, Uncertainty and Profit, (1921).
also undermine the former?*

Meade is aware of V. Lutz's criticism, and implicitly accepts the premises of her argument, but does not share her conclusions. To this end he wrote:-

"Indicative planning has been severely criticised on the grounds that the formation of such a plan necessarily involves the formulation of a common view about the probable course of future events.... Is it not a basic virtue of the competitive system that we do not put all our eggs in one basket, that different economic agents can get on different outcomes, and that the risk-taking agents who best foresee the outcome, can thrive and take over more and more decision-making at the expense of those who are not so successful in their speculations?

A single 'most-likely' time-path to cover all the environmental variables is not necessarily open to this criticism. It could be so devised as to be useful in giving a benchmark for market developments from which private individuals could make measurements for their own market and environmental sub-paths and thus for the construction of their own plans. But it would be of use in this indicative way only if the planners did not require the private citizens to assume that the path used for the plan was the only environmental path which could actually materialise. If the private citizens are all left free to say how they would behave on this one environmental path if they made their plans and decisions on their own estimates of the probability of this one path and of any other representative sub-paths which they cared to construct and consider for themselves, then a one-path indicative plan could have a real, though limited, use in removing market uncertainties," (The Controlled Economy (1971) p. 211).

The answer, contained in the second of the two paragraphs quoted, is in effect a negation of Meade's central proposition that indicative

* In short, the following premises, if accepted, clinch the argument for V. Lutz.
1. That the entrepreneurial function is about the exploitation of market uncertainties and profits are rewards for, correctly, anticipating uncertainty against one's potential competitors.
2. That a market economy cannot be conceived independently of the entrepreneurial function as defined above.
Anything that 'spoils' or tames uncertainty would, ipso facto, damage the entrepreneurial function and the innate drive or logic of a competitive economic system.
also undermine the former?*

Meade is aware of V. Lutz's criticism, and implicitly accepts the premises of her argument, but does not share her conclusions. To this end he wrote:

"Indicative planning has been severely criticised on the grounds that the formation of such a plan necessarily involves the formulation of a common view about the probable course of future events..... Is it not a basic virtue of the competitive system that we do not put all our eggs in one basket, that different economic agents can get on different outcomes, and that the risk-taking agents who best foresee the outcome, can thrive and take over more and more decision-making at the expense of those who are not so successful in their speculations?

A single 'most-likely' time-path to cover all the environmental variables is not necessarily open to this criticism. It could be so devised as to be useful in giving a benchmark for market developments from which private individuals could make measurements for their own market and environmental sub-paths and thus for the construction of their own plans. But it would be of use in this indicative way only if the planners did not require the private citizens to assume that the path used for the plan was the only environmental path which could actually materialise. If the private citizens are all left free to say how they would behave on this one environmental path if they made their plans and decisions on their own estimates of the probability of this one path and of any other representative sub-paths which they cared to construct and consider for themselves, then a one-path indicative plan could have a real, though limited, use in removing market uncertainties," (The Controlled Economy (1971) p. 211).

The answer, contained in the second of the two paragraphs quoted, is in effect a negation of Meade's central proposition that indicative

* In short, the following premises, if accepted, clinch the argument for V. Lutz.
1. That the entrepreneurial function is about the exploitation of market uncertainties and profits are rewards for, correctly, anticipating uncertainty against one's potential competitors.
2. That a market economy cannot be conceived independently of the entrepreneurial function as defined above. Anything that 'spoils' or tames uncertainty would, ipso facto, damage the entrepreneurial function and the innate drive or logic of a competitive economic system.
planning is capable of eliminating market uncertainties both in
the absence and in the presence of environmental uncertainties.*
If, as Meade now maintains, there will always be sufficient uncertainty
to justify the existence and rewards of the entrepreneurial function
then indicative planning will not prevent the formation of false
expectations which, according to Meade, is a prerequisite for the
maintenance of equilibrium through time.

This logical impasse whereby an aid, viz. indicative planning to
the market economy, is shown simultaneously, to be its 'natural
enemy' arises precisely in the minds of those economists who
explicitly or implicitly hold the view that profits are rewards
for entrepreneurial risk. Meade cannot dismiss V. Lutz's
conclusions by simply reassuring the reader that there will
always be sufficient residual uncertainty to justify the
entrepreneurial function and rewards. In doing so he invalidates
the entire thesis of his book, namely that indicative planning
is an aid that can help atomistic competitors eliminate market
uncertainties even in the presence of environmental ones, thus
maintaining competitive equilibrium through time. If he wishes to
maintain such a conclusion then his only other option is to reject
V. Lutz's premise of argument given earlier. If for example,
 quasi-rents are seen, inter alia, at the level of the enterprise
as the outcome of its market position vis à vis both the consumer
and its workforce, and at the aggregate level profit as, primarily,
the outcome of accumulation then planning does not appear such an
awesome prospect, or the Medusa, for a capitalist economy. But
then the objectives of planning are unlikely to be with the
maintenance of Pareto optimality and the means could not be
purely indicative.

*See in particular, The Controlled Economy (1971), ch. 10, or
The Theory of Indicative Planning (1970), ch. 3.
The Time Dilemma

Time present and time past
Are both perhaps present in time future,
And time future contained in time past.

What might have been is an abstraction
Remaining a perpetual possibility
Only in a world of speculation.
What might have been and what has been
Point to one end, which is always present.

Four Quartets, T.S. Eliot.

For a few neoclassicals 'time' like 'capital' is a concept that
everyone bar, possibly, Joan Robinson agrees about.* The 'capital
controversy' has been resolved for the time being with everyone
following the debate, bar the same neoclassicals, learning
something from it. The 'time' controversy has not even begun.

It is hardly possible to think of either the theory of Indicative
planning or of uncertainty without involving the concept of time.
It is a shocking paradox that neither Meade nor the neoclassicals
that write about uncertainty and indicative planning pause to ponder
over the use of the concept 'time' in their work.** A moment of
reflection will show how uncertainty and time are interwoven.
First, uncertainty cannot affect the past or the present but the future
where decisions can be taken based on interpreting evidence collected
from the past. In short, the ability to shape events is only
in the future while the certainty, where it exists, of their

* cf. R. Solow, Capital Theory and the Rate of Return (1963),
introduction to the 1st edition.

** The few economists that dare examine the use of 'time' in economic
analysis do so in an almost embarrassed way. Thus, Shackle has
to preface his excellent chapter on time with this apologia,
"What is a chapter headed time doing in a book on economics?", and
Joan Robinson has to coat the problem of time, for orthodox price
theory, in a well disguised anecdote (G.L.S. Shackle, An Economic
Querist, (1973), ch. 5, and J. Robinson Collected Papers (1973)
Vol. 4 Paper 27).
The Time Dilemma

Time present and time past
Are both perhaps present in time future,
And time future contained in time past.

What might have been is an abstraction
Remaining a perpetual possibility
Only in a world of speculation,
What might have been and what has been
Point to one end, which is always present.

Four Quartets, T.S. Eliot.

For a few neoclassicals 'time' like 'capital' is a concept that
everyone bar, possibly, Joan Robinson agrees about.* The 'capital
controversy' has been resolved for the time being with everyone
following the debate, bar the same neoclassicals, learning
something from it. The 'time' controversy has not even begun.

It is hardly possible to think of either the theory of indicative
planning or of uncertainty without involving the concept of time.
It is a shocking paradox that neither Meade nor the neoclassicals
that write about uncertainty and indicative planning pause to ponder
over the use of the concept 'time' in their work.** A moment of
reflection will show how uncertainty and time are interwoven.
First, uncertainty cannot affect the past or the present but the future
where decisions can be taken based on interpreting evidence collected
from the past. In short, the ability to shape events is only
in the future while the certainty, where it exists, of their

* cf. R. Solow, Capital Theory and the Rate of Return (1963),
  introduction to the 1st edition.

** The few economists that dare examine the use of 'time' in economic
  analysis do so in an almost embarrassed way. Thus, Shackle has
to preface his excellent chapter on time with this apologia,
"What is a chapter headed time doing in a book on economics?", and
Joan Robinson has to coat the problem of time, for orthodox price
theory, in a well disguised anecdote (G.L.S. Shackle, An Economic
Querist, (1973), ch. 5, and J. Robinson Collected Papers (1973)
Vol. 4 Paper 27).
occurrence belongs to the past. Second, uncertainty is such a fearsome concept in economics because it is about events yet unknown but once occurred irreversible. When future events are used as a proxy for time, then time is the continuous renewal of irreversible events.* If time was reversible, then and only then would uncertainty lose its threat of upsetting the ex-ante for, if need be, one could go back in time and rearrange intended actions in such a fashion so as to avoid unwanted consequences. This is why indicative pricing mechanisms or iterative planning techniques depending, forever, on preventing false expectations from occurring or on fully predictable forward markets appear ludicrously exacting in their requirements.

