

Medium-Term Outlook: 1986-1990

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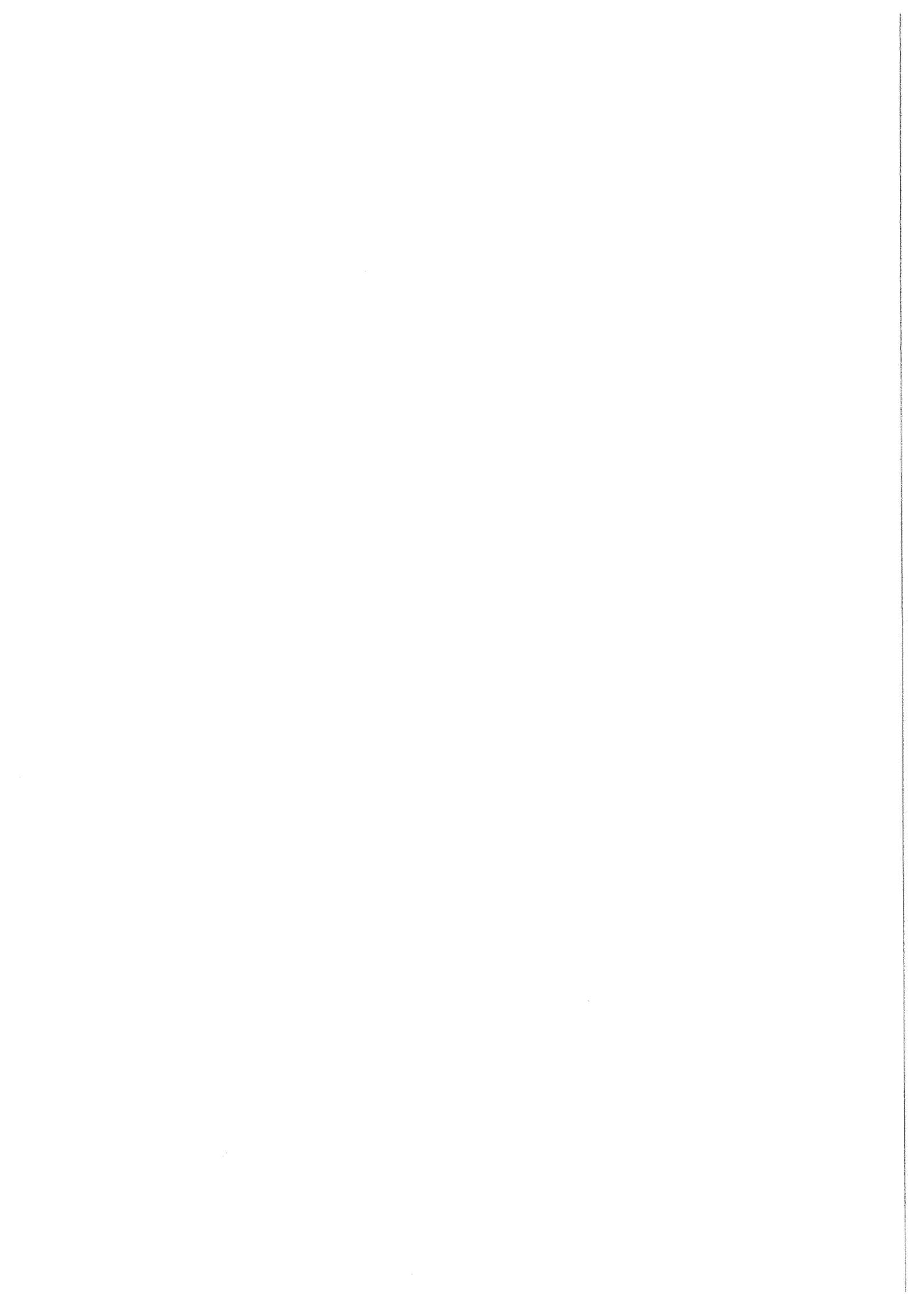
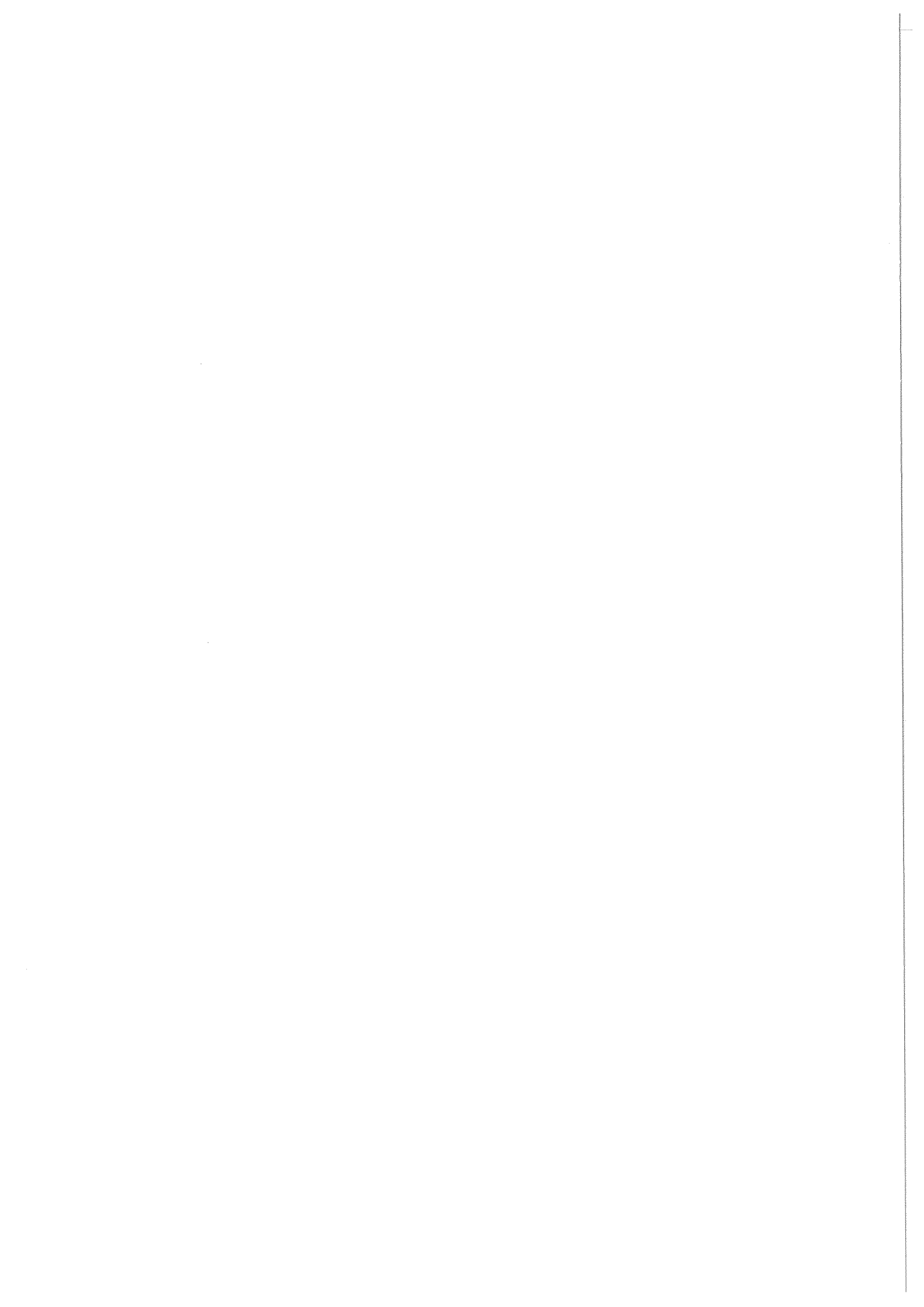


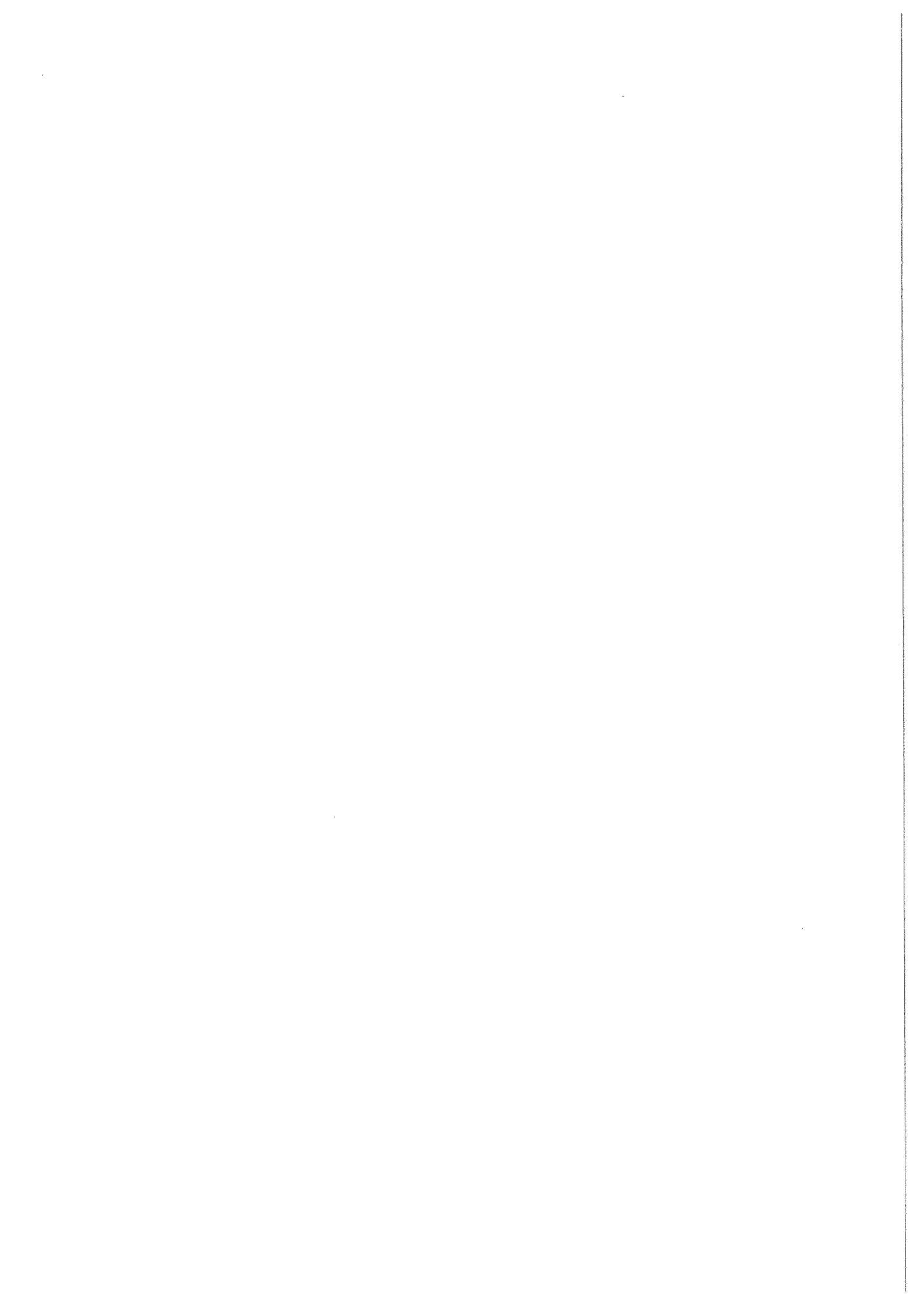
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INTRODUCTION

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From its inception 25 years ago, the ESRI has been engaged in short-term macroeconomic forecasting. Indeed one of the first published papers was entitled *Short-term Economic Forecasting and its Application to Ireland*. Since 1968, the Institute has been producing a regular *Quarterly Economic Commentary* (QEC). The QEC contains a review of current economic developments at home and abroad, a forecast for the year ahead, and an assessment of the major short-term policy issues. Judging by the amount of attention it receives in the press, the QEC has become the Institute's best known publication.

For some years past, however, we have been conscious of the need to supplement the QEC with a longer-term perspective. The economic problems facing the nation — such as the level of unemployment and the condition of the public finances — are on such a scale that only marginal changes can be effected in the course of a single year. Since the problems can only be solved over time, it is essential to have a longer time perspective. To say this, however, is not at all to say that the problems can be put on the long finger. The fact is that a longer-term perspective helps us to identify whether short-term actions are sensible or not, and can therefore give more purpose and coherence to short-term policies.

With this in mind, the Institute over the past decade has published a number of medium-term macroeconomic policy analyses. These include *Irish Economic Policy: A Review of Major Issues* (edited by B. R. Dowling and J. Durkan) in 1978; *The Irish Economy: Policy and Performance 1972-1981* (by P. Bacon, J. Durkan and J. O'Leary) in 1982; and *Employment and Unemployment Policy for Ireland* (edited by D. Conniffe and K. A. Kennedy) in 1984. We now feel that the time has come to launch a regular annual publication devoted to the medium-term outlook for the economy. The present paper, *Medium-Term Outlook 1986-1990*, is the first volume in what we intend to be a continuing annual series.

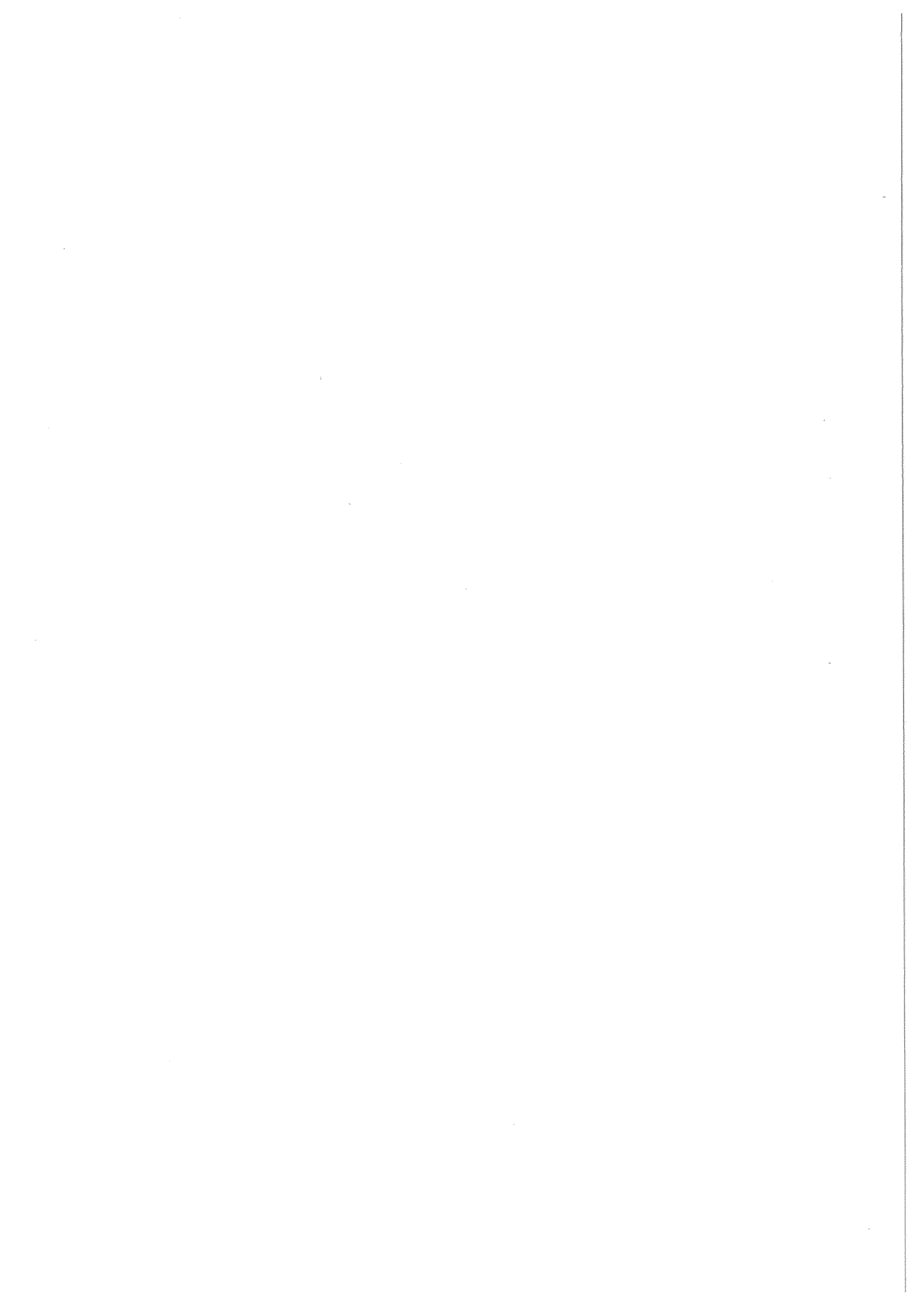
The chief author and editor of *Medium-Term Outlook*, Dr Peter Bacon, is no stranger to medium-term economic analysis and forecasting. As Director of the National Plan-

ning Board (on secondment from ESRI), he was deeply involved in all aspects of preparing the Board's major report, *Proposal for Plan 1984-87*. His earlier experience in the Department of Finance and at the OECD in Paris equipped him with a thorough knowledge of the operation of the Irish and the major world economies.

While the central core of the *Medium-Term Outlook* is devoted to the economy as a whole, it is also our intention to include special articles on specific sectors or issues that can be considered best in a medium-term context. The present volume contains two such articles relating to key aspects of our two most important trading sectors, agriculture and manufacturing. The first, by Professor Robert O'Connor, assesses the European Commission's proposals for changes in the Common Agricultural Policy. The second, by Dr. Eoin O'Malley, examines the performance and prospects of foreign-owned industry in Ireland.