We are already using time in two distinct ways which we will now make explicit. Where time is reversible, much like the succession of identical events, then time is space and duration loses its meaning. Time irreversible, or historic time, implies that events are not repeated in the same specifications and one cannot retrieve the implications of actions by moving back in time at the point where decisions were transmuted to events.** The issue here is which, if either, concept of time is used by Meade in the theory of indicative planning and whether his conclusions depend, in any significant way, on his concept of time. It would be silly to pretend that we have arrived at any incontrovertible answers to these questions no less because 'time' is introduced by Meade in an oblique or 'take it for granted' way.

Let us briefly recall the use of such aids, as indicative planning or forward markets, by Meade, in helping to maintain competitive

---

* Shackle writing about the future put the matter tersely: "Anything we think concerning it, we have to invent to imagine. There is a large freedom to do so, the freedom of the void of future time. How can a man know all about his circumstances, when the vital part of them does not exist? For the conduct which we are free to choose is future conduct, but the circumstances which we are able to know are past circumstances"(G.L.S. Shackle, An Economic Querist (1973) p.38).

** For a development of these ideas for the physical world and science see "The Multiplicity of Conscious States and the Idea of Duration" in H. Bergson's, Time and Free Will (1888).
equilibrium through time even in the presence of environmental uncertainty. The innovations offered were, decision trees or environmental paths which purported to allow optimal pricing to operate and atomistic markets to be cleared, for each possible outcome of uncertainty (Meade, *The Controlled Economy*, (1971), ch's X-XI). In the case postulated by Meade on the vagaries of the weather (the wet or fine situation) and its effects on the 'demand' and 'supply' for sunshades and umbrellas, it was concluded that there will be as many environmental paths as the outcomes of the weather and that each environmental path will have an associated price set. Now suppose that there is a second environmental uncertainty, with several possible outcomes, that occurs concurrently with the first. The point we need to stress is that the effects of environmental uncertainties need not be mutually exclusive (e.g., wet or fine, strike or no strike) but also compounded (e.g., wet with strike in umbrella making). Where the outcome of different environmental uncertainties can occur simultaneously Meade's indicative price procedures appear inconclusive unless even further restrictive assumptions are imposed.

First, the number of environmental paths and thereby the number of indicative plans proliferate at a faster rate than the number of environmental uncertainties considered. Meade is aware that if the search for a competitive equilibrium through time is to be maintained, then an indicative planner confronted with multiple environmental possibilities would have to generate as many sub-plans as the possible number of environmental consequences. However, having noted this he dismisses the implications by suggesting that the would be planner can reduce the load of his work by considering the more 'representative' or 'typical' environmental paths. This solution has been criticised earlier on the grounds that given environmental uncertainty (viz., "things that no one knows about") it
is not possible to choose typical from atypical environmental paths. Since the status of these events or environmental paths is uncertainty and not likelihood, probability functions and hence the idea of representativeness is inapplicable. If, to the contrary, the would be planner does, as Meade suggests, consider only a sub-set of the possible environmental uncertainties, and their associated price paths, then the ensuing residual uncertainty would make the initial objective of a competitive equilibrium unattainable.*

Second, as Keynes pointed out even if one is able to map a priori the consequences of uncertainty there is no warranty that this will generate probabilistic functions (i.e., that the consequences of different types of uncertainty will share the same numeraire or reference for comparison). The interdependencies introduced by compounded uncertainty cannot be eliminated by, simply, treating these consequences as if they were mutually exclusive or sequential.** To cope with such a situation the indicative planner must be able to foresee the outcome of the interplay between different types of uncertainties and then proceed to search for an optimal iteration or a set of prices to clear the market. If, for example, the price of fuel and technological change will affect the means for transport twenty years hence it is not very useful if the forecasting aids can only explore in a sequential manner, the effect of technology on transport given the price of fuel, or vice versa, for it is the new outcome of the two uncertainties, or their mutual interaction, that will be the governing factor for change. Yet, it is only the sequential or mutually exclusive courses of action that can be explored through the aid of decision trees and environmental paths.

---

* This conclusion is acknowledged by Meade (The Controlled Economy (1971), pp. 209 - 210).

** Where environmental uncertainties appear as if in a sequence in time future, then Meade's scheme of environmental paths needs no modification. The first set of environmental paths and price iterations will deal with the wet or fine situation and the latter set with the strike or no strike. But if perchance these uncertainties are interacting, e.g., weather conditions affecting the prospects of an industrial dispute, then the only way to visualise the planning process is through overlapping environmental paths or iterations.
Third, where the ex-ante intentions of producers and consumers are not tautologically reduced to ex-post outcomes time-space must be invoked to facilitate indicative planning aids if the idea of a 'competitive equilibrium through time' is to be maintained.

Time reversible is the only substitute for perfect foresight (Meade's working hypothesis) and the admission of one is the implicit acceptance of the other. Otherwise, whichever intervening factor creates a discord between intentions and outcomes would, through the price guidance of the planner, also misdirect the atomistic agents in the market without compensatory advantages.*

In such a situation the normalisation of expectations, via the intervention of the indicative planner, far from being a regulatory force for the atomistic market would be a source of disequilibrium.

In all, Meade's indicative planning mechanism for obtaining dynamic equilibrium compromises either the concept of time or of uncertainty, i.e., the difference between ex-ante intentions and ex-post outcomes. Where there is a possible divergence between intentions and outcomes one must think of time as space where by revising dates, backwards, one can account for the source of disequilibrium. Alternatively, the same result is obtained by assuming that all the possible future states of the world can be anticipated and that their relationships can be reduced to the status

* When ex-ante production intentions and ex-post market 'demand' or requirements differ the force that regulates the market and gives it a semblance of orderliness, for industrial goods in particular, is the accumulation or depletion of stocks. Under similar circumstances orthodox price theory, usually ignores the behaviour of stocks and credits any observed regularity to the sensitivity of price. However, if price was the only casualty of false expectations or a market imbalance there would be an incessant volatility of prices, as distinct from their rise, that is not observed. It would seem that stocks rather than forward markets or future spot prices is the insurance mechanism developed by industrial markets to avoid internal irregularities. For a post-Keynesian view on the role of stocks see N. Kaldor "The Irrelevance of Equilibrium", The Economic Journal, December 1972.
of probabilistic comparisons. To the contrary, if time is to preserve its quality of irreversibility and duration, one must conjure a highly antiseptic method of analysis where all the emphasis for competitive equilibrium is on preventing 'false expectations' mistakes or windfalls, for if they can occur then Meade's procedures are no cure.
APPENDIX B

FURTHER INDICES OF ECONOMIC PERFORMANCE FOR THE DURATION OF THE SECOND AND THIRD PROGRAMMES

### TABLE B1

**AGGREGATE INDICES FOR THE DURATION OF THE SECOND PROGRAMME**

1964/1967
(Annual Average Growth Rates at 1958 Prices)

<table>
<thead>
<tr>
<th></th>
<th>Projected</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output (GNP at 1958 Prices)</td>
<td>4.3</td>
<td>3.2</td>
</tr>
<tr>
<td>Imports } Goods and Services</td>
<td>4.6 to 7.3*</td>
<td>3.4</td>
</tr>
<tr>
<td>Exports } Goods and Services</td>
<td>4.9 to 7.9*</td>
<td>7.1</td>
</tr>
<tr>
<td>Consumption (Private)</td>
<td>3.6</td>
<td>2.1</td>
</tr>
<tr>
<td>(Public)</td>
<td>6.4</td>
<td>3.5</td>
</tr>
<tr>
<td>Investment (Gross Domestic)</td>
<td>4.4</td>
<td>4.3</td>
</tr>
<tr>
<td>Employment</td>
<td>1.0</td>
<td>-0.2</td>
</tr>
</tbody>
</table>

* Limits of the range of growth of imports and exports settled following discussion with industry.


### TABLE B2

**AGGREGATE INDICES FOR THE DURATION OF THE THIRD PROGRAMME**

1969/1972
(Annual Average Growth Rates at 1968 Prices)

<table>
<thead>
<tr>
<th></th>
<th>Projected</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output (GNP at 1968 Prices)</td>
<td>4.0</td>
<td>3.2</td>
</tr>
<tr>
<td>Imports } Goods and Services</td>
<td>8.6</td>
<td>4.7</td>
</tr>
<tr>
<td>Exports } Goods and Services</td>
<td>9.0</td>
<td>3.9</td>
</tr>
<tr>
<td>Consumption (Private)</td>
<td>3.3</td>
<td>3.2</td>
</tr>
<tr>
<td>(Public)</td>
<td>3.7</td>
<td>9.3</td>
</tr>
<tr>
<td>Investment (Gross Domestic)</td>
<td>6.8</td>
<td>3.4</td>
</tr>
<tr>
<td>Employment</td>
<td>0.4</td>
<td>-0.5</td>
</tr>
</tbody>
</table>

**TABLE B3**

THE SECOND PROGRAMME'S SECTORAL PROJECTIONS: 1960-1970

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$'000</td>
<td>Output (Constant Prices)</td>
<td>Empl.</td>
<td>Prod.</td>
</tr>
<tr>
<td>Agriculture, Forestry, Fishing ...</td>
<td>390</td>
<td>2.9</td>
<td>-1.8</td>
<td>4.8</td>
</tr>
<tr>
<td>Industry ...</td>
<td>248</td>
<td>7.0</td>
<td>3.0</td>
<td>3.9</td>
</tr>
<tr>
<td>Services ...</td>
<td>417</td>
<td>3.6</td>
<td>1.3</td>
<td>2.3</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1,055</td>
<td>4.2</td>
<td>0.7</td>
<td>3.5</td>
</tr>
</tbody>
</table>

Source: Second Programme, (1964), Appendix 1, Table 2, p. 299.

**TABLE B4**

SECTORAL PERFORMANCE: 1960-1970

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$'000</td>
<td>Output (1) (Constant Prices)</td>
<td>Empl.</td>
<td>Prod.</td>
</tr>
<tr>
<td>Agriculture, Forestry, Fishing ...</td>
<td>390</td>
<td>0.8</td>
<td>-3.2</td>
<td>4.0</td>
</tr>
<tr>
<td>Industry ...</td>
<td>248</td>
<td>6.2</td>
<td>2.3</td>
<td>3.8</td>
</tr>
<tr>
<td>Services ...</td>
<td>417</td>
<td>3.3</td>
<td>0.9</td>
<td>2.4</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1,055</td>
<td>3.7</td>
<td>0.0</td>
<td>3.7</td>
</tr>
</tbody>
</table>

Note: (1) The sectoral growth rates have been cross-checked with Dr. Llewellyn's (1977) more recent and extensive data. Since total output in the official projections, Table B3, is for GNP then 'Net Factor Income from Abroad' has been added to the sectoral estimates above to obtain the total.

As one of the objectives of section 7.2 was to rework an already established statistical relationship using recent figures, the choice of data presented few conceptual problems. The chief aim was simply to obtain recent data as closely comparable as possible to that used previously by Kennedy (1971). The reader interested in the details for the choice of statistical series used by Kennedy is referred to Kennedy (1971, Appendix I and 2). The principal source of information on industrial output, employment and hours worked, is the Census of Industrial Production (CIP). Because of the considerable delay in obtaining published results from CIP it was necessary to supplement it with information from the Quarterly Industrial Production Inquiry (Quarterly Inquiry). The results from both of these sources are published regularly in the Irish Statistical Bulletin and all the data used in this study is taken from various issues of that Bulletin. In general, data for the years up to and including 1971 were taken from the Census while that for 1972-174 was from the Quarterly Inquiry.

A description is given below on how the data series used for the cross-industry regressions, in sections 7.2 and 7.3, have been constructed.

**Average Growth In Volume of Output:** An index of volume of gross output for each manufacturing industry was taken from the Census of Industrial Production for 1953-171 and from the Quarterly Inquiry for 1972-174. The data from the Census was used as it stood while that from the Inquiry, which is in quarterly form, was simply averaged. Average annual growth rates (calculated on the basis of compound growth) were then estimated between the first and last years of the various sub-periods selected.
APPENDIX C

Further Data and Statistical Results on the Growth of Output and Employment Association in the Irish Manufacturing Sector: 1953-’74

As one of the objectives of section 7.2 was to rework an already established statistical relationship using recent figures, the choice of data presented few conceptual problems. The chief aim was simply to obtain recent data as closely comparable as possible to that used previously by Kennedy (1971). The reader interested in the details for the choice of statistical series used by Kennedy is referred to Kennedy (1971, Appendix I and 2). The principal source of information on industrial output, employment and hours worked, is the Census of Industrial Production (CIP). Because of the considerable delay in obtaining published results from CIP it was necessary to supplement it with information from the Quarterly Industrial Production Inquiry (Quarterly Inquiry). The results from both of these sources are published regularly in the Irish Statistical Bulletin and all the data used in this study is taken from various issues of that Bulletin. In general, data for the years up to and including 1971 were taken from the Census while that for 1972-’74 was from the Quarterly Inquiry.

A description is given below on how the data series used for the cross-industry regressions, in sections 7.2 and 7.3, have been constructed.

Average Growth in Volume of Output: An index of volume of gross output for each manufacturing industry was taken from the Census of Industrial Production for 1953-’71 and from the Quarterly Inquiry for 1972-’74. The data from the Census was used as it stood while that from the Inquiry, which is in quarterly form, was simply averaged. Average annual growth rates (calculated on the basis of compound growth) were then estimated between the first and last years of the various sub-periods selected.
Average Growth in Man Hours: Man-hours is defined as numbers employed multiplied by average hours worked. Let us first consider the derivation of the latter two series, as their combination presents no difficulties.

Numbers Employed: Data is given in both the Census of Industrial Production and in the Quarterly Industrial Inquiry on the numbers engaged in each manufacturing industry. These figures refer to all persons engaged in the industry, including proprietors, except outside piece workers. Quarterly data from the Census (1953, 1966) and from the Inquiry (1972, 1974) was averaged to give the data on employment.

Average Hours Worked: The Quarterly Industrial Inquiry, which is the only source of data for the last few years, contains for each quarter an analysis of the average hours worked for the same group of people as its employment series. However, the Census of Industrial Production does not contain a comparable series; the only data in the Census is an analysis of hours worked in a week in October. As it is hardly likely that the pattern of average hours worked would be the same in October as for the average of four quarters it was decided not to use Census data for hours worked. Thus data from the Quarterly Industrial Inquiry was used back to 1953. The quarterly data as given in the Inquiry was averaged to form the series of Average Hours Worked used in the analysis.

Average Growth of Productivity: Productivity was defined in two ways, as output per person employed or as output per man-hour. As it has been pointed out the second measure is a more accurate proxy for labour input as it incorporates both part-time and over-time working and takes into account the secular fall in the working week. In both cases it was a matter of dividing the output data by the numbers employed or by the total man-hours worked. Average annual growth rates were then calculated to form both series.
Industrial Classification

Minor classification problems were encountered in the following two industrial branches -

(i) Furniture, Brushes and Brooms (Industrial classification 27/28)

(ii) Cement and Structural Clay (Industrial classification 38/39).

These two branches were classified in most of the statistical returns as given above but initially (1953) they were broken down as Furniture; Brushes and Brooms; Cement; Structural Clay. This separate classification is still used in the CSO series for the volume of output but not for employment or hours worked. It was thus necessary to amalgamate the four separate output indices to generate the two series required. This, in turn, was effected by weighting the separate indices by their shares in gross output at the base year. For example, when estimating the 1966-'74 data for these industrial branches the separate series were weighted by the 1966 gross output weight. A similar complexity arose also with respect to the Sugar and Confectionery manufacturing trades (Industrial classification 10/11). For some of the years in the earlier period examined, e.g., the 1950s, these two industrial branches were combined together in the official statistics. For the 1966-'74 sub-period however the data series for these two industries were available separately. Hence for sub-periods (e.g., 1953-1974) with years ante-dating 1966 it was necessary to combine the Sugar and Confectionery data.

The only major discontinuity that appeared in the official classification was with respect to Distilling and Malting (Nos. 14 and 15). During 1969/70 the official definition of numbers employed in these trades was altered and it was not possible to
include them in the statistical analysis for sub-periods, e.g. 1966-’74, straddling these years. It may be noted, however, that the main industry in the Drink sector, Brewing (No. 16), remained unaffected by these changes and it was possible to retain its data for all sub-periods.

The list overleaf gives the industries, and their official classification, which have been used for the statistical analysis presented in the second and third parts of chapter 7 and for the rest of the results found in this appendix.
List of Manufacturing Industries Used and their CIP Classification

**FOOD**
4. Bacon Factories
5. Slaughtering and Meat Preparation
6. Butter, Cheese and other Milk Products
7. Jams, Preserves and Canned Fruit
8. Flour and other Feeding Products
9. Bread and Biscuits
10. Manufacture of Sugar
11. Cocoa and Sugar Confectionery
12. Margarine and Cooking Fats
13. Miscellaneous (incl. canning fish)

**WOOD AND CORK**
26. Wood and Cork
27. Furniture and Fixtures
28. Brushes and Brooms

**PAPER AND PRINTING**
29. Paper and its products
30. Printing and Allied Trades

**LEATHER AND LEATHER PRODUCTS**
31. Fellmongery and Tanning
32. Leather and Leather Substitutes

**CHEMICALS**
33. Fertilizers
34. Oils, Paints and Inks
35. Chemicals and Drugs
36. Soap and Detergents

**MINERALS**
37. Glass and Pottery
38. Structural Clay
39. Cement

**METALS**
40. Metals (except machinery)
41. Machinery (except electrical)
42. Electrical Machinery
43. Ship and Boat
44. Railroad Equipment
45. Road and Land Vehicles
46. Other Vehicles
47. Miscellaneous Industries

**DRINK AND TOBACCO**
16. Brewing
17. Aerated and Mineral Waters
18. Tobacco

**TEXTILES**
19. Woollen and Worsted
20. Linen and Cotton
21. Jute, Canvas and Synthetics
22. Hosiery

**CLOTHING AND FOOTWEAR**
23. Boot and Shoe
24.1 Clothing Men's and Boys'
24.2 Shirtmaking
24.3 Women's and girls'
24.4 Miscellaneous
25. Made up textiles
### TABLE C.1

**AVERAGE ANNUAL (COMPOUND) GROWTH OF OUTPUT, EMPLOYMENT, MAN-HOURS AND PRODUCTIVITY IN THE MANUFACTURING INDUSTRY**

1959 - 1972

(ranked by Output Growth)