We hope that this volume will be of use, not only to those responsible for economic policy, but also to a much wider audience. Certainly, from the number of enquiries we receive at the Institute from business about the outlook over the next five years, it is clear to us that there is a great demand for the kind of projections contained in this volume. Indeed it would be strange if it were otherwise, since any business that wants to survive and grow must plan ahead. And the more uncertain the outlook, the more a firm must take that uncertainty into account.

The projections contained in this volume are not put forward as predictions of what will happen, and should not be used as such. Rather they provide a framework to help the policy maker and the business planner to develop more coherent strategies for coping with future uncertainties. At present, there is almost a complete absence of such a framework at national level. The projections in the Government's Plan, *Building on Reality*, are now out of date in important respects, and in any event they only cover the period up to 1987. We are confident, therefore, that the present volume will fill an important gap in the efforts of all those concerned to plan a better future.



SUMMARY

The first half of the decade of the 1980s, taken as a whole, was a period of appalling economic performance in Ireland. On average there was little growth in national output. Employment fell and unemployment rose from 10 per cent of the labour force to 16 per cent; those who retained employment also experienced a sharp drop in their living standards, especially in the early years of the decade. In addition, the already serious imbalances in the public finances and the balance of payments, coming into the decade, got worse before improvements began to come about. By 1982 the public sector borrowing requirement (PSBR) was equal to 20 per cent of national output and the deficit on the balance of payments had expanded to almost 15 per cent in the previous year. Since then rapid adjustment has occurred to the balance of payments deficit and by 1985 it had fallen to 3 per cent of GNP. The imbalance in the public finances has been much more intractable. By 1985 it stood at 15¾ per cent of GNP, about 8¼ per cent being accounted for by the deficit on current spending.

This set of events was brought about by numerous factors. Some of them were beyond the control of Irish economic policy makers: it was inevitable that a recession would follow the second oil price shock of 1979/80. There were also inescapable adverse consequences for Ireland of the rising trend in the value of the US dollar and real interest rates internationally during the two and a half years or so to the Spring of 1985. But these effects would have been substantially smaller if appropriate action had been taken domestically from the late 1970s to avert and control public sector borrowing. Instead problems have been compounded: right through the 1980s to date there have been inadequate steps taken to overcome the public finance imbalance. In part this reflects a preoccupation with short-term effects. In part also it is the result of failure — by all concerned with economic policy formation — to identify, articulate and implement macro- or micro-policies that would promote self reliant growth and minimise the effects of fiscal deflation.

The next five years are likely to present more fortunate economic circumstances. There are indications already that growth in the international economy will be more balanced and possibly even stronger in the second half of the decade compared with the first. The belated tendency for the US dollar to fall and for real interest rates internationally to ease creates the prospect that the economic policies of major countries will be shifted to positions which would promote this outcome and yet avoid a resurgence of inflation. In summary, the changes that, in our view, would be required internationally for

this to happen are that a more accommodating stance of monetary policy be adopted in Europe. This would reduce real interest rates and with some relaxing of the fiscal stance would provide needed stimulus to the European countries; that at the same time US budget policy redress the growing fiscal deficit that has emerged there thus enabling a further easing in monetary conditions in the US. In Japan the main problem would seem to be not to raise growth but to have it less dependent on foreign demand. Accordingly, an easing of fiscal policy and a tightening of monetary policy — to raise the value of the Yen would seem to be an appropriate change in the context of maintaining and strengthening economic growth in the industrial world.

There are, of course, huge uncertainties regarding the speed and extent with which such changes will occur but there are grounds for believing that this is the direction that is most likely. Compared with the first half of the 1980s the next five years are expected to be characterised in the OECD area by:

- more balanced growth and faster expansion of world trade;
- stable and low inflation of under 4 per cent per annum;
- lower real interest rates;
- a lower value of the US dollar on average compared with the first half of the decade.

If these conditions prevail internationally there would be greater scope for manoeuvre at home. However, in the "benchmark" scenario for Ireland it has been assumed that:

- the fiscal targets contained in the Government Plan, will not be fully achieved by 1987. In that year a PSBR of over 12½ per cent of GNP is assumed, about half of which is attributable to the Exchequer's current budget;
- the fiscal stance is continued unaltered for a further two years after 1987 by which time the PSBR is equivalent to 10 per cent of GNP;
- other macro-economic and sectoral policies are oriented more to the achievement of faster growth.

The main features of the scenario based on these assumptions are shown in Table A.

This scenario portrays the economy gradually returning to balance, in many respects, during the next five years: there is a renewal of economic growth; a stable rate of inflation, which is low by previous experience and comparable to that expected in trading partners; a

TABLE A: Main Features of Benchmark Projection

	1980-1985	1985-1990	1986	1987	1988	1989	1990
	Average						
Change in GNP at Constant 1980 Factor							
Cost %	—	2¾	2½	2¾	3	3	3
Change in Total Employment %	—1	½	—½	½	½	½	¾
Unemployment (as % of Labour Force)	13½	17¾	17	17½	18	18¼	18½
Change in Consumer Prices %	11¾	4½	4½	4	4	3½	3
Change in Real Household Incomes %	—2	2	2	1	3½	2	1
PSBR (as % of GNP)	18	11¼	14	12¼	11	10	9¼
Of which: Current Budget Deficit	7¼	5¾	7½	6¼	5½	5	4¼
Current Balance of Payments (as % of GNP)	—8¼	—	—2¾	—1¼	1¼	1½	2

modest growth in living standards; equilibrium in the balance of payments and a tendency for the national debt to stop growing faster than national output. Yet there are important respects in which adjustment is disappointingly incomplete. By the end of the decade the rate of unemployment is even higher than now. Public sector borrowing is still equivalent to over 9 per cent of GNP — a magnitude which some would regard as intolerably high. And by the end of the decade living standards are about the same as they were 10 years earlier.

We have explored some possibilities for achieving a better outcome than that described above. It is concluded that a speedier adjustment of the public finance imbalance along with concerted and determined application of sectoral and micro policies would leave the economy on a faster growth path by the end of the decade and in a stronger position to provide employment opportunities going into the next decade. However, a more sluggish adjustment would leave the economy on a slower growth path and little real prospect of making inroads on the level of unemployment by the 1990s, even though in the short term output and employment performances would be stronger. The prospect that oil prices could fall sharply to well below \$20 a barrel over the next year or so cannot be dismissed. This possibility has been examined briefly and while such an eventuality would not be without problems, it could offer the prospect of bringing about a more concerted and positive stance in the industrial economies of the world. The effects of this would be more important for Ireland than the direct impact of the change in oil prices. They might indeed be sufficient to enable domestic policy to establish both a sustainable position in the public finances and

a reversal of the upward trend in unemployment by the end of the decade.

However, there are also downside risks attached to the projected developments in the international economy. These relate principally to the speed of adjustment of US fiscal policy and the response of European economic policy to these changes. It is possible that the pace of adjustment will be much slower than is projected or that European economic policies would respond less positively. In that case real interest rates would fail to fall and world trade would not expand. This would remove two major sources of stimulus to the Irish economy. Accordingly, it would be quite unwise to assume that developments in the international economy might relieve the responsibility which domestic policies must assume in adjusting the imbalances faced by the Irish economy.

In Part I we review the main developments in the international economy in the past five years and examine, in a general way, the prospective scenarios to the end of the decade. In Part II we turn to the domestic economy and examine how international developments and policies at home have shaped the economic performance of the past five years. From this we go on to develop a medium-term scenario for the economy, embracing prospects for growth of national output, employment, the development of income and expenditure and the evolution of the public finances and balance of payments up to the end of the decade. In Part III we discuss some variants to the main set of projections based on some alternative paths of adjustment to the public finances and different circumstances in the international economy. Finally some concluding remarks are presented.

I. THE INTERNATIONAL ECONOMY

1. Introduction

This Part assesses developments and medium-term prospects in the international economy. Because of the small size of the domestic economy conditions at home are to a very considerable degree influenced by what happens in the rest of the world. We focus on a number of aspects: the imbalances that have accompanied the international recovery from the last recession are described in Section 2. In Section 3 we examine the prospects and requirements for achieving adjustment within industrial countries. Sections 4 and 5 are concerned respectively with the outlook for oil and other commodity prices and the debt problem of the (LDCs). Finally in Section 6 we present aspects of a medium term scenario for the global economy which are thought most relevant to the medium-term prospects for the Irish economy.

2. Imbalances In Economic Recovery

The dominant feature of the economic recovery which has been under way in OECD countries now for the past three or more years is its uneven pattern and the growing imbalances which have accompanied it. The predominant objective in most industrialised countries after the second oil price shock was to contain and reduce inflation pressures. In this respect considerable and widespread progress has been achieved (Table 1.1). However, the price performance of major European economies taken together remains somewhat weaker than either the US or Japan, although that of the Federal Republic of Germany is comparable with either of the former two countries. In addition, the speed and extent of the slowdown in inflation which has been achieved is far greater than occurred following the earlier recession of 1974/75.

TABLE 1.1: Private Consumption Deflators in Selected Countries and Groups of Countries, 1982-1986 (Per Cent Change from Previous Year)

	1982	1983	1984	1985	1986
United States	5.9	3.7	3.2	3½	4
Japan	2.7	1.6	2.1	2½	1½
4 major Europeans*	9.6	7.4	6.1	5¼	4½
IRELAND	16.0	8.3	8.5	5½	4½
Total OECD	7.4	5.4	5.0	4¾	4½

*Germany, France, United Kingdom and Italy.

Sources: *Economic Outlook*, December 1985, Paris OECD.
National Income & Expenditure, 1983 & 1984, Stationery Office, Dublin, 1985.
Quarterly Economic Commentary, December 1985, ESRI, Dublin.

Tight demand management policies, with a pronounced emphasis in most countries on quantitative monetary targets, appear to have been the predominant policy actions which have brought about the reduction in inflation. Allied to the concern with controlling inflation has been an aim to reduce fiscal imbalances and, in some cases, the relative share of the public sector in the economy. However, in this respect, progress has been considerably more modest. Indeed there is a major divergence in the fiscal stance of the US, where there has been an expansion in the budget deficit from 2 per cent of GNP in fiscal year 1981 to nearly 5 per cent in fiscal year 1984 and a rapid accumulation of public debt, compared with other countries (Table 1.2).

TABLE 1.2: Changes in Structural Budget Balances in Selected OECD Countries^a in 1982-1986 (as a Percentage of Nominal GNP/GDP)

Year	United States	Japan	Germany	France	United Kingdom	Italy
1982	-0.9	+0.3	+1.2	-0.6	+1.5	+0.6
1983	-0.7	+0.6	+1.3	+0.2	-1.3	+1.7
1984	-0.7	+0.5	+0.5	+1.2	-0.4	-0.2
1985	-0.3	+0.8	+0.5	+0.0	+0.2	+0.1
1986	+0.1	+0.8	0	+0.3	-0.5	+0.5

a. A positive sign denotes a move to restriction.

Source: *Economic Outlook*, December 1985, Paris OECD.

This divergence is, to some extent at least, responsible for disparities in economic performance and other imbalances that characterise the international economy at present.

Growth of real GNP in Europe has been sluggish compared with either the US or Japan (Table 1.3). Moreover, the limited expansion which has taken place has relied primarily on the buoyancy of the US economy.

TABLE 1.3: Growth of Real GNP in Selected Countries and Groups of Countries, 1982-1986 (Per Cent Change from Previous Year)

	1982	1983	1984	1985	1986
United States	-2.1	3.7	6.8	2½	2¾
Japan	3.3	3.4	5.8	5	3½
4 Major Europeans	0.6	1.3	2.3	2¼	2½
IRELAND	-2.3	0.5	2.5	1	2¼
Total OECD	-0.3	-2.7	4.9	2¾	2¾

Sources: *Economic Outlook*, December 1985, Paris OECD;
National Income and Expenditure, 1983 and 1984 Stationery Office, Dublin; 1985.
Quarterly Economic Commentary, December, 1985, ESRI Dublin.

Domestic demand within Europe has been virtually stagnant. In 1984 exports contributed half of the total increase in demand in Europe.

The slow growth in demand and output in Europe has been translated into high and rising unemployment. Unemployment rates presently range from 9 per cent to 13 per cent in the four major European countries and reach almost 20 per cent in some of the smaller economies. The unemployment record has deteriorated compared with the US (Table 1.4) which historically had the higher rate of unemployment. Furthermore, with the strong growth of output in the US, unemployment there has dropped, whereas in Europe the weak recovery has been insufficient to prevent unemployment from continuously rising.

TABLE 1.4: Employment^a and Unemployment^b in Selected Countries and Groups of Countries 1982-1986

	1982	1983	1984	1985	1986
United States:					
Employment	-0.9	1.3	4.1	2	1¼
Unemployment	9.7	9.6	7.5	7¼	7¼
Japan:					
Employment	1.0	1.7	0.6	1½	1¼
Unemployment	2.4	2.6	2.7	2½	2¾
4 Major Europeans:					
Employment	-1.0	-0.7	0.2	¼	¼
Unemployment	8.7	9.5	9.9	10¼	10½
IRELAND: ^c					
Employment	0.2	-2.0	-1.3	-0.8	¼
Unemployment	11.4	14.1	15.5	16.8	17½
Total OECD:					
Employment	-0.6	0.5	1.5	1¼	1
Unemployment	8.3	8.8	8.4	8¼	8¼

a Per cent change from previous year.

b Rate of unemployment.

c Figures for Ireland refer to mid-April of year.

Sources: *Economic Outlook*, December 1985, Paris OECD.

Economic Review and Outlook, Summer 1985, Stationery Office, Dublin.

Quarterly Economic Commentary, December, 1985, ESRI, Dublin.

Another profound imbalance, related to the disparity in growth performance, is the deterioration in the US balance of payments position (Table 1.5). The widening deficit has had some positive aspects: it has offset domestic capacity constraints and consequential inflation pressures that would have hampered expansion; it has also provided a much needed boost to world demand. However, the present trend is untenable. Because of the current large imbalance between US imports and exports the growth of exports would from now on have to be significantly faster than that of imports merely to prevent the deficit from widening further. The OECD have estimated that a continuation until 1990 of the US deficit on current account on its current scale of 2½ to 3 per cent of GNP would imply net US foreign debt of the order of 15 per cent of GNP. This would, at prevailing interest rates, require a surplus on trade and non-factor services of about 1½ per cent of GNP thereafter merely to cover

interest payments, even if the current account was in balance.

TABLE 1.5: Current Balances in Selected Countries and Groups of Countries 1982-1986 (\$ Billion)

	1982	1983	1984	1985	1986
United States	-7.4	-41.6	-101.0	-128	-146
Japan	7.6	20.8	35.0	48	57
4 Major Europeans	-4.5	4.1	3.3	9½	19

Source: *Economic Outlook*, December 1985, Paris OECD.

What is somewhat surprising is that a process of adjustment to reverse the trend in the US balance of payments position did not begin sooner. The most obvious potential adjustment would have been for the US exchange rate to weaken in the face of a widening deficit on current account; however, until the Spring of 1985, the opposite was the case. High relative real interest rates in the US and associated strong inward capital flows were the proximate causes for the continuing widening of the current account deficit. However, there is not a dominant explanation of why real interest rates remained so high for so long. One view is that the magnitude of the budget deficit is responsible, another is that they are a reflection of high rates of return on real investment in the US and the generally favourable performance of the economy in terms of high growth and low inflation. For whatever reason the upward trend in the dollar and real interest rates from the beginning of 1983 until the Spring of 1985 had deflationary repercussions in Europe and resulted in serious financial and economic problems in many less developed countries.

3. Prospects for Adjustment

In evaluating the prospects for continuing adjustment and growth, several judgements must be entered into in respect of the developments that have been described above. These principally concern (i) the role of fiscal demand in the US and world growth performance, (ii) the future trend of the US dollar and interest rates and (iii) the extent to which weak labour market conditions in Europe are the result of institutional rigidities.

It is a fact that economic recovery has been strongest in the US, where fiscal stimulus has been most pronounced. In Europe, where the fiscal stance has been restrained, domestic demand has remained weak. It is very tempting to conclude from this that a switch in the emphasis of fiscal policy outside the US would remedy the fundamental imbalance in performance that has been observed in the first half of the decade. However, this view does overlook a number of other factors and complexities. In the first place it is not the case that the whole of the difference in output growth between the US and Europe can be explained by conventional budgetary stimulus; lower inflation and a more moderate growth in real labour costs, associated with especially strong real wage moderation in the US private services sector — rates fell in the eight years to 1982 compared

with large increases in Europe — have also probably contributed to faster US growth compared to Europe. In our view a relatively more stimulatory fiscal stance in the US has contributed to the stronger growth of the US, but its effectiveness has been significantly enhanced by a number of other more favourable macro-economic and structural conditions operating in the US economy.

While the growth performances of the US rests on more than fiscal stimulation its durability is no more assured for this and is threatened by the trend in the current balance of payments. The reductions which have been occurring in the value of the dollar since the Spring of 1985, if sustained, offer the greatest prospect for creating conditions that would enable a more even distribution of growth to be brought about in industrialised countries and a reversal of the unsustainable US balance of payments position. Monetary policy in European countries has, until about the final quarter of 1985, been constrained by the weakness of their currencies against the US dollar. Interest rates have thus been kept higher than might have been considered desirable from a domestic perspective. European countries have now acquired some freedom to choose between lower interest rates and exchange rate appreciation. The fact that initially exchange rates moved more than interest rates was to be expected. However, if the fall in the dollar continues, then the scope for a more significant fall in European interest rates will emerge strongly.

A third important issue is the extent to which institutional and structural factors have aggravated the effects of recession on unemployment in Europe. Of their nature these factors tend not to be quantifiable and for this reason relationships are more difficult to establish and define. However, the factors that are alleged to impede faster employment creation in Europe compared with the US include: employment protection legislation; inflexible work arrangements and labour force immobility; government policies that raise the cost of employing labour and excessive growth in real labour costs and excessive levels of taxation. Thus, even if it is accepted that such factors may have played some role in the relative deterioration of labour market conditions in Europe, it is doubtful that redressing these alone would lead to a revival of growth. Domestic demand in Europe is deficient. Moreover, for the past three or more years now, policies in Europe have been supposedly directed at "improving the fundamentals" — increasing profits and profitability while raising labour market performance in a variety of ways so as to both increase the incentive to employ labour and make recovery less inflation prone. If significant progress has not yet been achieved in this regard, it indicates either that the instruments of policy are ineffectual or that the responsiveness of these problems to policy stimuli is extremely slow and will continue in that way.

A summary can now be drawn of the policy positions from which the major countries and groups of industrial countries are operating. And the directions of change that would, in our view, be needed to sustain growth and reduce the imbalances that have to date accompanied the recovery from recession. These changes are that US fiscal policy address the growing public finance

imbalance that has emerged there thus further easing monetary conditions in the US. Such a move seems likely in view of the fact that the US Senate and House of Congress have each adopted "balanced budget" bills. If enacted, such legislation would require the President to take such measures as were necessary to balance the federal budget by fiscal year 1991. At the same time a more accommodating stance of monetary policy in Europe would reduce real interest rates, moreover there would be scope also for relaxing fiscal policy to provide a needed boost to domestic demand. In Japan the main problem would seem to be not to raise growth but to make it less dependent on foreign demand. Accordingly, an easing of fiscal policy and a tightening of monetary policy to raise the value of the Yen would seem to be an appropriate change in the context of renewing balanced growth in the industrial world.

4. Oil Prices and Non-Oil Commodity Prices

The medium-term economic prospects of industrial countries will depend not only on the appropriateness and consistency of policies pursued by these countries but also on developments in the economies of the newly industrialising countries (NICs) and less developed countries (LDCs) and on the terms of trade with them.

A matter of primary concern is the medium-term outlook for oil prices. There has been a definite waning in the strength of OPEC in the past five years and with it the world oil price structure which centred around its price regulating mechanism. Three factors probably explain the dilution of OPEC power. *First*, the economic recovery of the past three years has been accompanied by a much more parsimonious rise in the demand for oil than was the case, for example, after the first oil price crisis. This is the result of substitution and conservation measures having been developed and applied now for many years. *Second*, non-OPEC oil production has been growing persistently, capturing much of the growth in demand which has taken place. *Finally*, internal financial pressures within OPEC member countries, resulting from these developments, have led to growing strains on the organisation's capacity to maintain a level of output consistent with its price target. The medium-term outlook is that oil consumption will continue growing slowly, even with a modest acceleration in the growth of economic activity in OECD countries. The increase in non-OPEC supplies will probably taper-off by the end of the decade. In both the US and the United Kingdom output is expected to flatten soon and then decline. In Mexico, the country with the largest proven oil reserves outside OPEC, production growth is likely to remain weak because of export limits and financial difficulties with developing further capacity.

In these circumstances it seems likely that real oil prices will decline over the next number of years. Over one-third of current OPEC capacity is idle, equal to about 20 per cent of 1984 (non-communist) world consumption. And this will be raised further with the completion of the Iraq pipelines through Turkey and Saudi Arabia expected sometime in 1986. It is very much more difficult to foresee the extent and pattern of decline which seems

likely to occur; in particular whether a steady fall in the dollar price of oil may be expected over a number of years or whether a precipitous drop might occur in the short-term future. The implications for industrial countries of these alternatives will be considered later.

Non-oil commodity prices, measured in US dollars, increased in 1983 and 1984, after falling sharply in the previous two years. In 1985 commodity prices are likely to have fallen again. By 1986 supply adjustments for both agricultural commodities and metals are expected to have reached a stage that will stabilise real commodity prices. Thereafter, prices in domestic currency may rise in line with world manufactured export prices.

5. The LDC Debt Problem

A final important aspect of international economic development concerns the debt problem of less developed countries. This, of course, is not a one-way process and is influenced by policies pursued by industrial countries, as well as influencing developments in these countries. During the past two years a number of major debtor countries — especially Mexico and Brazil — have made significant progress towards resolving their problems. Improvements in trade and current account positions have enabled some of them to earn sufficient foreign exchange to meet debt service costs without incurring new loans. There are, of course, large economies which continue to suffer major problems. For example, in Argentina, the Phillipines and Nigeria little progress has been achieved in applying policies that would enable a sustainable debt position to emerge. However, commercial banks, by slowing the growth of their lending to LDCs and by building up their capital and reserves have succeeded in reducing their loan-to-capital ratios from the peak levels of 1982. The experience of the past two years suggests strongly that the strategy being pursued in respect of LDC debt problems is succeeding and the threat to the international financial system that was being felt two years ago is waning. With the renewal of economic growth in the industrial world in the past two years and, more recently, moderating interest rates, those borrowing countries that have adopted export-oriented adjustment policies are experiencing substantial gains. Notwithstanding progress to date it seems likely that further restriction of domestic demand in LDCs will be required if debt-export ratios are to reach more tolerable levels, even if interest rates and the dollar ease back. The only possibility for growth in these countries seems to lie with increasing the supply of exportables and the demand for them from industrial countries. However, doubts must remain as to whether the domestic authorities will be able to sustain the appropriate restrictive stance with respect to domestic demand for long enough.

6. The Medium-Term Outlook

The discussion to date provides a context within which projections for the medium-term development of international economic activity can be considered. Integrated medium-term assessments for the international economy are undertaken primarily by large international

agencies. This section examines results of medium-term scenarios undertaken by the IMF,¹ and published in its *World Development Report*, of April 1985 (and supplement of October 1985) in the light of issues raised in earlier sections, and in terms of variables most likely to influence the development of the Irish economy over the next five years.

The "baseline" scenario is constructed on the basis of policies for individual countries regarded as "most likely" to be applied by the IMF. In summary the main assumptions are that in the United States fiscal measures implemented over the period 1986-88 will have the effect, by 1990, of lowering the federal government deficit relative to current services estimates by 1 per cent of GNP in that year. This outcome would represent approximately a half-way house in the achievement of the administration's proposals. Monetary policy is expected to be consistent with the avoidance of an acceleration in the underlying rate of inflation. For the other major industrial countries it is assumed that further fiscal deflation over the period 1987-90 would equal approximately 1 per cent of GNP. No significant further reduction in the rate of growth of monetary aggregates is expected after 1986. It is also assumed that industrial countries will continue to seek improvements in the functioning of markets. However, no significant change in trend productivity is expected. Some further shift in income shares in Europe away from wages is expected to result in some improvement in employment prospects. Owing to the debt problem of LDCs continued fiscal restriction is envisaged for the remainder of the decade.

The expected outcome for industrial countries of these policy settings is summarised in Table 1.6. Some continuing absorption of economic slack is expected. However, this would be concentrated outside the US and Japan where unemployment rates would remain almost unchanged, but might be sufficient to reduce unemployment in other OECD countries, taken together, by 1 percentage point. The IMF express the view that since the further fiscal retrenchment that is projected for European countries involves relatively small contractions some acceleration of growth rates may be expected. We would have some doubts about this being the case. However, it is our view that further retrenchment in Europe is unlikely. Indeed some relaxation of fiscal policy seems likely. In these circumstances we believe that the outcome would be as the IMF suggests. In addition some of the recent improvements in profitability that have occurred in Europe should encourage expansion of economic activity in the second half of the decade. Inflation is expected to level off at about 3¾ per cent for the remainder of the decade. However, some change in the pattern may occur with some small acceleration in the US as the value of the dollar falls, offset by further reductions in the rate of inflation in Europe. Real interest rates have remained extraordinarily high by reference to earlier experience and there is no single convincing explanation for what has happened. As regards the

1. A more general assessment of medium-term prospects is contained in the *National Institute Economic Review*, November 1985. There appears to be little difference between the two assessments.

factors that are thought to have contributed to this — lingering inflationary expectations, fiscal deficits, and the effects of certain taxation changes on the propensity to invest in the US — it is expected that pressure from these in the second half of the 1980s will be weaker compared with the first half. But they are still expected to be above the historical trend at the end of the decade; in fact, about half way between that and the levels recorded in 1983-84. As regards exchange rate developments the assumption contained in the IMF scenario is that there will be a real depreciation of the US and Canadian dollars of 5 per cent per annum during 1987-90.

In addition to the "baseline" scenario the IMF Report considers a number of variants. The most interesting from an Irish perspective are those based on "better" and "worse" policies in industrial countries. (These scenarios in general involve movements towards more (less) desirable positions respectively in terms of Table 1.6 above). Compared with the baseline "better" involves more fiscal restraint in the US and systematic implementation of structural policies in other industrial countries. Specifically it is assumed that in the US cuts in Government expenditure in 1986-88 result in a fall in the budget deficit (relative to current services projections)

of about 2½ per cent of GNP. Half the reduction is effected in 1986 and the rest is phased over 1987-88. The major economic benefits arise from a substantial decline in real interest rates resulting in higher and more stable output growth (See Table 1.7). By contrast "worse" policies assume that no significant measures are adopted to correct the fiscal imbalance in the US. According to this scenario the US deficit would rise from \$200 billion in 1985 to \$358 billion in 1990 (6 per cent of GNP). Furthermore, it is assumed that no further progress is made towards implementing policies to reduce structural unemployment. Under this scenario the combination of monetary restraint and additional fiscal expansion in the US produces further increases in real interest rates and a sharp downturn in US economic activity. This is reflected in deteriorating economic performance in Europe. In summary, this scenario involves a higher and more variable level of interest rates in industrial countries, less stable economic policies and sharp recession in the US that is transmitted to other industrial countries and which also has adverse consequences for the developing countries. A summary of these variants relative to the baseline scenario is contained in Table 1.7.

TABLE 1.6: Industrial Countries' Medium-Term Prospects

	1982	1983	1984	1985	1986	1987-90 Average
	<i>Per Cent Change</i>					
OUTPUT GROWTH						
Industrial Countries	-0.2	2.6	4.9	2.8	3.1	3.1
of which: United States	-2.1	3.7	6.8	2.6	3.3	2.9
GNP DEFLATOR						
Industrial Countries	7.2	4.9	4.1	3.9	3.7	3.7
of which: United States	6.0	3.8	3.8	3.8	3.7	4.5
UNEMPLOYMENT		<i>As Per Cent of Labour Force</i>				
Seven Major Industrial Countries	7.9	8.3	7.7	7.6	7.5	7.2
of which: United States	9.7	9.6	7.5	7.3	7.1	6.9
U.S. DOLLAR		<i>Per Cent Change</i>				
Real Effective Exchange Rate	12.5	3.9	8.3	4.5	-1.7	-4.1
INTEREST RATES (three month LIBOR)*		<i>Per Cent</i>				
Real terms	6.0	5.8	7.2	4.5	4.1	3.5
Nominal terms	13.2	9.6	10.8	9.5	8.4	7.3
WORLD TRADE		<i>Per Cent Change</i>				
Volume	-2.5	2.3	8.5	3.5	4.3	5.3
Unit Value (in US dollars)	-3.9	-4.6	-1.9	-2.0	4.8	7.5

*London Inter-Bank Offer Rate.

Source: *World Economic Outlook*, April 1985, and October 1985
International Monetary Fund, Washington, D.C.

TABLE 1.7: Summary of Alternative Medium-Term Scenarios for Industrial Economies

	<i>Baseline Scenario</i>	<i>"Better Policies" in Industrial Countries</i>	<i>"Worse Policies" in Industrial Countries</i>
<i>Policies in industrial countries, 1986-90</i>			
Fiscal policy	Measures to reduce US structural fiscal deficit by 1 per cent of GNP; in other countries, to reduce structural fiscal deficit by a further 1 per cent of GDP	Measures to reduce ratio of US fiscal deficit to GDP by 2½ per cent; sharper reduction in Canada; other countries same as baseline	No measures to correct fiscal imbalance in the United States, Canada, France or Italy
Supply-side policies	Structural policies that slightly decrease unemployment in Europe but do not raise trend productivity growth	Structural policies that are more successful in reducing unemployment and enhancing productivity growth in Europe	No progress on structural policies to reduce unemployment in Europe
Protection	No change in present policy stance, except elimination of voluntary restraints on exports of Japanese automobiles to the United States	Liberalization of import restrictions, resulting in ½ percentage point rise in export volumes of developing countries	Tighter import restrictions, resulting in ½ percentage point fall in export volumes of developing countries
<i>Policies in developing countries, 1986-90</i>			
Average ratio of fiscal deficit to GDP	Half that of 1982-84 average	Same policies as baseline	Same policies as baseline
Average annual rate of credit expansion	Reduced by more than half from 1982-84 rates	Same policies as baseline	Same policies as baseline
Real effective exchange rates	No change after 1985	Same policies as baseline	Same policies as baseline
Average real interest rates	High by historical standards; no change after 1985	Same policies as baseline	Same policies as baseline
<i>Economic variables in industrial countries</i>	(In per cent)	(In per cent)	(In per cent)
Average rate of growth of real GNP, 1987-90	3.1	3.5	2.0
Average real interest 1987-90 rates (3 months LIBOR)	3.9	3.5	5.0
Changes in real effective exchange rate of the US dollar vis-à-vis European currencies and Japanese Yen, 1987-90	5 per cent depreciation per annum	5 per cent depreciation per annum	18.5 per cent depreciation in 1987, no change in 1988-90
GNP deflator 1987-90	3.7 per year	3.7 per year	3.6 in 1987, 3.1 in 1988, 3.6 in 1989, 4.5 in 1990
<i>Other variables in world economy</i>	(Average annual change, 1987-90, in per cent)	(Average annual change, 1987-90, in per cent)	(Average annual change, 1987-90, in per cent)
World prices of manufactures (in US dollars)	7.5	7.5	7.0
Terms of trade of non-oil primary commodities	0.1	0.4	-2.8

Source: *World Economic Outlook*, April and October 1985, IMF, Washington, DC

II. THE DOMESTIC ECONOMY TO 1990: A MEDIUM-TERM SCENARIO

1. Introduction

The main purpose of this Part is to develop a medium-term scenario for the Irish economy embracing prospects for growth of national output (Section 6), employment (Section 7) and developments of income and expenditures (Section 8), up to the end of this decade. A number of steps are undertaken in preparing this scenario. First, the overall performance of the economy during the first five years of the decade in terms of GNP growth is described and developments in the main economic sectors are discussed (Section 2). Next the various influences on the economy of developments in the international economy (Section 3) and of domestic policies (Section 4) during this time are described and an attempt is made to evaluate their significance. It will be apparent that the conclusions reached in these latter sections must be tentative and in many cases the quantitative significance of specific effects can only be judged very imprecisely. However, it is felt that this analysis is necessary at least in order to identify and highlight changes that might be expected to occur as regards the future implementation of policy, which is discussed in Section 5, and to provide a context within which the assessment of medium-term prospects for the international economy (Part I) might be expected to impinge on domestic economic prospects. A detailed set of tables underpinning the scenario is contained in Annex 1. This has been compiled to illustrate consistency within the overall framework and is not presented as a forecast of individual variables or components. In evaluating and discussing the future implementation of policies (Section 5) the predominant focus is with macro-economic issues. It is hoped to pay greater attention to the role and significance that might be played by sectoral policies in future issues.

2. Review of Output Growth 1980-1985

In the context of developing medium-term projections it is more appropriate to begin from an assessment of output and the factors which could be expected to influence its development rather than from an examination of components of expenditure. A broad sectoral classification of output growth (Table 2.1) shows that in aggregate there has been on average virtually no growth during the first half of this decade. This contrasts sharply with the 1970s when GNP expanded at an annual rate of about 3½ per cent in each of the two halves of the decade.

The collapse reflects a sharp slowdown in the output of most of the main economic sectors and a continuation of the acceleration in net factor payments abroad. This

latter item, comprising principally payments of interest on foreign public debt and payments of profits, dividends, royalties and other interest abroad, had already increased sharply in the second half of the 1970s, sufficiently to negate the acceleration which occurred in the growth of domestic product at that time. Only in the agricultural sector was growth in the first half of the 1980s, on average, higher than in the previous five years. In industry the average annual rate of expansion slowed to less than half of what it was in the 1975-1980 period. In the services sectors the slowdown was even more pronounced.

The pattern of growth within the past five years has not been consistently weak. In fact it is quite similar to that in other countries (see Table 1.3). A trough in economic activity was reached here in 1982 when GNP declined by 2¼ per cent; this corresponds also to the bottom of the cycle in the OECD area as a whole; the subsequent recovery to 1984 involved a turnabout in GNP of about 4½, the same magnitude as other countries. However, the rate of growth of GNP has generally been lower than elsewhere, this appears to be related to the growth in net factor payments here: recovery in growth of GDP was comparable with the experience of the OECD area as a whole as was the slowing down in activity again in 1985.