<table>
<thead>
<tr>
<th>Industry Classification</th>
<th>Volume of Output ( (Q) )</th>
<th>Employment ( (E) )</th>
<th>Manhours ( (E^*P) )</th>
<th>Output per Employee ( (P) )</th>
<th>Output per Manhour ( (P^*) )</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>12.032</td>
<td>3.491</td>
<td>3.014</td>
<td>8.253</td>
<td>8.761</td>
</tr>
<tr>
<td>38/39</td>
<td>11.022</td>
<td>6.378</td>
<td>5.859</td>
<td>4.365</td>
<td>4.879</td>
</tr>
<tr>
<td>42</td>
<td>10.896</td>
<td>8.325</td>
<td>7.541</td>
<td>2.373</td>
<td>3.116</td>
</tr>
<tr>
<td>47</td>
<td>10.574</td>
<td>6.642</td>
<td>6.016</td>
<td>3.688</td>
<td>4.301</td>
</tr>
<tr>
<td>13</td>
<td>9.930</td>
<td>7.519</td>
<td>6.829</td>
<td>2.243</td>
<td>2.903</td>
</tr>
<tr>
<td>40</td>
<td>9.617</td>
<td>5.132</td>
<td>4.748</td>
<td>4.266</td>
<td>4.639</td>
</tr>
<tr>
<td>21</td>
<td>9.210</td>
<td>2.110</td>
<td>1.936</td>
<td>6.953</td>
<td>7.133</td>
</tr>
<tr>
<td>17</td>
<td>9.207</td>
<td>2.619</td>
<td>2.730</td>
<td>6.420</td>
<td>6.305</td>
</tr>
<tr>
<td>25</td>
<td>8.626</td>
<td>3.233</td>
<td>3.026</td>
<td>5.224</td>
<td>5.435</td>
</tr>
<tr>
<td>33</td>
<td>7.646</td>
<td>3.877</td>
<td>3.713</td>
<td>3.628</td>
<td>3.794</td>
</tr>
<tr>
<td>37</td>
<td>7.628</td>
<td>5.609</td>
<td>4.247</td>
<td>1.912</td>
<td>3.244</td>
</tr>
<tr>
<td>7</td>
<td>7.553</td>
<td>4.472</td>
<td>4.124</td>
<td>2.951</td>
<td>3.299</td>
</tr>
<tr>
<td>26</td>
<td>7.414</td>
<td>1.809</td>
<td>1.248</td>
<td>5.056</td>
<td>6.093</td>
</tr>
<tr>
<td>29</td>
<td>7.224</td>
<td>1.232</td>
<td>0.566</td>
<td>5.919</td>
<td>6.620</td>
</tr>
<tr>
<td>5</td>
<td>7.061</td>
<td>5.520</td>
<td>4.717</td>
<td>1.461</td>
<td>2.241</td>
</tr>
<tr>
<td>41</td>
<td>6.805</td>
<td>5.512</td>
<td>5.043</td>
<td>1.226</td>
<td>1.679</td>
</tr>
<tr>
<td>24.3</td>
<td>6.720</td>
<td>0.667</td>
<td>0.018</td>
<td>6.013</td>
<td>6.714</td>
</tr>
<tr>
<td>34</td>
<td>5.820</td>
<td>0.429</td>
<td>0.373</td>
<td>5.369</td>
<td>5.427</td>
</tr>
<tr>
<td>19</td>
<td>5.552</td>
<td>0.456</td>
<td>0.097</td>
<td>5.074</td>
<td>5.458</td>
</tr>
<tr>
<td>46</td>
<td>5.246</td>
<td>4.903</td>
<td>5.562</td>
<td>0.327</td>
<td>-0.297</td>
</tr>
<tr>
<td>24.2</td>
<td>4.945</td>
<td>3.373</td>
<td>3.026</td>
<td>1.521</td>
<td>1.861</td>
</tr>
<tr>
<td>43</td>
<td>4.227</td>
<td>5.978</td>
<td>5.840</td>
<td>-1.653</td>
<td>-1.525</td>
</tr>
<tr>
<td>30</td>
<td>4.061</td>
<td>1.468</td>
<td>0.917</td>
<td>2.555</td>
<td>3.108</td>
</tr>
<tr>
<td>45</td>
<td>4.010</td>
<td>3.520</td>
<td>2.904</td>
<td>0.474</td>
<td>1.074</td>
</tr>
<tr>
<td>12</td>
<td>3.918</td>
<td>2.832</td>
<td>2.139</td>
<td>1.056</td>
<td>1.741</td>
</tr>
<tr>
<td>32</td>
<td>3.756</td>
<td>0.243</td>
<td>-0.604</td>
<td>3.504</td>
<td>4.385</td>
</tr>
<tr>
<td>4</td>
<td>3.711</td>
<td>1.201</td>
<td>0.409</td>
<td>2.481</td>
<td>3.290</td>
</tr>
<tr>
<td>24.4</td>
<td>3.706</td>
<td>-1.623</td>
<td>-2.375</td>
<td>5.416</td>
<td>6.229</td>
</tr>
<tr>
<td>36</td>
<td>3.588</td>
<td>0.582</td>
<td>0.672</td>
<td>2.990</td>
<td>2.897</td>
</tr>
<tr>
<td>27/28</td>
<td>3.545</td>
<td>0.754</td>
<td>0.121</td>
<td>2.770</td>
<td>3.421</td>
</tr>
<tr>
<td>24.1</td>
<td>3.095</td>
<td>0.212</td>
<td>-0.124</td>
<td>2.877</td>
<td>3.233</td>
</tr>
<tr>
<td>31</td>
<td>3.091</td>
<td>0.043</td>
<td>-0.468</td>
<td>3.048</td>
<td>3.509</td>
</tr>
<tr>
<td>8</td>
<td>3.040</td>
<td>-0.805</td>
<td>-0.793</td>
<td>3.877</td>
<td>3.873</td>
</tr>
<tr>
<td>16</td>
<td>2.487</td>
<td>-0.017</td>
<td>-0.464</td>
<td>2.504</td>
<td>2.970</td>
</tr>
<tr>
<td>23</td>
<td>2.375</td>
<td>-0.352</td>
<td>-0.582</td>
<td>2.737</td>
<td>2.970</td>
</tr>
<tr>
<td>20</td>
<td>2.374</td>
<td>-2.602</td>
<td>-3.049</td>
<td>5.109</td>
<td>5.591</td>
</tr>
<tr>
<td>10/11</td>
<td>1.859</td>
<td>0.317</td>
<td>-0.829</td>
<td>1.537</td>
<td>2.722</td>
</tr>
<tr>
<td>9</td>
<td>1.762</td>
<td>-0.144</td>
<td>-0.876</td>
<td>1.910</td>
<td>2.695</td>
</tr>
<tr>
<td>18</td>
<td>0.841</td>
<td>-0.093</td>
<td>-0.309</td>
<td>0.934</td>
<td>1.155</td>
</tr>
<tr>
<td>44</td>
<td>-4.970</td>
<td>-0.937</td>
<td>-2.405</td>
<td>-4.072</td>
<td>-2.626</td>
</tr>
</tbody>
</table>

Source: Census of Production Reports and Quarterly Industrial Production Enquiry.
## TABLE C.2

**AVERAGE ANNUAL (COMPOUND) GROWTH OF OUTPUT, EMPLOYMENT, MAN-HOURS AND PRODUCTIVITY IN MANUFACTURING INDUSTRY 1966-1974**

(ranked by Output Growth)

<table>
<thead>
<tr>
<th>Industry Classification</th>
<th>Volume of Output</th>
<th>Employment</th>
<th>Manhours</th>
<th>Output per Employee</th>
<th>Output per Manhour</th>
</tr>
</thead>
<tbody>
<tr>
<td>C.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Source

Census of Industrial Production and Quarterly Industrial Production Enquiry
### Further Regression Results: Irish Manufacturing Industries, 1953 - 1974

\[ P = a + bQ \]

<table>
<thead>
<tr>
<th>Industry Group</th>
<th>a</th>
<th>b</th>
<th>r</th>
<th>No. of Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Top Six Growth Industries</td>
<td>0.92</td>
<td>0.41</td>
<td>0.66</td>
<td>36</td>
</tr>
<tr>
<td>Industries Omitted</td>
<td>(0.39)</td>
<td>(0.08)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Railroad Equipment</td>
<td>1.13</td>
<td>0.36</td>
<td>0.67</td>
<td>41</td>
</tr>
<tr>
<td>(No. 44) Omitted</td>
<td>(0.40)</td>
<td>(0.07)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Four Industries</td>
<td>1.34</td>
<td>0.37</td>
<td>0.75</td>
<td>38</td>
</tr>
<tr>
<td>(Nos. 13, 43, 44, 46) Omitted</td>
<td>(0.33)</td>
<td>(0.05)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. All Industries</td>
<td>0.98</td>
<td>0.38</td>
<td>0.72</td>
<td>42</td>
</tr>
<tr>
<td>(None Omitted)</td>
<td>(0.36)</td>
<td>(0.06)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[ E = c + dQ \]