Just as the pattern of the aggregate rate of growth has not been homogenous over the past five years neither has the experience of individual sectors which comprise the aggregate been closely similar. There were sharp fluctuations around the average rate of output growth in agriculture, (including forestry and fishing) of 3½ per cent, ranging from an increase of 12¾ per cent in 1982 to an estimated decline of 4½ per cent in 1981. Growth of output in industry slowed down from the beginning of the decade and declined by 1½ per cent in 1982. After that there was accelerating growth to 7¼ per cent in 1984. However, this was not maintained in 1985 when output is estimated to have expanded by 3 per cent. Among the services sectors the pattern of output growth has been more uniformly weak. A shallow cycle seems to have occurred in the distribution, transport and communication sector and the "other services" sector. However, there is no indication that these sectors are moving towards the vitality which they showed during the 1970s. In Public Administration the pattern has been one of growing weakness; largely the effect of the budgetary stance. When the various experiences of the sectors are combined, the overall effect, in terms of GDP growth, was 1¼ per cent during each of the first three years of the decade. In 1984 there was a sharp pick-up to 4¾ per cent but again in 1985 growth fell to about

2 per cent. Because of increases in net factor payments GNP growth was even lower than that for GDP, it showed falls of 2¼ and 1½ per cent respectively in 1982 and 1983 and the recovery in 1984 amounted to 2½ per cent. In 1985 GNP on an output basis rose by only ½ per cent.

3. Influences of the International Economy

In this section and in the next an attempt is made to isolate the major factors that have shaped the pattern of activity described in the previous section. A number of channels of influence can be identified between the international economy and the domestic one:

- (i) financial influences associated with international interest rate and exchange rate movements;
- (ii) foreign investment flows;
- (iii) fluctuations in international trade associated with changes in demand in Ireland's trading partners;
- (iv) institutional factors arising principally through the effects of the Common Agricultural Policy of the EEC on Irish agriculture.

While these influences may be easily identified their quantitative significance would be extremely difficult to establish at any point in time. Moreover, the consequences of a combination of these influences interacting with each other could be greater than the sum of individual effects taken in isolation. And the effects also influence domestic policy so that to some extent the analytical dichotomy used here is in practice artificial.

Interest Rate and Exchange Rate Movements

The significance of interest and exchange rate influences, let it be said is far from clear. However, the magnitude of a number of features — involving changes in real interest rates and currency values — in the past several years points to a potentially considerable influence on domestic economic activity. High and rising real interest rates would be expected to adversely influence certain categories of expenditure, notably consumers' expenditure on durable goods, physical capital formation and residential investment. Indeed all of these categories of expenditure have fallen in the past five years and as a consequence output has been cut back, particularly that of building and construction (see Table 2.2). However, it is not possible to allocate a precise proportion of the reduction to the effect of higher real interest rates as compared with other influences such as depressed demand resulting from falling real incomes and deflationary fiscal policies. Another consequence of the upward trend in real interest rates that marked most of the past five years has been the effect of retarding progress in reducing the imbalance in the public finances; indirectly the result has been additional pressure to raise taxes and reduce public expenditure. Even at their present level real interest rates impose a considerable obstacle to achieving a speedy adjustment to the public finances. Additionally they have resulted in rising net factor payments abroad and a consequent rising in the balance of payments deficit above what it would be.

TABLE 2.1: Growth in Output by Sector of Origin 1970-1985 (Per Cent)

	1970-75	1975-80	1980-85	1981	1982	1983	1984 ^e	1985 ^e
	Average							
Agriculture, Forestry and Fishing	5.7	-1.2	3.5	-4.5	12.7	1.3	12½	-2½
Industry	3.1	6.4	2.9	2.7	-1.5	3.2	7¼	3
Distribution, Transport and Communication	3.5	5.1	0.3	0.8	-2.8	-3.1	½	1
Public Administration and Defence	5.2	4.5	0.5	2.8	2.2	0.5	0	-½
Other Domestic Services	4.5	5.0	1.9	2.3	2.5	0.5	1¾	2½
GDP at constant (1980) factor cost	4.1	4.5	2.1	1.5	1.2	1.0	4¾	2
Net Factor Flows with Rest of World ¹	(-0.5)	(-1.2)	(-2.0)	(-0.9)	(-3.5)	(-1.5)	(-2¾)	(-1½)
GNP at Constant (1980) Factor Cost	3.6	3.5	0.2	0.6	-2.3	-0.5	2½	½

1. Per cent contribution to GNP at factor cost.

Note: Gross National Product (GNP) at constant factor cost differs from GNP at constant market prices. The difference is taxes on expenditure less subsidies. Moreover the estimates for GNP at constant market prices measured from output data differ from GNP measured from expenditure data and growth rates extracted from these different measures of GNP also vary; short-term forecasts generally are based on GNP at constant market prices measured from expenditure data.

	1979	1980	1981	1982	1983
Growth rates in:					
GNP at constant factor cost (output data)	3.9	2.3	0.6	-2.3	-0.5
GNP at constant market prices (output data)	3.3	0.8	0.8	-2.8	-1.2
GNP at constant market prices (expenditure data)	2.7	2.7	1.8	-2.3	-1.4

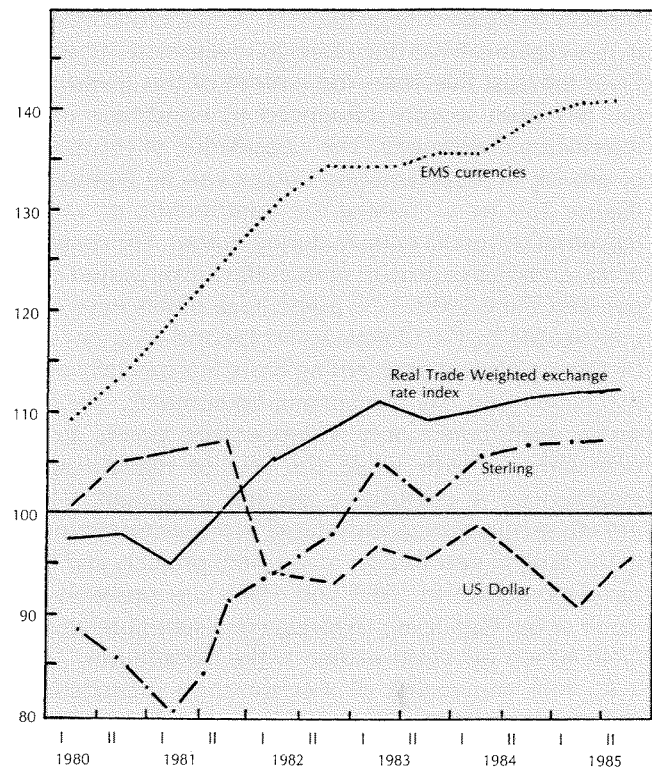
Source: *National Income & Expenditure* 1983 and 1984, Stationery Office, Dublin (1985). Estimates for 1984 and 1985.

TABLE 2.2: Growth of Industrial Gross Output 1980-1985

Category	1980	1981-85 Annual Average	1981	1982	1983	1984 ^e	1985 ^e
	Gross Output at factor prices		Per cent change				
	£ million						
Electricity, Gas & Water	217	0.2	-10.2	3.2	1.9	-3.5	10
Building & Construction	830	-5.8	7.2	-6.6	-15.5	-8.3	-4¼
Transportable Goods Industries	2,064.7	5.0	1.6	0.1	6.8	13.2	4
TOTAL INDUSTRY	3,111.7	2.3	2.3	-1.1	0.5	7.2	3

Source: National Accounts ESA, 1984 Eurostat, Luxembourg 1984. Estimates for 1984 and 1985.

The rise of the dollar until the Spring of 1985 is perhaps the most noted feature of foreign exchange markets in the past two years or so. However, other significant changes have been under way. Figure 2.1 shows Ireland's real trade weighted exchange rate index and movements against major currencies and currency groups. This index takes into account the effects of relative inflation rates as well as changes in nominal exchange rates. In aggregate the index indicates a real appreciation of some 17 per cent between the first half of 1980 and the second half of 1985. However, most of the rise occurred from the second half of 1981 and was concentrated in the following two years. In effect this means that in Ireland relative price performance or the profitability of domestic production is falling.¹ Examination of the trend against major currencies in the index suggests that matters might be worse than indicated by the aggregate index. There has been a consistent real appreciation against EMS currencies since the commencement of the exchange rate regime; since the first half of 1980 the rise has been close to 30 per cent. Competitive gains which were made up to the first half of 1981, against sterling — there was a real depreciation of 20 per cent — probably offset the effects of losses on EMS markets. However, since that date there has been a real appreciation against sterling too amounting to one-third by the first half of 1985. Against the US dollar there have been competitive gains resulting from the general tendency for a real depreciation to occur, amounting to about 15 per cent in the five years up to the first half of 1985. Since then the pattern has been narrowing. However, we have doubts about the extent of the net benefit to the economy resulting from the appreciation of the dollar against the Irish currency. The reasons for these doubts lie in the fact that there are other channels through which the dollar can influence activity besides export profitability. One of these channels is the effect of nominal exchange rate changes on domestic prices. While a significantly higher proportion of imports is denominated in sterling than the dollar, an important basic commodity input — oil — is denominated in that currency. Although data are not available to sustain the view, it is possible that the final effect on domestic prices of oil price changes, due to the strengthening of the dollar for much of the last five years may be quite important. Additionally there is the nature of Ireland's export trade with the US. It is

FIGURE 2.1: Real Trade Weighted Exchange Rate Index 1980-1985 (Q1 1979 = 100)

Note: The index shows what has happened to the international purchasing power of the Irish pound compared with the domestic purchasing power of the Irish pound. A rising index means that the international purchasing power of the Irish pound is greater than the domestic purchasing power. In other words that Irish price performance is deteriorating. In constructing this index consumer prices have been used to adjust nominal exchange rate indices.

Source: Quarterly Bulletin, Central Bank of Ireland
Main Economic Indicators, Paris OECD.

heavily concentrated in chemicals. Together with office machinery and data processing and electronic equipment, these three categories account for a third of merchandise export trade with the US. However, many of the firms engaged were highly profitable before the depreciation against the dollar. Moreover the demand for these products is probably not determined primarily by price and in any event the domestic cost content of the output of the industries is low so that the net addition to profitability (measured in dollar terms) from exchange rate movements is probably quite small. All this is to say that whatever the positive effects on growth of the

1. See note to Figure 2.1 for an explanation.

economy from the appreciation of the US dollar these are likely to be reduced by negative influences and greatly outweighed by the effects of other exchange rate changes over the past five years.

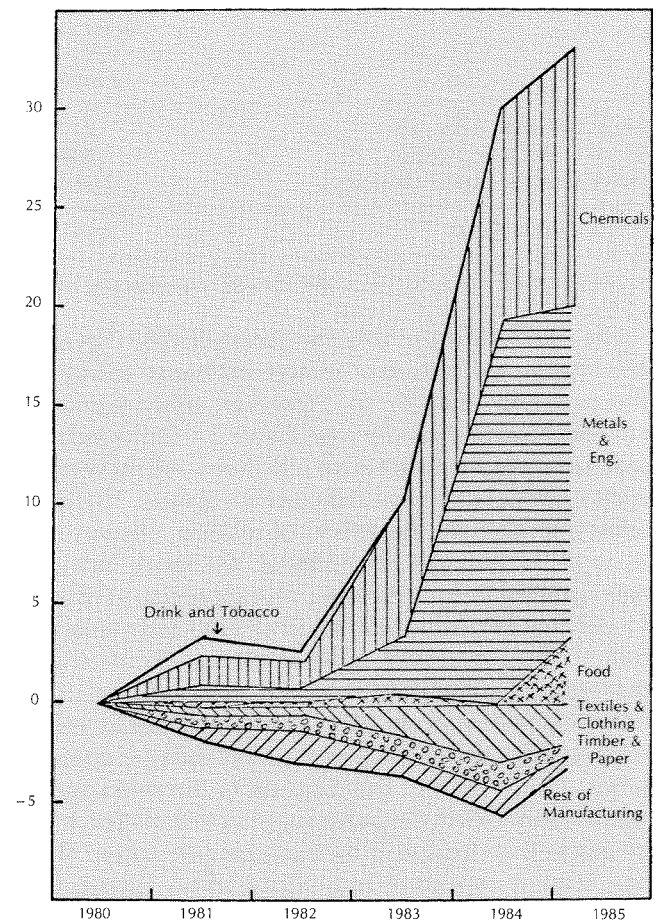
Foreign Investment Flows and Fluctuations in International Demand

There is a relationship between the development of OECD imports and Ireland's industrial exports and output, although this is not entirely clear from the short sample presented in Table 2.3. In any event, industrial export growth has generally outstripped the growth in world trade in manufactures and cannot be explained in terms of international demand factors alone. The growth in market share which has occurred in most years comes principally through the addition of more and more capacity to supply foreign markets. An important element in this expansion has been foreign investment in Ireland. Over the past five years the pattern of this investment too has been sharply influenced by conditions in the international economy. The importance of this source of growth in manufacturing output can be highlighted (Figure 2.2) by examining the contribution of various industrial sectors to manufacturing output. For example, of the cumulative growth in manufacturing output of 34 per cent since 1980, 17½ percentage points have been contributed by the chemicals sector and 15¼ per cent by the metals and engineering branch (especially office machinery and data processing equipment). The food sector contributed only 4 percentage points to the cumulative growth while the rest of manufacturing experienced a cumulative decline in output. These growth sectors are closely related to the sectors involved in the bulk of new foreign investment projects and their rapid expansion in 1983 and 1984 was probably the result of the high levels of foreign investment relative to GNP which occurred earlier in the decade (see Table 2.3). Any assessment of medium-term prospects for industrial export growth would have to take account of this aspect of the influence of international developments on the Irish economy. A detailed account of the trend determinants and prospects for foreign investment is contained in a special article to this issue.

The CAP and Agricultural Output

As regards the agricultural sector, particularly severe problems confronting the Common Agricultural Policy (CAP) of the European Community, have meant a sharp

FIGURE 2.2: Growth in manufacturing output: Contribution from industrial sectors 1980-1985 (cumulative percentage growth since 1980)



Source: *Monthly Index of Industrial Production*, CSO Dublin.

reduction in the profit margins from agricultural production. Since 1983, CAP expenditure has been at the limit of the "own resources", now comprising 1.4 per cent of Community VAT receipts. *Ad hoc* measures to avoid financial collapse of the policy have involved a reduction in price support and a tendency towards quota restrictions in certain products. One effect of these pressures has been that the internal terms of trade for agricultural products (i.e., the relationship between output and input prices) have moved sharply against producers since 1983 (Table 2.4). Another has been to curtail output, especially of milk. The effect of growing uncertainties regarding the CAP have been compounded by the continuance of domestic factors that have

TABLE 2.3: Foreign Trade in Manufactures and Industrial Output Growth 1980-1985 (Per Cent Change)

	Average 1980-1985	1980	1981	1982	1983	1984	1985
Total OECD Imports Manufactures, Volume	5.4	3.3	1.2	-0.8	7.0	15.3	7¼
UK Imports Manufactures, Volume	6.6	-0.9	1.5	8.4	12.0	10.5	8¾
Ireland's Industrial Exports	12.6	14.9	10.6	9.0	15.2	20	6¼
Transportable Goods Industries Output	3.9	-1.2	1.6	0.1	6.8	13.2	4
Foreign fixed asset investment in Industry in Ireland (as per cent of GNP)	1.8	3.1	3.0	1.6	0.5	1.4	1.3

Sources: *Economic Outlook*, OECD, Paris. *National Income and Expenditure*, Stationery Office, Dublin. IDA, *Annual Report*, Dublin 1984.

TABLE 2.4: Output, Inputs and Income in Agriculture, 1980-1985

	1980	1981	1982	1983	1984	1985 ^e
Gross Agricultural Output (£ Million)	1,710.8	1,986.4	2,280.1	2,553.9	2,834.8	2,738
Volume Index (1980 = 100)	100	99.7	106.0	109.4	118.7	118.1
Price Index (1980 = 100)	100	116.5	125.8	136.5	139.6	135.6
Total Inputs of Materials and Services (£ Million)	760	919.1	1,011.4	1,157.1	1,260.7	1,311.1
Volume Index (1980 = 100)	100	105.6	105.2	111.0	110.6	112.7
Price Index (1980 = 100)	100	114.5	126.5	137.2	150.0	153.2
Gross Agricultural Product at Factor Cost ¹ (£ Million)	942.9	1,086.0	1,312.2	1,470.7	1,682.3	1,565.8
Volume Index (1980 = 100)	100	94.8	106.0	106.9	120.0	113.7
Price Index (1980 = 100)	100	121.5	131.3	145.9	148.7	145.8
Terms of Trade (1980 = 100)	100	103.1	102.5	100.4	96	91.3
Income from Self Employment ² (£ Million)	663.5	785.8	975.9	1,113.2	1,303.8	1,173.5

1. Equals Gross Agricultural Output less inputs of materials and services plus subsidies less agricultural levies.

2. Equals Gross Agricultural Product at factor cost less depreciation and wages and salary payments.

Source: *Estimated Output, Input and Income in Agriculture 1980-1984*, CSO July 1985.

Own estimate for 1985.

militated against the achievement of long-term growth in Irish agriculture. Over the past five years growth of output in agriculture has fluctuated — as it is wont to do. Especially favourable weather conditions operated in 1982 and again in 1984 boosting crop production and milk output (in 1982). In 1984 cattle output also rose very sharply. The policy issues arising from the need to reform the CAP are discussed at length in the special article on that subject. Specific assumptions regarding the CAP in the second half of the 1980s are discussed below.

In conclusion it appears that the various channels through which the international economy influences the domestic economy have acted negatively on Irish economic growth during the first half of the decade. It also seems to us unlikely that the full consequences of the downturn in foreign investment, that occurred in earlier years have yet been felt and future growth in industrial output may be restricted as a result. As regards the agricultural sector, while the vagaries of Irish weather may be a more important determinant of output than the CAP there can be little doubt that the scope for growth in agricultural output within the framework of the CAP as it has been evolving in most recent years is extremely limited.

4. Influences of Domestic Policies

While external factors have had a significant influence on the course of economic growth in the past five years there is little doubt that the role of domestic policies and other developments at home have been of great importance. A primary policy concern over the past five years has been to gain control over widening imbalances in the public finances and to reduce these. Different aspects of the problem have been focused on from time to time: from the magnitude of current budget deficits to the scale of total borrowing by the public sector; the size and growth of the national debt; the proportion of the debt denominated in foreign currencies; the cost of debt service or foreign debt service. Regardless of which aspect is examined the pattern over the past five years is one of continuous deterioration up to about two years ago and of virtual standstill or limited progress since (see Table 2.5).

The several aspects of the public finances outlined above are, of course, inextricably interrelated. Moreover, there is an internal dynamic relationship in the process of borrowing and debt accumulation which, once established, becomes mutually reinforcing and

TABLE 2.5: Summary of Public Finances, 1980-1985 (As per cent of GNP)

	1980	1981	1982	1983	1984	1985
Current Budget Deficit	6.0	7.4	8.0	7.1	7.1	8.2
Exchequer Borrowing for Capital Purposes	7.5	8.5	7.8	5.9	5.4	4.8
Borrowing by State-Sponsored Bodies and Local Authorities ¹	3.8	4.4	4.2	3.9	3.9	2.7
Public Sector Borrowing Requirement (PSBR)	17.3	20.3	20.0	16.9	16.4	15.7
£ Million	1,558	2,205	2,466	2,277	2,400	2,457
National Debt Outstanding at December ²	76.8	83.6	93.1	105.7	114.0	120.0
External Public Debt outstanding at December	33.2	44.4	53.2	63.2	65.7	69.8
of which Exchequer	24.5	35.0	42.9	51.8	54.0	57.8
State-Sponsored Bodies	8.7	9.4	10.3	11.4	11.7	12.0
Interest Payments Abroad on Public Debt. £ Million	233	370	648	743	891	950
As a per cent of GNP	2.5	3.3	4.9	5.1	5.5	5.5

1. Does not include borrowing for current purposes.

2. Excludes liabilities under the Telecommunications Capital Acts and other capitalised liabilities associated with the local Loans Fund which are contained in the National Debt Statement of the Finance Accounts.

Sources: *Quarterly Bulletin*, Central Bank of Ireland, *Finance Accounts*, Stationery Office, Dublin.

progressively more difficult to overcome. Of course it is not known what debt/GNP ratios are sustainable, nor is there any well determined relationship between the debt/GNP ratio and the rate of interest on Government debt. However, there is no dispute that continuous rapid upward movement in the debt/GNP ratio is not sustainable. As a working hypothesis the aim of a stabilised debt/GNP ratio can be adopted as a minimum target for the public finances.

If a stable or stabilised debt/GNP ratio is to be achieved conditions must be established in respect of borrowing. These depend upon the relationship between interest rates on Government borrowing and the rate of change in GNP. Of course GNP growth will (in turn) be influenced by the uses to which borrowed funds are put and the manner in which public spending is financed. If a constant debt/GNP ratio is to be achieved and maintained then borrowing must equal interest payments if the interest rate on Government borrowing equals the rate of change of nominal GNP; if the interest rate exceeds the change in GNP, borrowing must be less than interest payments; if the rate of interest is lower than the rate of change in GNP, borrowing may exceed interest payments.¹

The relationship between GNP growth and the implicit real interest rate² paid on Government debt since the beginning of the decade is depicted in Figure 2.3. In both 1980 and 1981 even though GNP growth was weak it exceeded the real rate of interest on Government debt, which was substantially negative in these two years. However, since then the real interest rate has risen continuously and became substantially positive in 1984 and 1985, whereas economic growth has been much slower to develop.

The relationship between the PSBR and national debt interest payments since 1980 is shown in Figure 2.4. Since the beginning of the decade there has been a tendency for the PSBR to converge towards the magnitude of debt interest payments. However, the process has been slow. In 1985 it remains substantially incomplete even though a PSBR of less than the magnitude of interest payments would be required to stabilise the debt/GNP ratio. The reduction which has occurred in the PSBR arises both from a fall in public capital spending (net of resources) from 13 per cent of GNP in 1981 to 8 per cent in 1985 and from an increasing surplus on current (non-interest) expenditure amounting to 3.5 per cent in 1985 compared with balance in both 1980 and 1981.

The evolution of the public finances has consequences for economic activity which need careful discussion before assessing the medium-term prospects. There are several channels through which growth may be affected:

- (i) demand influences;
- (ii) resource allocative effects;
- (iii) supply factors and
- (iv) financial and monetary aspects.

1. See Annex 2 for an elucidation.

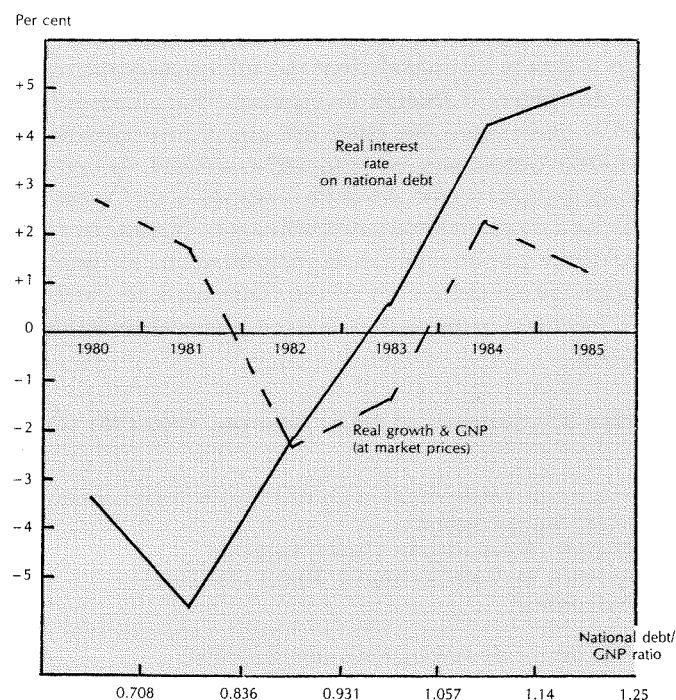
2. That is the nominal interest rate deflated by the GNP deflator. It is assumed that the rate of interest net of tax is not significantly different from the gross rate of interest.

While it is possible in theory to recognise separately these channels, in practice it is extremely difficult and in any case some changes will have multiple effects.

Demand Influences

Even though progress has been slow in terms of stabilising the debt/GNP ratio there has been a withdrawal of fiscal demand (excluding debt interest).¹ Between 1981 and 1985 this amounted to 8.7 percentage points of GNP, over 2 per cent per annum, in these four years. The reduction in stimulus comprised a fall equivalent to about 5 percentage points of GNP in respect of borrowing for capital spending and 3½ percentage points in respect of borrowing for current spending (excluding interest payments). In the context of considering demand consequences the distribution of the reduction in stimulus is relevant to the extent that a different multiplier may attach to particular types of expenditure or taxation. Econometric evidence suggests that the multiplier in respect of expenditure on building and construction is significantly above that for other forms of investment, which may be quite low (about 0.7 and 0.1 respectively). This along with the composition of the decline in public capital spending suggests that less than half of the fiscal contraction of 5 percentage points of GNP attributable to capital spending might have

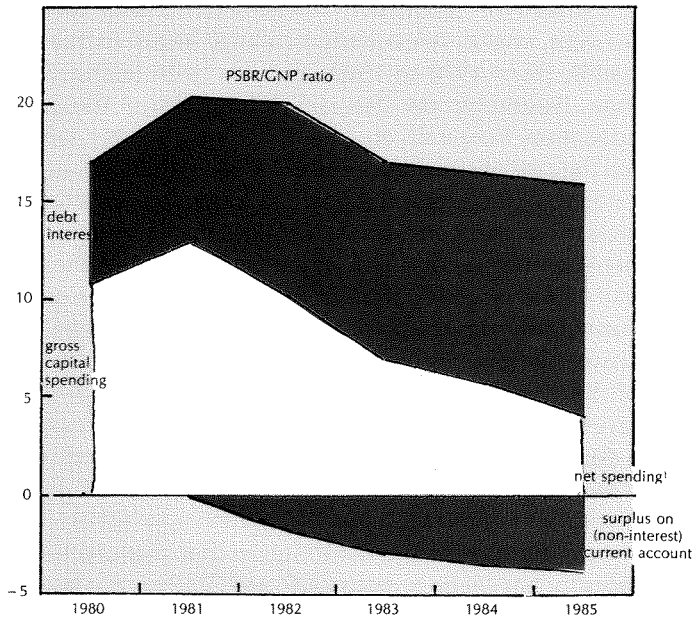
FIGURE 2.3: Real interest rates, growth rates and National debt/GNP ratio 1980-1985



Sources: Budgets (various years); Finance Accounts (various years).

1. Interest payments on domestically denominated debt probably have some influence on demand. However, much of the uptake of borrowing is by institutions such as pension funds and banks. It is unclear in what precise way demand would be effected as a result of higher interest payments to such institutions. It is possible, for example, that interest income has simply been reinvested in order to contribute towards the real value of financial assets. In these circumstances the link with demand would be tenuous. For the purposes of the exercise being undertaken here it is assumed that ignoring these debt interest payments will not significantly bias the results.

FIGURE 2.4: Public Sector Borrowing Requirement 1980-1985 (As per cent of GNP)



1. Equals gross capital spending minus surplus on non-interest current account.

Sources: *Budget Statements* (various years), *National Income & Expenditure*, Stationery Office, Dublin.

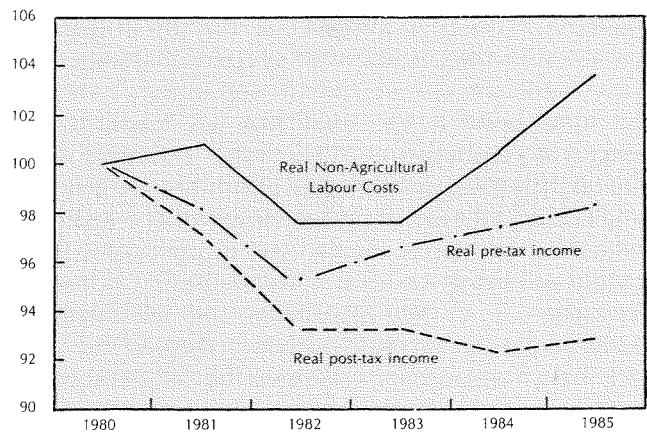
actually found its way into GNP. Of the emerging surplus on current spending (excluding debt interest payments) amounting to 3½ percentage points of GNP in 1985, about 3 percentage points are accounted for by an increase in the tax ratio (from 32.9 per cent of GNP to 36 per cent). Once again leakages in the form of reduced imports, or savings, would reduce the effect on demand that this had to perhaps 1½ to 2 per cent of GNP.

The overall conclusion is that the consequences of withdrawal of fiscal demand since 1981 may have reduced growth in GNP by perhaps 4 per cent over the period, around ¾ per cent per annum. A corollary is that the reduction in stimulus has had a substantial effect in reducing the current balance of payments deficit by reducing imports.

Resource Allocative Effects

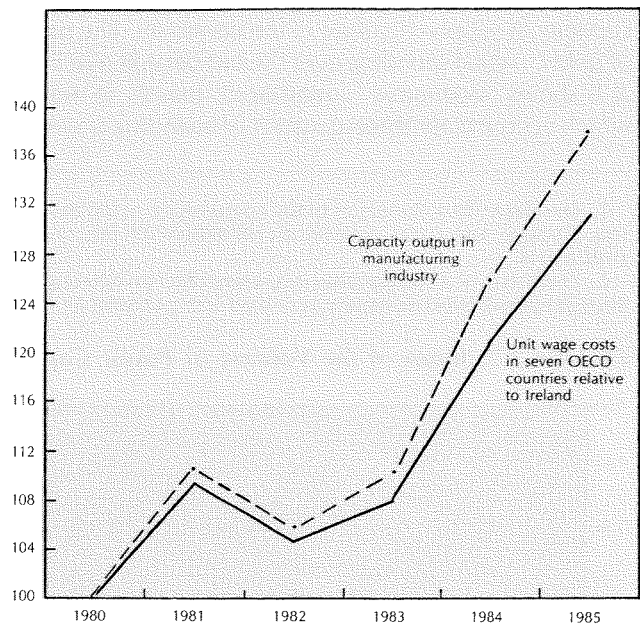
Tentative though estimates of the demand consequences of fiscal policy on GNP growth must be, the quantification of its effects through other channels is even more hazardous. An area that has received increasing attention — at least in public discussion — involves the effect on growth of misallocations, thought to be associated with fiscal policy. A possible important distortion arises from the effect that a rising burden of personal taxation has on wages viewed as a cost to employers and as income to the employees. Since 1980 (see Figure 2.5) there has been a continuation in the divergence between real non-agricultural labour costs and real disposable income per employee which was observed for most of the 1970s. There is little doubt that employees attempt to gain compensation for increases in the taxation burden through higher wages. There is greater uncertainty about the extent to which they

FIGURE 2.5: Real Labour Costs and Real Income per non-agricultural employees 1980-1985 (Indices: Base 1980 = 100)



Sources: *National Income & Expenditure 1983-1984*, Stationery Office: Dublin
Review & Outlook, Summer 1985, Stationery Office: Dublin

FIGURE 2.6: Competitiveness & Capacity Output Growth in Manufacturing Industry (Indices: 1980 = 100)



Source: Constructed from material contained in *A Medium-Term Analysis of Fiscal Policy* (Paper 122) ESRI.

succeed in avoiding the burden or of the ultimate consequences in terms of factor substitution. However, there is evidence that deteriorations in competitiveness — measured predominantly in terms of relative wage variables — lead to losses in capacity output (Bradley, 1985). Figure 2.6 shows what has happened to one measure of competitiveness — which has been found to be statistically related to output growth — over the past five years and the effect that this in turn would be expected to have on capacity output. It appears that any upward pressure on wage costs arising from attempts to avoid the growing burden of taxation have been more than offset by other factors, especially productivity

growth — whether autonomous or induced — to leave this indicator of competitiveness, on an improving course over the past five years.¹ There are other ways in which taxation changes may have influenced growth: for example, it has been alleged that changes in marginal tax rates (in conjunction with social welfare changes) have resulted in disincentives to enterprise. There may be some point in this argument but establishing it empirically is another matter. Another argument is that the tax system has discriminated against the use of labour and favoured the use of capital. However, this argument relates to the mix of inputs used to produce a given output and not to the level of output itself.² On balance it appears to us that distortions and misallocations associated with economic policies in the past five years may have made matters worse than they might otherwise have been. However, they do not contribute significantly to the explanation of why growth has been lower in the first half of the 1980s compared with the second half of the 'seventies.

Supply Factors

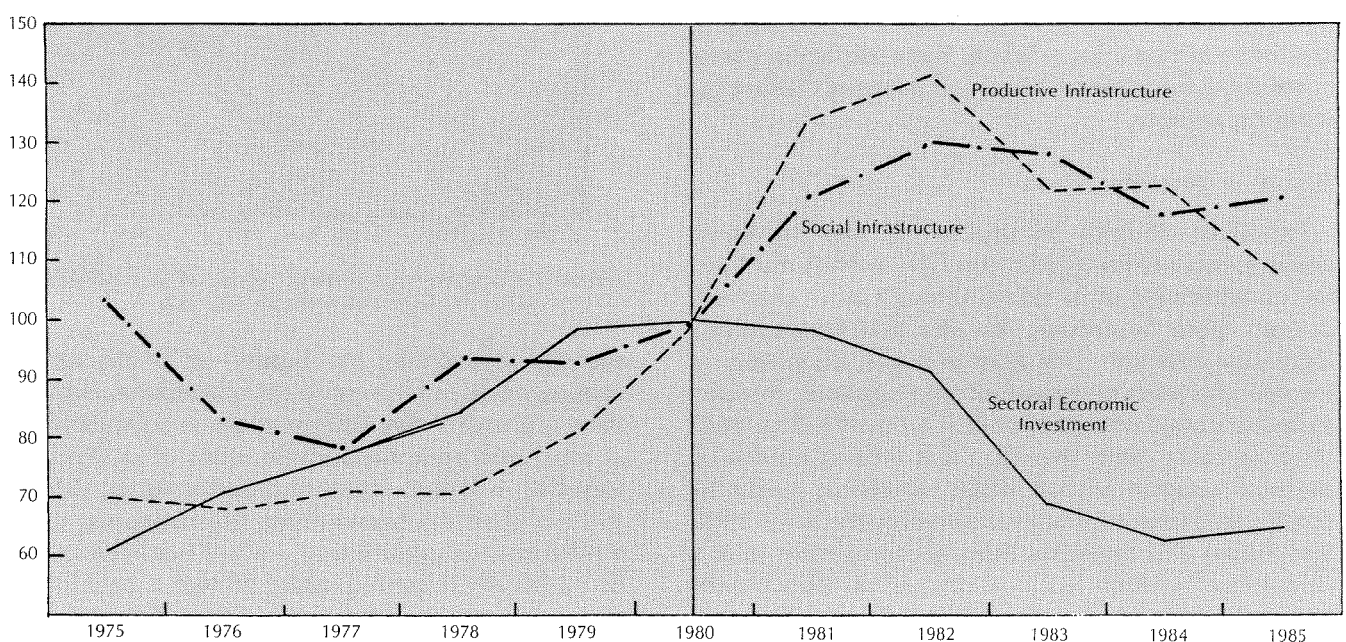
Borrowing for capital purposes constitutes a substantial part of the PSBR. An important question relates to the effects these programmes of spending have had on output growth through augmenting the productive capacity or supply of output of the economy. The pattern of public capital spending over the last decade (see Figure 2.7) shows "economic" investment (mainly in industry which accounts for three-quarters of spending under this

head) rising steadily during the second half of the 1970s then stabilising before falling from about 1982. Investment in "productive" infrastructure (roads, sanitary services, energy telecommunications) began increasing rapidly from 1978 to 1982, and has been falling since then. Spending on "social" infrastructure (housing, education, hospitals, etc.) has followed a similar pattern but the rate of expansion was not as rapid as in the former category. The question is how have these trends affected growth? In particular, do the changes that have occurred between the second half of the 'seventies and the first half of the 'eighties amount to a better or worse set of conditions from the point of view of growth? A definitive answer is not possible although clearly the composition of the changes to date — in which sectoral economic investments have fallen most strongly — would suggest a deterioration. As regards capital spending on industry, a number of features are depicted in Figure 2.8. Fixed investment and IDA grant commitments in industry are shown along with the contribution that manufacturing industry has made to both GDP and GNP for the last ten years. During the second half of the 1970s fixed investment in Industry averaged 6½ per cent of GNP per annum; grant commitments of the IDA in respect of this investment amounted to just over 2 per cent per annum on average. The contribution of manufacturing industry to GDP growth over the period was just over 6 percentage points in total but rising factor payments abroad reduced the contribution to GNP to 3¼ percentage points. In the first half of the 1980s grant commitments have, on average, been the same as in the previous five years; the rate of fixed investment has fallen to 5¼ per cent of GNP on average. Nevertheless, the contribution of manufacturing industry to GDP remains unchanged at about 6 per cent. However, the contribution to GNP growth is much reduced to 1½

1. See above for a discussion of the composition of the exchange rate changes, and some possible manifestations of this on competitiveness.