<table>
<thead>
<tr>
<th></th>
<th>c</th>
<th>d</th>
<th>r</th>
<th>No. of Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Top Six Growth</td>
<td>-0.90</td>
<td>0.57</td>
<td>0.77</td>
<td>36</td>
</tr>
<tr>
<td>Industries Omitted</td>
<td>(0.39)</td>
<td>(0.08)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Railroad Equipment</td>
<td>-1.05</td>
<td>0.61</td>
<td>0.83</td>
<td>41</td>
</tr>
<tr>
<td>(No. 44) Omitted</td>
<td>(0.40)</td>
<td>(0.07)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Four Industries</td>
<td>-1.27</td>
<td>0.60</td>
<td>0.89</td>
<td>38</td>
</tr>
<tr>
<td>(Nos. 13, 43, 44, 46)</td>
<td>(0.33)</td>
<td>(0.05)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. All Industries</td>
<td>-0.94</td>
<td>0.59</td>
<td>0.84</td>
<td>42</td>
</tr>
<tr>
<td>(None Omitted)</td>
<td>(0.36)</td>
<td>(0.06)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Standard errors in parentheses)

Source: Table 7.6

Where Q, P and E are the average annual growth rates of manufacturing output, output per person employed and numbers employed respectively. For the rest of the results together with an explanation why particular industries have been omitted from certain regression estimates see Chapter 7.2.
TABLE C4

Further Regression Results: Irish Manufacturing Industries, 1959-’72 and 1966-’74

\[ P = a + bQ \]

<table>
<thead>
<tr>
<th>Industry Group</th>
<th>a</th>
<th>b</th>
<th>r</th>
<th>Sub-Periods</th>
<th>No. of Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. All Industries</td>
<td>0.92</td>
<td>0.40</td>
<td>0.62</td>
<td>1959-’72</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>(0.55)</td>
<td>(0.08)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Four Industries</td>
<td>1.74</td>
<td>0.32</td>
<td>0.55</td>
<td>1959-’72</td>
<td>38</td>
</tr>
<tr>
<td>(Nos. 13, 43, 44, 46) Omitted</td>
<td>(0.55)</td>
<td>(0.08)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. All Industries</td>
<td>1.14</td>
<td>0.41</td>
<td>0.65</td>
<td>1966-’74</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>(0.50)</td>
<td>(0.08)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Four Industries</td>
<td>1.34</td>
<td>0.40</td>
<td>0.65</td>
<td>1966-’74</td>
<td>39</td>
</tr>
<tr>
<td>(Nos. 13, 43, 44, 46) Omitted</td>
<td>(0.52)</td>
<td>(0.08)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[ E = c + dQ \]

<table>
<thead>
<tr>
<th>Industry Group</th>
<th>c</th>
<th>d</th>
<th>r</th>
<th>Sub-Periods</th>
<th>No. of Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. All Industries</td>
<td>-0.84</td>
<td>0.58</td>
<td>0.75</td>
<td>1959-’72</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>(0.55)</td>
<td>(0.07)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Four Industries</td>
<td>-1.62</td>
<td>0.65</td>
<td>0.81</td>
<td>1959-’72</td>
<td>38</td>
</tr>
<tr>
<td>(Nos. 13, 43, 44, 46) Omitted</td>
<td>(0.54)</td>
<td>(0.08)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. All Industries</td>
<td>-1.06</td>
<td>0.57</td>
<td>0.77</td>
<td>1966-’74</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>(0.49)</td>
<td>(0.07)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Four Industries</td>
<td>-1.26</td>
<td>0.57</td>
<td>0.77</td>
<td>1966-’74</td>
<td>39</td>
</tr>
<tr>
<td>(Nos. 13, 43, 44, 46) Omitted</td>
<td>(0.52)</td>
<td>(0.08)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Standard errors in parentheses)

Source: Tables C1 and C2

Where Q, P and E are the average annual growth rates of manufacturing output, output per person employed and numbers employed respectively. Other results, for the same sub-periods are given in Table 7.8, Chapter 7.
The Cripps and Tarling Empirical Verification
of a Kaldor Proposition - an Irish Comparison

INTRODUCTION

Until now our work has been concerned with the narrow interpretation of the Verdoorn hypothesis, using data from 42 manufacturing industries, and with estimating output and employment requirements for Irish industry for the next decade. The present note while still within the Verdoorn tradition, i.e., concerned with the importance of exogenous industrial demand and the observed stability of output cum employment manufacturing relationships, uses a predictive equation, developed by Cripps and Tarling (1973) in testing Kaldor's propositions (1966), to shed light on the overall productivity performance of post-war Ireland.

Kaldor in his Inaugural Lecture, Causes of the Slow Rate of Economic Growth of the United Kingdom (1966), suggested certain hypotheses concerning the growth of output, employment and productivity in the main sectors of the economy for advanced capitalist countries. These propositions which, in their totality, attempt to explain the pace of material progress of capitalist economies are increasingly referred to in the literature as 'Kaldor's laws'.* The laws relate, inter alia, the growth of productivity in manufacturing to the growth of manufacturing output,


For the literature that has grown around Kaldor's laws see:-
R.E. Rowthorn, "What Remains of Kaldor's Law?", Economic Journal, March 1975, (also his "Reply" to Kaldor, E.J. December 1975);
implicitly, the growth of agricultural productivity to the
decline in agricultural employment, and the labour supply
limit for industry to the surplus labour found in the non-
industrial sector. Drawing these relationships together
"Kaldor expected that the growth of productivity in the
economy as a whole would depend on the growth of employment
in industry and the decline in employment in non-industrial
sectors" (Cripps and Tarling, 1973, p. 29). Alternatively,
an even 'better explanation of variations in overall
productivity growth' is obtained when the growth of industrial
output, rather than industrial employment, is used in the
model (Cripps and Tarling, 1973, p. 30). This change is
regarded by Cripps and Tarling as not a substantive
modification of Kaldor's postulate because industrial output
and industrial employment are highly correlated. It
will be the latter relationship, i.e., the association of
the growth of overall productivity with the growth of
industrial output and the decline of non-industrial employment,
that we shall consider in the light of Irish experience.

Cripps and Tarling's Method

This section describes Cripps and Tarling's method and
results.

To test Kaldor's Laws, Cripps and Tarling use cross-country
regression analysis based on a selection of 12 advanced
capitalist countries.* For each country data on output and
employment, in broad sectoral groups, were obtained over the
period 1951-70. Then for each country, the period was split

* The countries included in Cripps and Tarling's sample are,
Japan, West Germany, Italy, France, Netherlands, Denmark,
Austria, Canada, Norway, Belgium, USA and UK. For the choice
of sub-periods and the growth rates of the relevant variables
for each individual country, see Appendix 3 in Cripps and
Tarling (1973), pp. 45-56.
Into three or four cycles, and peak-to-peak average annual growth rates found. Cripps and Tarling derived over 40 observations of output and employment growth, for the post-war period, for each sector from the sample of the 12 countries. This body of data was then used to test Kaldor's laws by the estimation of cross-country regression equations (see chapter 3, 'Kaldor's Empirical Laws', in Cripps and Tarling, 1973, pp. 21-30).

As the following results show Cripps and Tarling found a very satisfactory relationship between the growth of GDP per head and the growth of industrial output and the decline of non-industrial employment for both the pre and post 1965 periods.

1. 1951-1965  \[ P_{\text{GDP}} = 1.172 + 0.534 Q_{\text{IND}} - 0.812 E_{\text{NI}} \]
   \[ R^2 = 0.805 \]
   \[ (0.055) \]
   \[ (0.202) \]

2. 1965-1970  \[ P_{\text{GDP}} = 1.153 + 0.642 Q_{\text{IND}} - 0.872 E_{\text{NI}} \]
   \[ R^2 = 0.958 \]
   \[ (0.058) \]
   \[ (0.125) \]

Where \( P_{\text{GDP}}, Q_{\text{IND}} \) and \( E_{\text{NI}} \) are the average annual growth rates (peak-to-peak) of GDP per Head, Industrial Output and Non-Industrial Employment.

The statistical estimates for both equations are very impressive. The overall fit is extremely good and the coefficients have the postulated signs and are highly significant. The success of the 1965-1970 regression equation is particularly noteworthy for as Cripps and Tarling found the Verdoorn relationship for manufacturing did not hold for that period for their cross-country observations. Furthermore, as Kaldor pointed out the goodness of the fit, especially for the latter equation, was not significantly affected by the exclusion of Japan from the sample (Kaldor, The Economic Journal, December 1975, p. 894).* In all,

* The re-computation of Cripps and Tarling's two regressions, without Japan, was in response to Rowthorn's criticism that the results obtained by Cripps and Tarling were particularly sensitive to the inclusion of Japan in their sample (see Rowthorn's "What Remains of Kaldor's Law?" The Economic Journal, March 1975, pp. 10-19).
the authors commented that "these remarkably close correlations provide a striking indication of the significance of Kaldor's generalizations" (Cripps and Tarling, 1973, p. 30).