2. There may be a considerable secondary effect on output growth through lower demand multipliers associated with an altered factor mix.

FIGURE 2.7: Index of the Volume of Public Capital Programme Expenditure 1975-1985 (base 1980 = 100)



Note: Sectoral Economic Investment = Agriculture, Industry, Tourism, Fisheries & Forestry.
 Productive Infrastructure = Energy, Transport, Roads, Sanitary Services, Telecommunications
 Social Infrastructure = Housing, Education, Hospitals, etc.
 Source: Public Capital Programme 1985, Stationery Office, Dublin.

percentage points for the period 1980-1985. The causes of the increase in factor payments abroad is uncertain; but a highly significant proportion of them are attributable to industry. For whatever reason the effect of the increase in payments that has occurred is equivalent to a sharp reduction in the growth of supply associated with public investment in industry and/or a lowering of the national rate of return thought to be associated with public investment in manufacturing industry in the 1970s. Accordingly, in addition to the fall in the scale of public "economic" investment that has been occurring in the past five years, there may, in addition, be a lower rate of return to the economy upon such investments in recent years.

The link between investment in "productive" infrastructure and output growth would be expected to be indirect and emerge as a result of raising the competitiveness or efficiency of the industrial and marketable services sector. It is indeed possible to envisage that investments in energy generation, telecommunications and roads could improve efficiency and competitiveness by raising the quality of service, the speed of service and the cost that clients have to pay compared with competitors in other countries. It appears from the limited available indicators that the cost of services such as electricity, telephone and postal charges rose relative to prices generally and relative to charges

in countries with which Irish producers are competing, at least up to 1984.¹ Against this improvements do appear to have been made to the quality of certain services and other services might well have collapsed without the investments that were undertaken. Moreover, it is possible that the lag between investment spending and reductions in costs or improvements in efficiency is such that the benefit of these investments remain to be realised sometime in the future. However, in the meantime, costs have risen and services have been slow to improve; the net effect of many of these programmes on growth must be in doubt.

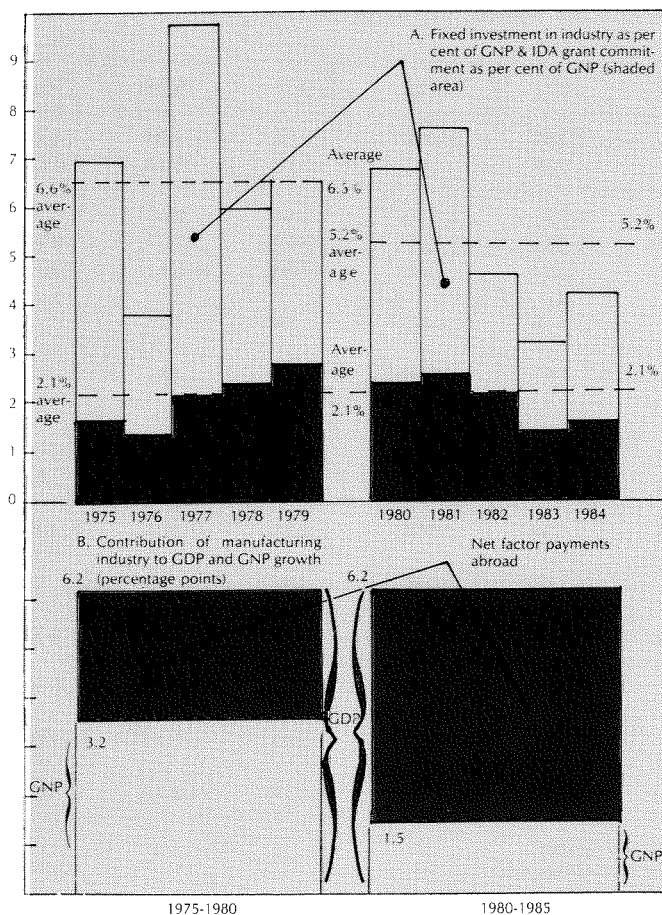
As regards expenditure on items of "social" infrastructure the channels by which they influence growth are rather amorphous: clearly an unhoused, unhealthy and ignorant workforce will be much less productive than one that is not suffering from these deficiencies; consequently there is a link between these expenditures and economic growth. In addition these services provide enhanced welfare to recipients in other (more direct ways) than their capacity to raise the productive economic potential of the population. Borrowings for such purposes amount to capitalised transfers which are consumed over time; a corollary, however, is that unless a stream of taxes is established when these borrowings are spent that is equal to the interest on the loans then debts rise as a proportion of GNP. This point is easily illustrated by the example of public authority housing. The interest cost of borrowing for this form of spending has far exceeded the rental income received on the housing stock. In effect, the Exchequer is transferring capital resources to the occupants of public authority houses which will be consumed over time. However, no matching transfer is being exacted from the rest of the community to pay for the benefit. As a result debt and debt interest payments as a proportion of GNP tend to rise.

The conclusion of this brief review is that the effects of public capital spending, financed mainly from borrowing, on raising the supply of economic output in the past five years may have been small and possibly lower than in the previous five years. It appears that the contribution to GNP from investment in industry has fallen between the two five-year periods; that rapid growth of investments in energy, transport and telecommunications may not have been accompanied by sufficient competitive or efficiency gains by industry or other internationally trading sectors; that investment in social infrastructure is likely to have been financed in a manner that ensures that debts and debt servicing rise in proportion to output growth.

Financial and Monetary Aspects

A fourth channel by which policy has influenced economic growth is through the financial and monetary aspects of Government financing. A rising proportion of public borrowing has come from external sources. In 1980 less than one-third of the national debt was

FIGURE 2.8: Fixed Investment, IDA Grant Commitments & the Contribution of Industry to GNP Growth 1975-1985



Sources: Annual Reports, IDA, Dublin. National Income and Expenditure, Stationery Office, Dublin.

1. See *Proposals for Plans*, National Planning Board, April 1984, pp. 162-163.

denominated in foreign currencies; in 1985 the proportion is about one half. The interest payments on foreign borrowings involve a transfer of resources away from Ireland to overseas. Since a growing proportion of public sector borrowing in recent years has been raised externally (and in general the Irish pound has become weaker against the currencies in which borrowings were made) the extent of this external transfer measured in Irish pounds has increased and become an important element in directly reducing GNP growth (Table 2.6).

The manner of financing public sector borrowing has had other consequences which might indirectly have influenced growth. Over three-quarters of annual public sector borrowing in the past five years or so has been financed by credit creation (see Table 2.7). Up to 1984 this has occurred through direct foreign borrowing by the public sector, the initial counterpart of which is an increase in credit balances in Irish pounds. At the same time the domestic banking system has extended credit to the public sector and to the private sector. The net effect has been a massive growth in domestic credit

expansion (DCE). This increase in money balances leads economic agents to one or more of the following responses:

- (a) continue to hold the larger balances;
- (b) use the increased balances to buy existing domestic or foreign assets, e.g., houses, land, stocks and shares or Government securities in Ireland or abroad;
- (c) use the increased balances to reduce existing debt or create new assets (i.e., invest) at home or abroad;
- (d) use the increased balances to purchase more current goods and services either from Irish or foreign producers.

The demand for money balances ((a) above) tends to rise broadly in line with the value of GNP. If DCE rises faster than this (b), (c) and (d) above will be used to reduce money balances to the desired level. This has occurred though the relative importance of the various channels has changed from time to time. If (b) is followed, the result can be inflation in the prices of domestic assets

TABLE 2.6: Effect of Foreign Debt Interest Payments on GNP Growth 1980-1985

	1980	1981	1982	1983	1984	1985 ^e
Change in GNP at Constant Market Prices	2.7	1.8	-2.3	-1.5	2.3	1
Public Debt Interest Payments Abroad. Contribution to Change in GNP	-0.9	-1.0	-2.0	-0.3	-0.7	-0.3

Source: *National Income and Expenditure*; Stationery Office, Dublin.

TABLE 2.7: Public Sector Borrowing, Domestic Credit Expansion, and the Balance of Payments 1980-1985
£ Million

	1980	1981	1982	1983	1984	1985 ^e
1. Public Sector Borrowing Requirement (PSBR) ¹	1,558	2,205	2,466	2,277	2,400	2,457
2. Less Non-Monetary financing ²	371	280	587	733	542	1,051
3 = (1-2) Monetary Financing of PSBR	1,187	1,925	1,879	1,544	1,858	1,406
of which: foreign	(905)	(1,332)	(1,267)	(968)	(767)	(944)
Domestic banking system	(282)	(593)	(612)	(576)	(1,091)	(462)
4. Plus change in Government Deposits with Central Bank ³	42	8	-56	-36	25	-
5. Change in commercial bank lending to private sector	681	597	295	437	182	-50
6 = (3+4+5) Domestic Credit Expansion (DCE) (Government accounts basis)	1,868	2,552	2,174	1,945	2,065	1,356
Adj.	146	-18	-113	83	43	142
6(a). DCE (banking statistics basis)	2,014	2,534	2,061	2,028	2,108	1,498
7. Less: change in net non-monetary liabilities of banks	135	60	-41	346	220	50
8. Change in M3	895	1,033	900	406	776	400
9 = (6a-7-8) equals basic balance of payments ⁴	-981	-1,441	-1,430	-1,276	-1,112	-1,048
of which						
current balance of payments	-1,037	-1,595	-1,316	-925	-837	-498
private non-bank capital flows (and balance of payments residual)	+530	+154	-114	-351	-275	-550

Notes: 1 Does not include borrowing for current purposes by State-sponsored bodies.

2 Sales of securities and uptake of small savings from the domestic non-bank public.

3 A negative sign indicates an accumulation of deposits which reduces the supply of money.

4 Defined as current balance of payments plus net private capital flows of the non-bank sector/industry balance of payments residual.

Source: *Quarterly Bulletin*, Central Bank of Ireland, Dublin.

that are not internationally traded, such as houses and land. That happened in 1978-79. When (d) is chosen, the excess credit can be used to finance expenditure on imported goods and services, thereby widening the current balance of payments deficit. However, another important effect has on occasions been downward pressure on domestic interest rates as a result of the excess supply of domestic credit. But if interest rates start to fall, foreign financial and real assets appear increasingly attractive relative to domestic ones at existing exchange rates. The consequence is outflows, despite exchange controls, which ease the downward pressure on domestic interest rates. The combination of excess domestic credit creation and the pegged exchange rate can operate to encourage outflows which appear in the capital account of the balance of payments. The process of financing the PSBR to a large degree by foreign borrowing may have given an incentive to private agents to accumulate foreign assets. The net result would be that the public sector is left with growing external liabilities which it must service, but the private sector acquires foreign assets, the return from which may never augment Irish output.

It may be, of course, that altering the pattern of financing from abroad to home might have resulted in exactly the same outcome in terms of lower GNP growth. Increased domestic borrowing financed in a non-monetary way (i.e., by sales of securities to the domestic non-bank public) could have resulted in rising interest rates at home. However, if they rose there would either be an increase in private capital inflows, in which case the effect on interest rates would be short lived, or a reduction in private expenditures that are sensitive to interest rate changes. In this latter case there would be a displacement of private expenditure (either on consumption or investment) and lower growth. The extent to which private capital inflows would occur in the face of upward pressures on domestic interest rates would be primarily determined by the view taken by private agents (both inside and outside Ireland) on the appropriateness and sustainability of the exchange rate. If no risk of a depreciation of the Irish pound relative to other currencies were perceived, borrowing externally to avoid the increasing cost of borrowing domestically would take place presumably. If an exchange risk was perceived, borrowing abroad would not occur and domestic interest rates would rise and private expenditure would be less buoyant. This would occur up to the point where the gap between domestic interest rates and foreign interest rates is deemed wide enough to compensate for the exchange risk. Accordingly, it is not possible to say with certainty that following a different pattern of financing of the PSBR would have led to any difference in the growth performance. However, the fact remains that an alternative pattern of financing could have offered the possibility at least of achieving faster growth if fears about the exchange rate could be allayed.

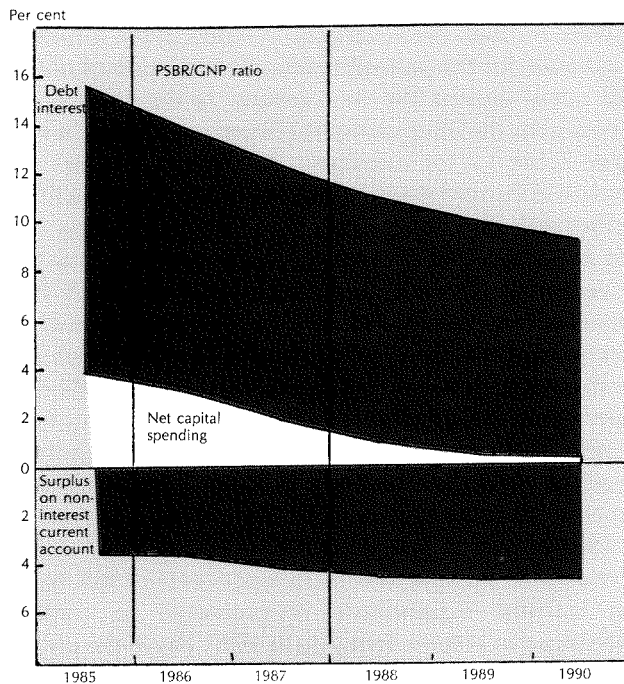
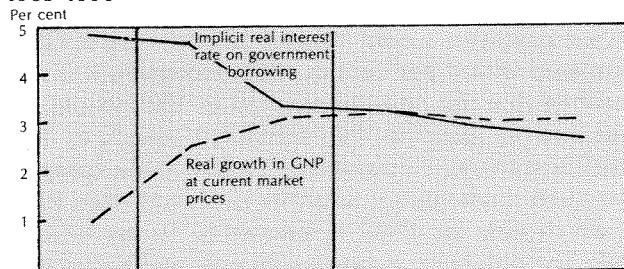
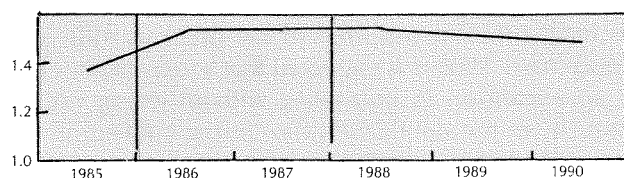
5. Future Implementation of Policy

The discussion in the previous section described four channels through which domestic macro-economic

policy operated. In constructing a medium-term scenario consideration needs to be given to how policy will operate through these various channels in the future. It is assumed for the present that implementation of policy will occur against the background of the "baseline" scenario for the international economy described in Part I (see Table 1.6 for summary). As regards demand it is implicit in current government policies that there will be further deflation up to 1987. However, in our view it is not expected that the fiscal targets contained in the *Government Plan* will be fully achieved by 1987. It is expected that the targets for net capital spending will be reached but that by 1987 the current budget deficit will be about 6 per cent of GNP compared with the intended 5 per cent. The slippage is expected to occur mainly in respect of tax revenues, which fell significantly short of target in 1985. Tax revenue as a per cent of GNP is expected to show some further slight tendency to fall up to 1987 by which date it is likely to be less than 35 per cent of GNP, compared with 35¾ per cent in 1985. Non-pay current expenditure is projected to remain unchanged in volume terms up to 1987. Pay in the public service is expected to rise by about 4½ per cent per annum in 1986 and 1987. By 1987 the PSBR is expected to be equal to 12½ per cent of GNP compared with 15¾ per cent in 1985. Borrowing above that required for debt interest payments would amount of 2 per cent of GNP compared with 4 per cent in 1985. However, it is not expected that the position reached in 1987 would be adequate to stabilise the debt/GNP ratio.¹ In this baseline scenario it is assumed that the policy stance is continued unaltered for a further two years after 1987 by which time the PSBR is reduced to 10 per cent of GNP: The reduction in borrowing over and above that required to meet interest payments amounts to 4 percentage points of GNP between 1985 and 1989, approximately half the rate of deflation, as measured by this indicator, that occurred in the previous four-year period. After 1989 it is expected that scope might exist for an expansion in borrowing without giving rise to instability of the debt/GNP ratio. In the context of the scenario to 1990 being developed here it is not assumed that this scope is exercised in 1990. As with the deflation from 1981-1985 not all of the projected fall in fiscal demand will be translated into a reduction in GNP. It is unlikely that the demand consequences of the reduction envisaged in the PSBR would reduce GNP in the 1985-1989 period by more than 2 per cent in total.