The Irish Experience

An initial doubt in undertaking such an exercise was whether Cripps and Tarling's regression on the overall growth of productivity could be applied to the case of Ireland. As Cripps and Tarling make clear Kaldor's analysis on the determinants of overall productivity and growth is, primarily, concerned with advanced capitalist economies. Ireland, though in this sense capitalist was, nonetheless, exhibiting particularly for the earlier part of the relevant period characteristics of underdevelopment both in respect to the structure of unemployment and mode of industrialisation. The evidence, contrawise, which finally convinced us to proceed with the regression test rested on two premises. First, that the work carried out on Verdoorn relationships, with Irish manufacturing data, proved very fruitful so that there was a common link between Cripps and Tarling's analysis and our own. Second, the shares of industrial output and employment in Irish GDP and total employment, respectively, have been relatively high (in excess of 25 per cent) throughout the period (1959-74), and for the more recent years they are comparable to the figures found for the smaller countries in the Cripps and Tarling's sample.

Even though this line of reasoning appeared sufficiently sensible to justify the attempt, the initial caveat still remains. Namely, that it is possible that Kaldor's analysis on the determinants of growth for capitalist economies is of relevance to Ireland yet the regression test used here may fail to bear this out because of the predominance of observations and weights in the model from advanced capitalist nations.
The procedures used for organising the data and for testing the productivity regressions 1 and 2 will now be described. As far as possible the relevant data for Ireland, Table D1, were extracted from the same sources as Cripps and Tarling's but the parcelling of time was not as neat an operation. The registered unemployment rate does not provide a good proxy for the cyclical variation of economic activity in Ireland, because the secular shortfall in employment was partly offset through labour emigration to Britain. Over the 1959-'74 period similar unemployment rates often coincide with different emigration patterns and while there were notable changes in the sectoral composition of the labour force the 'total at work' remained unaltered. Thus the duration of cycles in Ireland, using the Cripps and Tarling peak-to-peak method, differ depending on the index one adopts.* To enhance the possibility of discerning the durations of economic cycles in Ireland we used, in addition to unemployment rates, emigration and the differences in the growth of industrial employment. Four different ways of parcelling up time between 1959-'74 are presented in Table D2 together with the growth rates of the relevant variables. Finally, the expected GDP productivity growth for individual sub-periods was obtained using the growth rates of Table D2 with each of the two Cripps and Tarling's productivity equations. We then compared the actual GDP productivity values with the ones calculated. The results are given in Tables D3 and D4 and discussed further in the next section.

The Results

It can be seen, Tables D3 and D4, that the Cripps and Tarling's equations overestimate the extent of the Irish productivity gains but that this exaggeration is significantly reduced for the recent sub-periods. Without exception the predictive

The procedures used for organising the data and for testing the productivity regressions 1 and 2 will now be described. As far as possible the relevant data for Ireland, Table D1, were extracted from the same sources as Cripps and Tarling's but the parcelling of time was not as neat an operation. The registered unemployment rate does not provide a good proxy for the cyclical variation of economic activity in Ireland, because the secular shortfall in employment was partly offset through labour emigration to Britain. Over the 1959-74 period similar unemployment rates often coincide with different emigration patterns and while there were notable changes in the sectoral composition of the labour force the 'total at work' remained unaltered. Thus the duration of cycles in Ireland, using the Cripps and Tarling peak-to-peak method, differ depending on the index one adopts.* To enhance the possibility of discerning the durations of economic cycles in Ireland we used, in addition to unemployment rates, emigration and the differences in the growth of industrial employment. Four different ways of parcelling up time between 1959-74 are presented in Table D2 together with the growth rates of the relevant variables. Finally, the expected GDP productivity growth for individual sub-periods was obtained using the growth rates of Table D2 with each of the two Cripps and Tarling's productivity equations. We then compared the actual GDP productivity values with the ones calculated. The results are given in Tables D3 and D4 and discussed further in the next section.

The Results

It can be seen, Tables D3 and D4, that the Cripps and Tarling's equations overestimate the extent of the Irish productivity gains but that this exaggeration is significantly reduced for the recent sub-periods. Without exception the predictive

value of the two equations improves for each consecutive sub-period in the various sets of data, and for 1969-’74, 1970-’74 and 1965-’73 the model works very well. It may also be noted that the 'gradient of exaggeration', i.e., the rate of decrease of the difference between the expected and observed values, generally diminishes. The middle period, 1965-’69 or 1965-’70, presents a more fuzzy and a less satisfactory picture. The best results for these sub-periods are obtained using Cripps and Tarling's 1st, 1951-’65, equation but much worse ones with their 2nd, 1965-’70, equation.

A closer comparison between the results, Tables D3 and D4, and the growth rates of industrial output and productivity, Table D2, indicates an immediate reason for the varying success of the model. It can be seen that the Irish productivity growth rate rose during the latter sub-periods while the industrial output growth rate actually declined. As the change in non-industrial employment is of minor significance it is this relationship which dominates the results. At a conjectural level it may be suggested that the model performs better for recent sub-periods simply because Ireland is more developed and thus its economy can lend itself to genuine productivity comparisons with other countries in the Cripps and Tarling sample.
<table>
<thead>
<tr>
<th>Year</th>
<th>GDP at Constant Prices (£ million 1970)</th>
<th>Total Employment '000</th>
<th>Industrial Output at Constant Prices (£ million 1970)</th>
<th>Non-Industrial Employment '000</th>
</tr>
</thead>
<tbody>
<tr>
<td>1958</td>
<td>877.7</td>
<td>1057</td>
<td>236.0</td>
<td>814</td>
</tr>
<tr>
<td>1959</td>
<td>927.0</td>
<td>1048</td>
<td>254.3</td>
<td>804</td>
</tr>
<tr>
<td>1960</td>
<td>972.5</td>
<td>1043</td>
<td>270.9</td>
<td>797</td>
</tr>
<tr>
<td>1961</td>
<td>1012.5</td>
<td>1041</td>
<td>293.5</td>
<td>782</td>
</tr>
<tr>
<td>1962</td>
<td>1049.4</td>
<td>1049</td>
<td>314.4</td>
<td>779</td>
</tr>
<tr>
<td>1963</td>
<td>1083.0</td>
<td>1055</td>
<td>334.2</td>
<td>776</td>
</tr>
<tr>
<td>1964</td>
<td>1138.9</td>
<td>1060</td>
<td>360.5</td>
<td>772</td>
</tr>
<tr>
<td>1965</td>
<td>1152.7</td>
<td>1058</td>
<td>375.0</td>
<td>762</td>
</tr>
<tr>
<td>1966</td>
<td>1169.7</td>
<td>1055</td>
<td>383.2</td>
<td>762</td>
</tr>
<tr>
<td>1967</td>
<td>1229.2</td>
<td>1052</td>
<td>411.0</td>
<td>755</td>
</tr>
<tr>
<td>1968</td>
<td>1311.5</td>
<td>1055</td>
<td>449.9</td>
<td>750</td>
</tr>
<tr>
<td>1969</td>
<td>1366.7</td>
<td>1058</td>
<td>479.6</td>
<td>743</td>
</tr>
<tr>
<td>1970</td>
<td>1399.7</td>
<td>1045</td>
<td>494.4</td>
<td>733</td>
</tr>
<tr>
<td>1971</td>
<td>1479.0</td>
<td>1047</td>
<td>522.1</td>
<td>724</td>
</tr>
<tr>
<td>1972</td>
<td>1549.1</td>
<td>1037</td>
<td>545.8</td>
<td>723</td>
</tr>
<tr>
<td>1973</td>
<td>1647.8</td>
<td>1042</td>
<td>601.2</td>
<td>722</td>
</tr>
<tr>
<td>1974</td>
<td>1675</td>
<td>1049</td>
<td>605</td>
<td>723</td>
</tr>
</tbody>
</table>


Employment: OECD Labour Force Statistics, 1961-72 (1974) and the annual Economic Surveys. The employment estimate from this source is slightly lower than the equivalent estimate presented in the Irish annual, Trends of Employment and Unemployment because of the exclusion of army personnel (less than 10,000). The resultant discrepancy, in terms of annual growth rates, is very small so that for our purpose of comparison the overall outcome is not unduly affected.
### TABLE D2

**Average Annual Growth Rates**

<table>
<thead>
<tr>
<th>Period</th>
<th>GDP</th>
<th>Total Employment</th>
<th>Productivity</th>
<th>Industrial Output</th>
<th>Non-Industrial Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1965-1969</td>
<td>4.349</td>
<td>0</td>
<td>4.349</td>
<td>6.344</td>
<td>-.629</td>
</tr>
<tr>
<td>1965-1970</td>
<td>3.959</td>
<td>-.247</td>
<td>4.206</td>
<td>5.684</td>
<td>-.773</td>
</tr>
<tr>
<td>1970-1974</td>
<td>4.591</td>
<td>.096</td>
<td>4.495</td>
<td>5.177</td>
<td>-.343</td>
</tr>
<tr>
<td>1965-1973</td>
<td>4.568</td>
<td>-.190</td>
<td>4.758</td>
<td>6.078</td>
<td>-.672</td>
</tr>
<tr>
<td>1965-1973</td>
<td>4.568</td>
<td>-.190</td>
<td>4.758</td>
<td>6.078</td>
<td>-.672</td>
</tr>
</tbody>
</table>