An assumption that is made regarding the reduction in borrowing in the 1985-1989 period, which contrasts markedly with the past five years, is that adjustment to the current budget deficit takes place as a result of reductions in spending, as a per cent of GNP, rather than increases in taxes as a per cent of GNP. A consequence of this is that the growth in non-agricultural pay cost and income respectively follow a similar path. This is unlike the early part of the 1980s (see Figure 2.4) and much of the 'seventies when there was a strong tendency for real

1. The interest rates at which borrowing is expected to take place is shown in Figure 2.10. For a discussion of the conditions required to stabilise the debt/GNP ratio see pp. 14 above, and Annex 2.

FIGURE 2.9: Public Sector Borrowing, 1985-1990**FIGURE 2.9(a): Real Interest Rate and Real GNP Growth 1985-1990****FIGURE 2.9(b): National Debt to GNP Ratio 1985-1990**

labour costs to rise and, at the same time, real incomes to fall. It is thought that this new trend will lead to an easing in wage cost pressures, annual increases in pay rates (in the non-agricultural economy) are expected to come down from 6 per cent in 1986 to about 4 per cent by the end of the decade. These rates of increase are about half the average annual rate of increase in pay per person in the first half of the 1980s. The extent to which this will be reflected in improved competitiveness will to some considerable degree depend upon exchange rate movements. The past five years (see Figure 2.1) were in general characterised by an appreciation of the real effective exchange rate index as inflation here more than offset the effects of nominal exchange rate depreciations. It is not expected that this trend will continue. Rather the expectation is that the real effective index for the Irish pound will remain about constant: the fall that has already occurred in the value of the dollar is expected

to be accompanied by a strengthening in other major currencies in Europe relative to the Irish pound in the coming years. Sterling will probably weaken in nominal terms; if so, inflation there is likely to accelerate so that in real terms there may not be an appreciation against sterling. On balance these expected movements will not give impetus to domestic inflation, on the contrary they might even ease such pressures. In conjunction with the assumed pattern of budget adjustments inflation here should proceed in line with that in other EMS countries.

In conclusion, assumed exchange rate developments along with the *assumed* pattern of budget adjustment are expected to result in a more favourable development in pay costs relative to those abroad in the period to 1990 than in the first half of this decade. This does not necessarily mean that unit pay costs will rise less rapidly again compared with competitor countries in the years ahead, more likely a continuation in the recent pattern of unit costs developments might be maintained with a higher level of employment.

A critical issue for future growth concerns supply side effects from improvements in competitiveness and efficiency associated with public capital spending already undertaken or under way. The volume of capital spending on all main categories is projected to fall for the remainder of the decade. Major programmes of expenditure in the field of productive infrastructure will have been completed, for example, in the areas of energy, telecommunications and transport; although other areas will continue to grow, e.g., roads. But in the second half of the 1980s will the real cost of electricity, gas, telephone, telex, postal charges and public transport fall compared with the first half? Will the cost of road freight in terms of time spent conveying goods have fallen? It is feared that these reductions may not happen or will not occur on a sufficiently large scale and consequently the possibility of a significant positive supply response emerging may be precluded. More unfortunately, perhaps, is that there appears to be little hope of raising the return on State investment in industry in terms of achieving higher value added retained in Ireland over the time horizon being considered here. For the next five years then no major improvement is foreseen in the low rate of supply response to public capital spending of recent years.

The expected pattern of financing of prospective PSBRs is set out in Table 2.8. It shows the share of non-monetary financing rising from 35 per cent of borrowing in 1985 to 63 per cent by 1990. This increase involves only a slight rise in the ratio of purchases of securities to interest receipts from investments in securities. The effect of this would be to reduce DCE sharply in the years up to 1990. While private sector credit is expected to revive in the coming years total credit creation is expected to be rather less excessive relative to the growth in the demand for money than in the first half of the decade (see Table 2.7). A reduction in the basic balance of payments (see Table 2.7 for definition) from about £1,050 million in 1985 to about zero at the end of the decade would be expected to be associated with this slowing down. However, it is rather difficult to say how this might break down as between the current and capital accounts.

The implications that these trend in financial markets (along with the effects of exchange rate assumptions) would have for the growth and distribution of the national debt and national debt interest payments are shown in Figure 2.10. By 1990 the debt would comprise a foreign currency component of about 37 per cent compared with 48 per cent in 1985. A major implication of this (along with the fall in interest rates) would be that foreign debt interest payments by the Exchequer fall modestly up to 1990. The corollary would be that domestic interest payments rise sharply providing cash flow that could finance the growth of projected non-monetary financing while enabling interest rates to follow the direction shown in Figure 2.10. The direct implications which this pattern of foreign debt service payments would have for GNP growth compared with the first half of the decade is shown in Table 2.9. By contrast with the first half of the 1980s, when foreign public debt interest payments contributed a fall of 1 per cent per annum to GNP, in the second half, as a whole, they could be marginally positive as regards GNP growth.

6. The Medium-Term Scenario for Growth of National Output

AGRICULTURAL OUTPUT

A discussion of possible changes to the Common Agricultural Policy of the EEC is contained in a special article to this volume. On the basis of that assessment it would appear that the scope for expanding agricultural output is extremely limited. Milk production accounted for almost 90 per cent of the increase that occurred in agricultural output between 1975 and 1983. However, further growth will be limited by the milk quota and there is little prospect that a comparable substitute can be found in the next five years. The principal prospect for growth appears to be sheep production, but this accounts for only 3½ per cent of total output so an extraordinarily rapid increase would be needed to make a significant contribution to growth in the sector. Cattle production is the only grass based enterprise of any consequence

that might be expanded. However, constraints in the supply of calves, associated with the standstill in the dairy sector, will limit the pace of expansion. A slowdown in the growth in gross agricultural product (that is the value added by the agricultural sector) over the next five years seems inevitable. The projection for the sector is that the annual average rate of expansion will be about 1½ per cent, compared with 2½ per cent per annum in the first five years of the decade. Needless to say, the uncertain

FIGURE 2.10: National Debt and interest payments on National Debt, 1985-1990

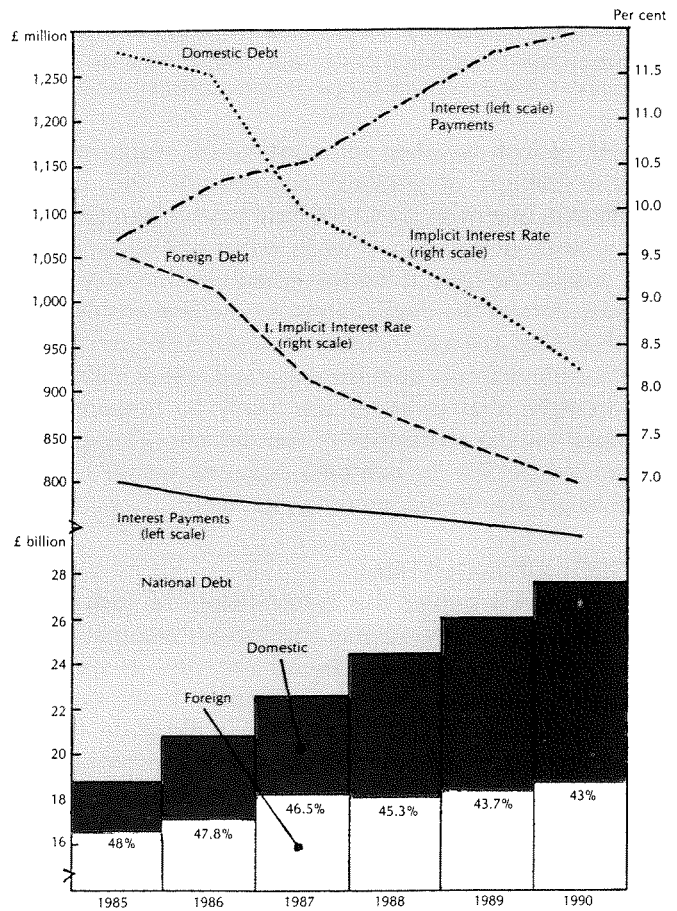


TABLE 2.8: Public Sector Borrowing, Domestic Credit Expansion and the Balance of Payments, 1985-1990
£ million

	1985	1986	1987	1988	1989	1990
Public Sector Borrowing Requirement (PSBR)	2,457	2,375	2,265	2,155	2,100	2,150
of which:						
Monetary financing	1,406	1,375	1,115	855	800	800
DCE (Banking Statistics)	1,498	1,336	1,100	907	930	850
Change in M3 (%)	400(4¾%)	500(5½%)	500(5½%)	600(6%)	650(6¼%)	650(6%)
Basic balance of payments	-1,048	-736	-506	-157	-105	-
of which: current balance	-498	-449	-206	243	345	450

TABLE 2.9: Effects of Prospective Foreign Debt Interest Payments on GNP Growth 1985-1990

	1980-1985		1985-1990		1985	1986	1987	1988	1989	1990
	Annual Average		Annual Average							
GNP growth	0.5	3	1	2½	1	2½	3¼	3½	3	3
Public debt interest payments abroad (contribution to GNP)	-1.0	0.2	-0.3	-	-0.3	-	+0.1	+0.3	+0.3	+0.3

TABLE 2.10: Output, Inputs and Income in Agriculture, 1985-1990

	1985	1986	1987	1988	1989	1990
Gross Agricultural Output (£ million)	2,737	2,882	2,940	3,050	3,185	3,300
Volume Index (1980 = 100)	118	120	121	123	124	126
Price Index (1980 = 100)	135.6	138	142	145	150	153
Total Inputs of Materials and Services (£ million)	1,311	1,255	1,275	1,340	1,395	1,460
Volume Index (1980 = 100)	112.7	114	112	113	114	115
Price Index (1980 = 100)	153.2	145	150	156	162	168
Gross Agricultural Product at Factor Cost ¹ (£ million)	1,566	1,702	1,795	1,845	1,927	1,980
Volume Index (1980 = 100)	114	115	118	120.5	121.4	124
Price Index (1980 = 100)	146	157	161	162	168	169
Income from Self Employment ² (£ million)	1,176	1,300	1,385	1,428	1,500	1,540

1. Equals Gross Agricultural Output less inputs of materials and services plus subsidies less agricultural levies.

2. Equals Gross Agricultural Output at factor cost less depreciation and wages and salary payments.

pattern of Irish weather will continue to result in the volatile pattern of growth; accordingly, the exact distribution of growth presented here cannot be regarded as a realistic description of what in fact will occur from one year to the next. If the projected trend in output is anyway correct the implications for income arising are for an annual average increase of about 5 per cent, not significantly different from the expected rate of inflation. Accordingly, real incomes are likely to remain unchanged for the remainder of the decade, although a continued decline in numbers engaged would mean some slight rise in real income per head.

OUTPUT OF INDUSTRY

As discussed earlier the determinants of industrial economic activity are diverse and include international factors that work through several channels as well as domestic influences. As regards manufacturing output the expectation is that the volume of world trade in the second half of the decade will expand at over twice the rate on average as it did in the first five years (see Table 2.11 and also Part I, Table 1.6). However, as discussed earlier the impetus to output growth from the side of supply emanating from additional investment has probably also been of considerable importance. In practice anyway, these two influences are probably related. In this respect the medium-term prospect appears unlikely to be stronger and may be less buoyant than the first five years of the decade. Foreign investment has weakened since 1981, and competition for foreign investment has become intense. For the next five years it is expected that on average the share of foreign fixed investment relative to GNP will remain at about the level of 1985. The fall

in investment that has already occurred in recent years will have some adverse influences on output growth up to 1987, thereafter the continuing weak foreign investment envisaged after 1985 will reinforce that effect. However, these adverse influences are expected to be more than offset by the stronger demand internationally and the fact that both exchange rate movements and domestic cost factors will be improving certain aspects of competitiveness. An expansion of about 6 per cent per annum in transportable goods industries output is expected in the second half of the decade compared with 4 per cent in the first five years. In addition the improvement in competitiveness is expected to result in some alteration to the pattern of output growth from sectors within manufacturing; of the cumulative growth of around 35 per cent expected in the five years to 1990 perhaps about 12 percentage points could be accounted for by sectors other than Chemicals and Metals and Engineering; this would be in some contrast to recent years (see Figure 2.2).

In previous sections the sharp rise in net factor payments abroad by manufacturing industry in the first half of the decade was noted and the implications for national output and the return on public investment in industry discussed. The view was also taken that little if any impact would be made to these payments over the next number of years as a result of changes to industrial policy. It remains to be considered how these payments might evolve over the next few years as a result of the trends expected in manufacturing industry output and other factors that may influence these flows. The great difficulty, of course, is that so little is understood about their nature. It is possible that part of the increase in these

TABLE 2.11: Foreign Trade and Investment and Industrial Output growth 1985-1990 (per cent change)

	1980-1985	1985-1990	1985	1986	1987	1988	1989	1990
	<i>Annual Average</i>							
Volume of total World Trade	2.4	4¾	3½	4	4½	5	5½	5
Ireland's Industrial Exports	12.6	9	6¼	7	10	11	9	9
Output of Transportable Goods Industries	5.0	6	4	5	7	7	6	6
Foreign Fixed Asset Investment in Industry in Ireland (as per cent of GNP)	1.8	1.2	1.3	1¼	¼	1¼	1¼	1¼

TABLE 2.12: Growth of Industrial Gross Output 1985-1990 (per cent)

Category	1980-1985	1985-1990	1985	1986	1987	1988	1989	1990
	Average annual							
Electricity Gas and Water	—	½	10	—2	1	1	1	1
Building and Construction	—5.8	2½	—4½	1½	2	2	3	3½
Transportable Goods	5.0	6	4	5	7	7	6	6
Total Industry	2.3	5¼	3	4	5¾	5¾	5	5

payments was associated with the rise in the value of the US dollar. For example, if US parent companies measured rates of return on foreign investments in US dollar terms or required payments for R+D or marketing services in their home currency or if subsidiaries accelerated payments in order to maximise their dollar value as that currency was rising. However, there is nothing that can corroborate these hypotheses so it has been arbitrarily assumed that net factor payments abroad by industry will contribute negatively to GNP by between 1 and ¾ per cent per annum over the next five years. This would amount to a small improvement in the first half of the decade.

The other major category of industrial output is building and construction. Output in this sector has fallen sharply in the past five years, cumulatively the decline amounted to 25 per cent. Of this fall about 7 percentage points arose from reductions in residential construction, concentrated entirely in private housebuilding and repairs and maintenance. Of the remaining reduction, in non-residential construction output, almost all of the fall was the result of lower new construction, with output of repairs and maintenance remaining broadly unchanged for the period. The factors that influenced this pattern were falling real incomes, rising real interest rates, the effects of weakening domestic and international demand on industrial and commercial investment and the effects of reductions in the volume of public capital spending and limits on current government spending which reduced the demand for staff and office accommodation. As regards the future the conjunction of falling real interest rates and some recovery in real household disposable income is expected to result in a renewal of growth in demand for residential construction. Non-residential construction is also expected to grow as roads expenditure rises and private investment demand makes some modest recovery at least.

The prospects for output of electricity, gas and water completes the picture for industry. The main uncertainty with this category concerns the utilisation of gas after the coming on stream of the Moneypoint coal generating electricity station. It is possible that alternative users might be found for the gas, however, the assumption made here is that there will be some reduction in the rate of offtake from the Kinsale field. The various elements of the industry projection are summarised in Table 2.12. This shows a steady rate of growth in industrial output for most of the rest of the decade. Overall the growth rate is expected to be twice as fast as the first five years, largely because of the projected turnabout in building and construction.

OUTPUT OF SERVICES OF PUBLIC ADMINISTRATION AND DEFENCE

In the national accounts the output of this sector is measured in terms of the pay of employees, of central and local government engaged in administration or regulatory activities and employees in the Army and Gardai. Such figures as are available, for the numbers employed in these categories, are not by themselves an adequate indicator of the trend in volume of output. Changes in composition both within and across categories of employees, can result in shifts in the average pay of a category. In 1981 and 1982 numbers grew faster than the volume of output of Public Administration and Defence. However, in 1983 there was a fall in numbers engaged but output rose. The pattern suggests that the growth in numbers in 1981 and 1982 were at relatively low pay levels while in 1983, although in aggregate numbers fell, the effect of shifts within categories was to increase the proportions engaged at the top of scales and on higher scales. The assumption made in relation to the implementation of budget policy in the second half of the 1980s is that numbers engaged will continue to decline. However, the effect of this on measured output may be mitigated by shifts in composition; these effects are not, however, predictable, particularly at the level of aggregation at which these projections are being constructed. It would be consistent with the projected thrust and manner of implementation of fiscal policy for output of this sector to decline by about ½ per cent per annum on average over the next five years.