**Source:** Table D1

**Notes:**
1. Productivity growth is defined as GDP growth - Employment growth.
2. The above figures are average annual compound growth rates and the method corresponds to Cripps and Tarling's 'method 2' (ibid., p. 39).
### TABLE D3

**Estimates of Observed and Predicted Irish Productivity Gains 1959-1974**

<table>
<thead>
<tr>
<th>Period</th>
<th>Overall (GDP) Productivity Growth (Average Annual)</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Observed</td>
<td>Calculated</td>
</tr>
<tr>
<td>1959-1965</td>
<td>3.541</td>
<td>5.465</td>
</tr>
<tr>
<td>1965-1969</td>
<td>4.349</td>
<td>5.069</td>
</tr>
<tr>
<td>1969-1974</td>
<td>4.323</td>
<td>4.152</td>
</tr>
<tr>
<td>1960-1965</td>
<td>3.172</td>
<td>5.485</td>
</tr>
<tr>
<td>1965-1970</td>
<td>4.206</td>
<td>4.834</td>
</tr>
<tr>
<td>1970-1974</td>
<td>4.495</td>
<td>4.214</td>
</tr>
<tr>
<td>1959-1965</td>
<td>3.541</td>
<td>5.465</td>
</tr>
<tr>
<td>1965-1973</td>
<td>4.758</td>
<td>4.962</td>
</tr>
<tr>
<td>1960-1965</td>
<td>3.172</td>
<td>5.485</td>
</tr>
<tr>
<td>1965-1973</td>
<td>4.758</td>
<td>4.962</td>
</tr>
</tbody>
</table>

**Source:** Columns 1 and 2 from Table D2;

Column 3, using Crip's and Tarling's 1951-1965 productivity regression, $P_{GDP} = 1.172 + 0.534 Q_{IND} - 0.812 E_{N1}$, with the appropriate values of Table D2;

Column 4, is the difference between the observed and calculated values.
### TABLE D4

Estimates of Observed and Predicted Irish Productivity Gains 1959-1974

<table>
<thead>
<tr>
<th>Period</th>
<th>Overall (GDP) Productivity Growth (Average Annual)</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Observed</td>
<td>Calculated</td>
</tr>
<tr>
<td>1959-1965</td>
<td>3.541</td>
<td>6.222</td>
</tr>
<tr>
<td>1965-1969</td>
<td>4.349</td>
<td>5.773</td>
</tr>
<tr>
<td>1969-1974</td>
<td>4.323</td>
<td>4.679</td>
</tr>
<tr>
<td>1960-1965</td>
<td>3.172</td>
<td>6.246</td>
</tr>
<tr>
<td>1965-1970</td>
<td>4.206</td>
<td>5.476</td>
</tr>
<tr>
<td>1970-1974</td>
<td>4.495</td>
<td>4.775</td>
</tr>
<tr>
<td>1959-1965</td>
<td>3.541</td>
<td>6.222</td>
</tr>
<tr>
<td>1965-1974</td>
<td>4.758</td>
<td>5.640</td>
</tr>
<tr>
<td>1960-1965</td>
<td>3.172</td>
<td>6.246</td>
</tr>
<tr>
<td>1965-1973</td>
<td>4.758</td>
<td>5.640</td>
</tr>
</tbody>
</table>

**Source:**
Columns 1 and 2 from Table D2;

Column 3, using Cripps and Tarling's 1965-1970 productivity regression, $P_{GDP} = 1.153 + 0.642 Q_{IND} - 0.872 E_{N1}$, with the appropriate values in Table D2;

Column 4, is the difference between the observed and calculated values.
# APPENDIX E

## TABLE E1

Projected Growth of Manufacturing Employment, 1975-'86

Based on Verdoorn Regression Estimates

(Base Year Manufacturing Employment 204,000)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>a %</td>
<td>b %</td>
<td>a '000</td>
</tr>
<tr>
<td>6.50</td>
<td>2.90</td>
<td>2.00</td>
<td>279</td>
</tr>
<tr>
<td>6.80</td>
<td>3.10</td>
<td>2.20</td>
<td>285</td>
</tr>
<tr>
<td>7.80</td>
<td>3.70</td>
<td>2.80</td>
<td>304</td>
</tr>
<tr>
<td>8.50</td>
<td>4.10</td>
<td>3.20</td>
<td>316</td>
</tr>
</tbody>
</table>

# TABLE E2

Projected Growth of Manufacturing Employment, 1975-'86

Based on Verdoorn Regression Estimates

(Base Year Manufacturing Employment 226,000)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>a %</td>
<td>b %</td>
<td>a '000</td>
</tr>
<tr>
<td>6.50</td>
<td>2.90</td>
<td>2.00</td>
<td>310</td>
</tr>
<tr>
<td>6.80</td>
<td>3.10</td>
<td>2.20</td>
<td>316</td>
</tr>
<tr>
<td>7.80</td>
<td>3.70</td>
<td>2.80</td>
<td>337</td>
</tr>
<tr>
<td>8.50</td>
<td>4.10</td>
<td>3.20</td>
<td>352</td>
</tr>
</tbody>
</table>

Note: a and b refer, in turn, to regression equations,

\[ E = -0.94 + 0.59Q \]
\[ r = 0.84 \quad (1953-'74) \]
\[ \text{(0.06)} \]

\[ E^* = -1.73 + 0.58Q \]
\[ r = 0.78 \quad (1966-'74) \]
\[ \text{(0.07)} \]

Where Q, E and E* are the average annual growth rates of manufacturing output, employment and total man-hours for 42 and 43 Irish manufacturing industries respectively. For the choice of the exogenous growth rates of manufacturing output see chapter 8.3.
Institutional Aspects and the Organisation of Planning

Something that the theory of indicative planning neglects and practitioners find a stumbling block, is the organisation of the planning effort. In Meade's theory the organisation and implementation of a plan does not warrant new institutions, partly because the role of the State is limited to that of an information broker. Within Meade's scheme and given the high sensitivity of the product and labour markets to price the only grounds for State intervention, apart from uncertainty, are Pigovian externalities and oligopolistic practices. The whole of this edifice is a presumption in favour of atomistically competitive markets. For following its logic, its policy conclusion seems to be that once the market is in equilibrium, the role of the government is to prevent the occurrence of any events that would disturb it. But what if the market is not in equilibrium and high unemployment, amongst other things, is a permanent feature of the economy? Does one revert to pre-Keynesian habits of thought and reaffirm the belief that unemployment is either voluntary or frictional which has been induced by interference in the market? In this respect Meade has written:

"...There are all sorts of frictions in economic markets. In pure theory in a perfectly competitive economy there would, I suppose, never be any unemployment of labour except when the wage rate was zero. All workers would come into the labour market at the beginning of the day or week and offer their services in competition with each other to a set of competing employers; and the wage would very quickly be reduced so long as it was positive and any worker remained without work. In fact, of course, workers set a price for their work... and there results from week to week a certain level of unemployment" (The Theory of Indicative Planning, (1970), pp. 65-66).*

The point we wish to stress is that the institutional arrangements required by the theory of indicative planning, as described by

* This is very similar to the line of reasoning that Keynes associated with Pigou and 'the classical theory of employment' in chapter 2 of The General Theory (1936).
Meade, would be of the type suitable for an industrialised competitive, or laissez faire, economy, that has already obtained full employment, a certain distributional equity and the warranted growth and accumulation - benefits that may be threatened by future uncertainty. Yet an examination of actual planning brings to the fore the importance of the organisational framework and critics, especially in Ireland, score their best points when noting differences between intentions and practice or between plan and implementation.

When the Second Programme (1964-'70) was abandoned in 1967, the Government and NIEC stated that one of the major problems encountered by the plan was in its administrative arrangements which, in turn, were held responsible for the poor response it received from both the public and private sectors.* It was pointed out, amongst other, that the Departments did not co-ordinate their activities with the planning objectives, that consultations with the private sector were inadequate, that the Reviews of the Department of Finance were preoccupied with industrial performance, and that the excessive detail of the plan undermined its educational role. Such critical observations, however, leave certain issues unsatisfactorily resolved. A premise of these criticisms is that the plans specified the tasks of the public sector and a planning role for the private sector so that, if followed, their objectives would have been satisfied. This premise, as we have seen in chapter 5, is not supported either by a study of the contents of the plans or by other studies on the determinants of public finances during that period.**

---


The recent programmes did not examine the relation between their 'targets' and specific policy instruments nor were they explicit about the type of co-operation required from the State sector. In their recommendations the authors of the plans asked, explicitly, that government departments and state-sponsored bodies study the programmes and draw out any relevant implications themselves.* The other factor that casts doubt on the official explanation for the failure of the plans is, as suggested earlier, that it creates a divide between the State and departmental activities which is untenable. The problem is not that departmental priorities and the functional sub-division of public expenditure may be inappropriate for planning but that the government for reasons unrelated to planning allowed these to have priority over planning objectives. In this respect the contention by Whitaker (1976) that political commitment is one of the most serious prerequisites yet to be secured by Irish plans is correct. The low political commitment of the government to the later, Second and Third plans, would explain more adequately the relative inactivity of the public sector in this sphere rather than the perceived, but unspecified, insubordination of individual departments.**

Overall, in the methodology of Irish plans, the State is made subordinate to the assumed intentions of the private sector which, in turn, are seen as self-fulfilling. The planners, like Meade, justified this approach, for a neutral or non-directive


** Similar organisational weaknesses and central government irresoluteness, in particular, whether to use its own initiative or devolve authority for plan implementation, is observed also at the sub-national level. As the organisational arrangements for regional and community development have been the subject matter of a report, A Pilot Study of Regional and Community Development in the Mid-West (1975), prepared by this author they need not detain us here.
role by the State, on the supposition that the operation of market forces and the pursuit of private interests provided the means for plan implementation. In other words, the contradiction, where it existed, was embedded in the initial claims made on behalf of non-interventionist or purely indicative planning and not in an observed failure of reality to conform with plan design. In all, the non-specification of policy instruments and the associated difficulty of setting out a planning role for the public sector are ingrained characteristics of Meade's planning theory and the recent Irish plans. The difference is that while Meade is aware of some of the limitations of, what he terms as, his 'outrageous simplifying assumptions', Irish planners eschewed those assumptions but still attributed the same properties to the theory.

The Implementation Process and Central Budgets

One of the most frequently cited criticisms of Irish planning is the weakness of its implementation. It may also be said that it is a weakness that is thought to be shared by the experience of many of the non-socialist countries that have embraced planning in the post war or post colonial era. It is, however, interesting to note that imperative planning or the type of centralised planning practised by the eastern socialist economies does not always guarantee implementation. Kornai, for example, drawing from the Hungarian experience, has recently stated that:

"Economy-wide planning models concentrate their attention primarily on "real" flows such as physical inputs and outputs of the economy, the structure of production, foreign trade, and consumption. The objective of the analysis is to determine numerical, quantitative targets in these areas. At the same time, these models rarely specify how these goals and targets are to be realised. The models are not particularly instrumental in character. This is one of the most important criticisms made by potential users who feel there is nothing they can do with the results of the planning models" (Economy-wide Models and Development Planning (1975), edited by C.R. Blitzer et. al., p. 24, original italics underlined).
Similar views have also been expressed by A. Tauber (1972) "Development and Changes in Conceptions of Planning in Socialist Countries", and J.G. Zielinski (1968) On The Theory of Socialist Planning with respect to earlier Czechoslovak and Polish planning experiments. In the case of Yugoslavia the Director of the Yugoslav Institute of Economic Sciences, Dr. B. Horvat, complained that overall the implementation process was rather weak and in particular that "Yugoslav planning bureaux have become famous for constantly forgetting to undertake a comparative analysis of how the planned targets have been fulfilled" (The Crisis in Planning (1972), M. Faber and D. Seers (eds.), Vol. 2, p. 201). It is certainly a curiosum that the economic reforms introduced by some of the centrally planned economies in the last decade have, in effect, widened the role of the market as the agent of implementation while for market economies the trend has been to place the responsibility more in the sphere of central government and the public sector.*

These remarks have been made not with the aim of softening the blow of the criticisms raised, inter alia, by this author on the various weaknesses of the implementation process in Ireland but rather to stress that what we have been concerned with is the Irish perspective of a more universal phenomenon. Let us finally consider an additional dimension to this problem by briefly reviewing the treatment of the Second and Third Programmes in the annual Financial Statements, viz., the Budgets, of the Irish Government.

* Professor A. Tauber, drawing primarily from the experience of the Czechoslovak reforms, wrote - "One of the basic aspects of the economic reform now implemented in some degree in almost all European socialist countries is the combination of centralised leadership and planning with the active role of the market and commodity-money relations. Instead of rigid regulation and control over enterprises, a flexible system of self-regulation is being created, making it possible to gear production programmes to consumer demand and to make the most rational use of resources", (The Crisis in Planning (1972) p. 181 op. cit.).
In section 6.2.1, it was argued that certain crucial prerequisites for Irish planning were progressively attenuated by developments, e.g., abandonment of trade protection, absence of control of the flow of capital funds and policy of income distribution, that were occurring outside the sphere of the plans. One of the few direct controls that the Irish planners urged the government to use in the pursuance of the economic programmes was the annual Financial Statement. It was expected, in short, that the Department of Finance and its political head will use the opportunity of the annual budget to review the planning progress while outlining its own commitments for the immediate financial year. It is thus possible by examining the contents of the annual budgets, for 1964-‘72, to get an idea as to whether the government formulated its own proposals within the context of the then existing plans.

An examination of the annual budgets for the period 1964-‘72 reveals the low priority of planning in the successive policy documents of the four Ministers for Finance that held office for the duration of the Second and Third Programmes.* The entire treatment of the plan is disposed of in a single mandatory paragraph, per budget, without an appraisal of past progress or more pertinently an examination of government finances and plan implementation for the following fiscal year. The interest in planning, if reflected by the amount of space devoted to this topic in the Financial Statement, seems to have been at its height in the years of plan inauguration, e.g., 1964 and 1969, and then waned as targets and outcomes diverged. Even the customary one paragraph reviews of the plans in the budget were left out, for example, for 1966 and for the last two years, 1971-‘72, of the Third Programme. These were years for which it was very clear that the cumulative progress achieved for the duration of the plans was already short of the original targets.

* J. Ryan (1964), J. Lynch (1965-‘66), C.J. Haughey (1967-‘70), and G. Colley (1971-‘72) all members of the Fianna Fail government for that period.
A noteworthy example of the arbitrary division between the financial management of the economy and the pursuance of the planning objectives was the treatment of the early termination of the Second Programme in the budget statements for that, 1967-68, period. The relevant passage in the 1967 budget simply states:

The preparatory work on the review of the Second Programme, is now nearing completion and will shortly be the subject of consultation with NIEC. Realism must, of course, be the keynote of the review. This will by no means exclude our doing better than we may now think likely, with obvious gains both in employment and prosperity" (Financial Statement, 1967, p. 28).

The 1968 Statement is equally laconic about the progress of the Second Programme -

"The recently published review of developments in the first four years of the Second Programme shows that, although performance was not fully up to expectations, the economy made considerable progress" (Financial Statement, 1968, p. 23).

Having stated this, and without further explanation, the Statement reiterates the government's commitment to terminate the Second Programme and introduce a Third for the period 1969-72. One cannot surmise the reasons, by studying the text of the Financial Statements of that time, for the Second Programme falling into disfavour. The tone of the various Financial Statements on the Second Programme was invariably favourable until the decision to abandon it which occurred under the guise of introducing the Third. It would appear that the ability of the then Minister for Finance to switch with such ease from the Second to the Third Programme was not due to the smooth co-ordination of public finances and plan implementation but rather that the two aspects were kept, for budget purposes, separate. Neither were the planning and the financial years synchronised so that it is not possible
to compare the budget estimates with the estimates of the plan without making adjustment for the calendar year.*

In retrospect, if the Minister for Finance paid so little attention in the budgets to plan implementation how likely was it that the indicative directives in such documents, e.g., the strictures on wage demand moderation and fair competition, would have been taken seriously by sectional interests? However, the crucial weakness of the implementation process is only tangential to the above. In other words, one cannot seriously explain the low status of the plans in the budgetary process as an unfortunate coalition of circumstances where four successive Finance Ministers obstinately refused to acknowledge the plans. The problem rather stemmed from the progressive irrelevance of the Second to Third Programme to the management of the economy. It resulted from the concept of planning in terms of base values and terminal targets with no attention paid to the process in between. The iterative methodology has been already criticised for inherently separating the method of setting the targets and of plan implementation. The latter aspect was taken to be outside its purview. The method focussed on base values and terminal targets on premises that were in themselves dubious. Although the sum total of the projections were concerned with estimating output and while the methodological appendices warned that the work on productivity and employment were purely speculative, these are raised to the status of targets in the main body of the plans. More pertinently, the final projections were an unintended hybrid of desired and expected values without an explicit recognition by the planners that the two sets of variables, active and passive, were unlikely to be fulfilled by the same policy means. Since no margin for target review was allowed after the base date (i.e.,

BIBLIOGRAPHY


ARROW, K.J. and HAHN, F.H. (1972) General Competitive Analysis, Oliver and Boyd, Edinburgh.


ESRI Research Plan, 1976-'80 (1976), The Economic and Social Research Institute, Dublin.


KATSIAOUNI, O. (1975) A Pilot Study of Regional and Community Development in the Mid-West, Institute of Public Administration, Dublin.


KENNEDY, F. (1975) Public Social Expenditure in Ireland, Broadsheet No. 11, The Economic and Social Research Institute, Dublin.


Programme for Economic Expansion; First, (1958), Pr. 4796, Stationery Office, Dublin.

Programme for Economic Expansion; Second, (1964), Part I (Pr. 7239) and Part II (Pr. 7670), 1963 and 1964 respectively, Stationery Office, Dublin.


VERDOORN, P.J. (1949) 'Fattori che regolano lo sviluppo della produttività del lavoro' L'Industria 1, 1949.


Recru...