OUTPUT OF SERVICES

The marketed services sector relies predominantly on domestic demand and the strength of the tradable goods sector. An important exception is the tourism industry which relies on foreign demand and there are certain categories of service that are increasingly becoming tradable internationally. However, in framing the projection contained in Table 2.13 the predominant determinant of growth has been the strength of activity in the tradable goods sector. Demographic factors will continue to apply upward pressure for services of health and education. However, the demand for increased output from these sectors is not likely to be met fully because of the requirements to contain public expenditure.

GROSS NATIONAL OUTPUT

The projections of output for the various sectors are drawn together in Table 2.14. In summary Gross National

TABLE 2.13: Growth of Output of Marketed Services, 1985-1990 (per cent)

	1980-1985	1985-1990	1985	1986	1987	1988	1989	1990
	Average							
Distribution Transport and Communications	0.3	¾	¾	¾	1	¾	1	3
Other Services	1.9	2	2	2	2	2	2½	2½

TABLE 2.14: Growth in Output by Sector of Origin 1985-1990 (per cent)

	1980-1985	1985-1990	1986	1987	1988	1989	1990
	Average						
Agriculture, Forestry and Fishing	3.5	1¾	¾	2½	2	1	2
Industry	2.9	5¼	4	5¾	5¾	5	5
Distribution, Transport and Communication	0.3	¾	1	1	¾	1	¾
Public Administration and Defence	0.5	-½	-½	-½	-½	-½	-½
Other Services	1.9	2	2	2½	2	2½	2
GDP at Constant (1980)	2.1	3	2¾	3¼	3	3	3
Net Factor Flows with Rest of World ¹	(-2.0)	(-½)	(-½)	(-½)	(-¼)	(-¼)	(-¼)
GNP at Constant (1980) Factor Cost	0.2	2¾	2½	2¾	3	3	3

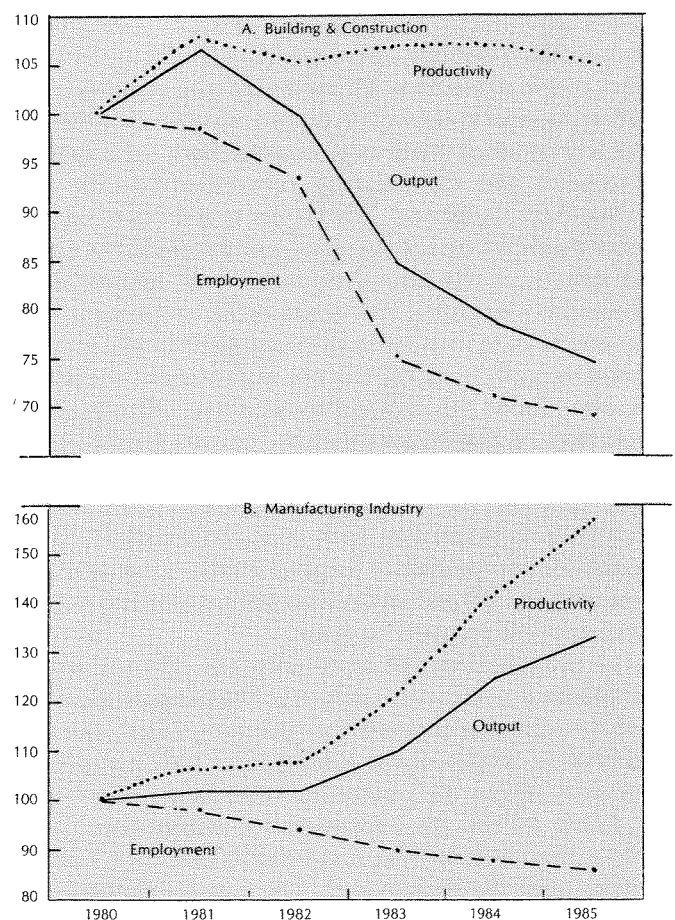
1. Per cent contribution to GNP at factor cost.

Product is expected to rise by about 2¾ per cent per annum in the second half of the decade compared with little or no growth in the first five years. The average rate of expansion of GDP will be about 3 per cent per annum compared with 2 per cent in the first five years. The negative contribution of net factor payments is expected to be very much smaller.

7. The Implications for Employment and Unemployment

During the first half of the decade total employment fell by 1 per cent per year on average (Table 2.15). At the same time the labour force increased by 1½ per cent per annum; as a consequence unemployment (as a per cent of the labour force) rose from 10 to 16 per cent. The experience across sectors was not uniform. Employment in industry was hit by far the severest; it fell by 3½ per cent per annum. By contrast employment in the services sector rose by 1½ per cent per annum; the secular decline of employment in agriculture continued.

The trends within industry are examined more closely in Figure 2.11. The fall in employment in building and construction (Figure 2.11, Panel A) follows closely the reduction in output of that sector. There was some slight tendency for productivity to rise (equivalent to about 1½ per cent per annum). However, the increases were fitful and would be consistent with the effects of the elimination of small low productivity firms in difficult trading conditions rather than to continuous adjustment to the structure of production within the industry as a whole. Taking the total of manufacturing industry (Figure 2.11, Panel B) the trend in the past five years has been for rapid growth of output (6 per cent per annum) to occur along side a decline in employment in that sector of 3½ per cent per annum; the corollary is that measured productivity in manufacturing has risen by 9½ per cent per annum.

FIGURE 2.11: Employment, Output & Productivity Growth in Industry 1980-1985 (Base = 100)

Sources: *Industrial Production Index*, CSO Dublin
Industrial Employment & Hours Worked, CSO Dublin
Construction Industry in Ireland Review of 1984 and Outlook for 1985, Department of the Environment.

TABLE 2.15: Labour Force Growth, Employment and Unemployment 1980-1985 (per cent change)

	1980-1985 Average	1981	1982	1983	1984	1985
Employment in:						
Mining, Quarrying & Turf Production	-2	0	0	-9	0	0
Manufacturing industries	-3½	-2½	-1¾	-5½	-3¾	-3½
Building and Construction	-7	-2	-5	-20	-3½	-3½
Electricity, Gas and Water	1¼	0	7	0	0	0
TOTAL INDUSTRY	-3½	-2¼	-2¼	-6¾	-3¾	-3¼
Public Administration & Defence	½	1½	4¼	-2¾	0	0
Commerce, Insurance & Finance	1¼	2½	1½	1	0	0
Transport, Communication & Storage	0	0	0	0	-1½	1½
Other Service Activities	2	2¼	3	2	1½	2
TOTAL SERVICES	1½	2	2¼	¾	½	1¼
Agriculture, Forestry & Fishing	-2¾	-6¼	-1½	-2	-3¾	-
TOTAL EMPLOYMENT	-1	-1	¼	-2	-1½	-¼
LABOUR FORCE	1½	2	2	1	½	1½
UNEMPLOYMENT (as per cent of Labour Force)	13½	10	11½	14	15½	16
(000s)	161	126	148	184	204	213

Source: *Review and Outlook, Summer 1985*, Stationery Office Dublin.

TABLE 2.16: Employment in Service Industries 1975-1984 (000s)

	1975	1977	1979	1981	1983	1984
Wholesale and Retail Distribution	154.5	158.6	161.2	163.7	166.1	168.1
Insurance Finance and Business Services	27.6	29.6	36.6	43.3	45.9	43.7
Transport, Communication and Storage	69.3	67.1	68.5	70.0	69.9	69.4
Public Administration and Defence	60.0	62.6	70.1	72.0	72.7	72.6
Professional Services	126.8	140.4	148.5	164.1	177.7	179.7
Personal and Other Services	46.8	47.6	57.1	73.9	56.4	57.9
TOTAL	498.2	518.5	558.8	587.0	605.3	608.1

Note: The 1981 estimates are derived from the *Census of Population* but they have been adjusted to coincide with *Labour Force Survey* concepts.
Source: *Labour Force Surveys*, CSO, Dublin.

A number of factors account for this trend. The principal ones are thought to be first, that output growth has been concentrated almost exclusively in sectors that have a low labour requirement, namely chemicals and office and data processing machinery and instrument engineering. Second, there appears to be a trend towards greater specialisation and vertical disintegration in manufacturing industry.

As a consequence functions previously undertaken within the manufacturing enterprise such as cleaning, catering and certain administrative functions are now being performed on contract by specialised enterprises located outside the manufacturing sector. Third the cost price squeeze experienced by industry especially during the earlier years of this decade has resulted in shedding of labour and substitution of capital.

As regards the nature of the output employment relationships within the services sector and its behaviour, rather little is known. Data from the *EEC Labour Force Surveys* are contained in Table 2.16.

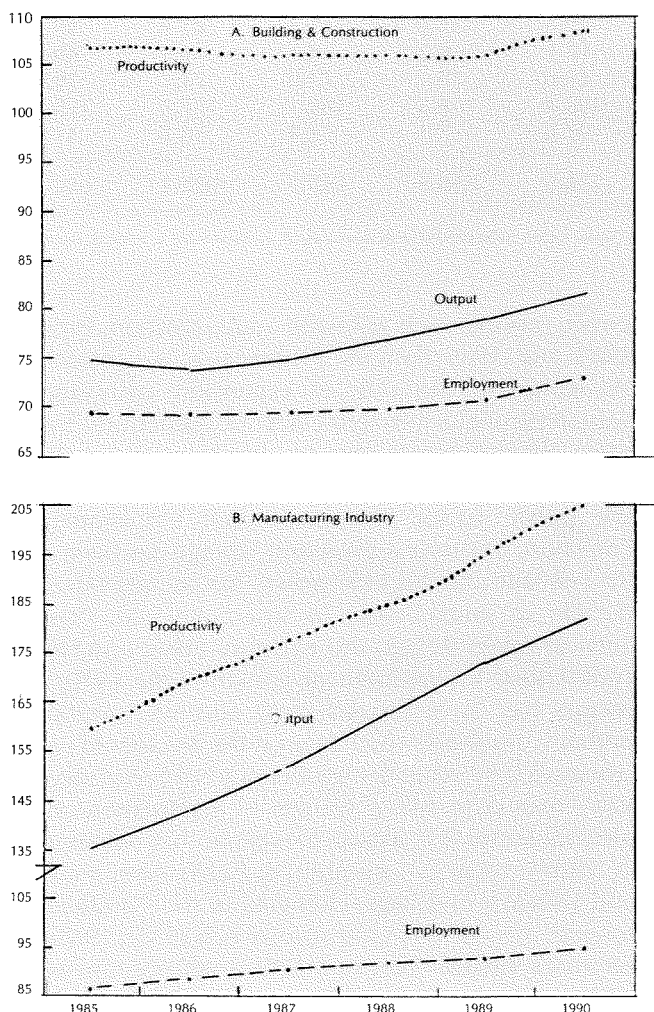
The largest contribution to growth in services employment in the past ten years has come from professional services. This category is dominated by

public services such as health and education. Between 1983 and 1985 there is evidence of a considerable slowdown in the rate of expansion reflecting the tightening of Government current expenditure. For the same reason expansion of employment in Public Administration and Defence has come to a halt. Outside the public sector it appears that employment in Transport, Communication and Storage has been static for a decade and that little growth has occurred over this decade in employment in Insurance and Financial Services, even though this category made a significant contribution to employment growth in the 1970s. The sectors that have proved most resilient, surprisingly perhaps, are those which rely on the household sector: wholesale and retail distribution and personal services. With respect to future growth of employment in the services sector it is almost inevitable that employment in "public services" (comprising Public Administration and Defence and large elements in the "professional services activities") in the second half of the 1980s will be much weaker than in the first half because of the pressure to restrain public expenditure. In addition, although output of services is expected to grow faster

TABLE 2.17: Labour Force Growth, Employment and Unemployment 1985-1990 (Per cent change)

	1980-1985	1985-1990	1986	1987	1988	1989	1990
	Average						
<i>Employment in:</i>							
Mining, Quarrying & Turf Production	-2	-2	-10	0	0	0	0
Manufacturing industries	-3½	1	½	1	1	1½	1½
Building and Construction	-5	0	-1¾	0	0	1	1½
Electricity, Gas and Water	1¼	0	0	-½	-½	0	0
TOTAL INDUSTRY	-3½	½	-½	½	¾	1	1½
<i>Public Administration and Defence</i>							
Commerce, Insurance and Finance	½	-¼	0	-1½	0	0	0
Transport, Communication and Storage	1	1	¾	¾	1	1	1
Other Service Activities	-¼	½	¾	0	0	0	¾
TOTAL SERVICES	1½	1	¾	1¼	1	1	1¼
Agriculture, Forestry & Fishing	-2¾	-2¼	-2¼	-2¼	-2¼	-2¼	-2½
TOTAL EMPLOYMENT	-1	¼	0	½	½	½	¾
LABOUR FORCE	1½	¾	¾	¾	¾	¾	¾
<i>UNEMPLOYMENT (as per cent of Labour Force)</i>							
(000s)	13½	17¾	17	17½	18	18¼	18½
	161	236	227	236	243	248	253

FIGURE 2.12: Employment Output & Productivity Growth in Industry 1985-1990 (Base 1980 = 100)



than in the first half of the 1980s, employment growth in the rest of the services sector is expected to be negatively influenced by the introduction of more technology and, in our belief, by the fact that some of the adjustments between the manufacturing and services sector in the first half of the decade may have been "once off". In summary services employment is expected to grow by about 1 per cent per annum, or 6,200, in the next five years compared with 1½ per cent per annum or 8,000 in the 1980-1985 period (see Table 2.17).

Employment in industry is expected to grow by about ½ per cent per annum in the next five years in contrast to the annual fall of 3½ per cent recorded in the last five years. The expected trend within industry (Figure 2.12) is for employment in building and construction to stabilise after 1986 and to rise with the modest recovery projected in output towards the end of the decade. In manufacturing industry employment increases are also projected. However, these will be tempered by a continuation of productivity growth though not perhaps at quite the same pace as in the early years of the decade.

Notwithstanding the projected improvements the gains in total employment will be unspectacular, as continuing losses of employment from agriculture will dissipate the modest gains in other sectors. The consequences for unemployment will depend on how much of the potential labour force growth is realised but the factors that determine this, migration and participation rates, cannot be predicted accurately. In our view the weakness of domestic labour markets will result in faster net emigration and possibly to a stabilising of participation rates. It has been estimated elsewhere (*Population and Labour Force Projections 1986-1991*, CSO) that net emigration of 15,000 per annum in the 1986-1991 period would be consistent with an annual growth of 10,800

or ¾ per cent in the labour force. However, even with this rate of increase, which is half that in the first half of the decade, the rate of unemployment would continue to edge upwards for the rest of the decade and by 1990 would amount to 18½ per cent of the labour force compared with 16 per cent in 1985.

8. The Expected Distribution of Income Growth and Pattern of Expenditure on National Output

The expected development of household income and expenditure on GNP is summarised in Tables 2.18 and 2.19 respectively. Income from agriculture, forestry and fishing is related directly to the expected evolution of output in that sector and is discussed in detail earlier.

Non-agricultural wages, salaries and pensions reflect the expected growth of average earnings and the expected changes in employment in the non-agricultural sector. The assumption in respect of earnings is that there will be a gradual slow down (equivalent to about ½ per cent per annum) in the rate of increase from 6 per cent in 1986 to 5 per cent in 1990. Growth in interest dividends and rent are projected to accelerate sharply in the latter years of the decade. The tendency for greater reliance to be placed on domestic sources for funding of public sector borrowing is a primary reason for this. A second is that dividend income is boosted as the profitability of industry rises. Further details may be found in the statistical Annex. It is expected that professional earnings will

TABLE 2.18: Household Disposable Income, Expenditure and Savings 1985-1990 £ million

	1985	1986	1987	1988	1989	1990
Income from Agriculture, Forestry and Fishing (Per cent change)	1,365	1,433 (5¼)	1,500 (4¾)	1,600 (6½)	1,600 (3¾)	1,765 (6¼)
Non-Agricultural Wages, Salaries and Pensions (Per cent change)	9,420	10,010 (6¼)	10,660 (6½)	11,400 (6½)	12,140 (6½)	12,930 (6½)
Interest, Dividends and Rents	799	852	797	1,072	1,120	1,127
Income from Professional Earnings (Per cent change)	1,195	1,289 (7¾)	1,395 (8¼)	1,550 (11)	1,690 (9)	1,770 (5)
Transfer Incomes (Per cent change)	3,183	3,422 (7½)	3,575 (4½)	3,750 (5)	3,910 (4¼)	4,065 (4)
PERSONAL INCOME	15,962	17,006	17,927	19,372	20,460	21,657
Less Taxes on Personal Income	3,334	3,550	3,780	4,075	4,320	4,580
PERSONAL DISPOSABLE INCOME (Per cent change)	12,628	13,456 (6½)	14,147 (5)	15,297 (7¾)	16,140 (5½)	17,077 (5¾)
Personal Consumer Expenditure	10,151	10,862	11,550	12,253	13,000	13,720
Personal Savings	2,477	2,594	2,597	3,044	3,140	3,357
Personal Savings Ratio (Per Cent)	19.6	19.3	18.3	19.7	19.4	19.7
Personal Savings as Per Cent of GNP	15.5	15.4	14.2	15.4	14.6	14.5

TABLE 2.19: Expenditure on GNP at Current Market Prices 1985-1990

	1985			1986			1987			1988			1989			1990
	£ million	Per cent change Volume	Price	£ million	Per cent change Volume	Price	£ million	Per cent change Volume	Price	£ million	Per cent change Volume	Price	£ million	Per cent change Volume	Price	
Personal Consumer Expenditure	10,151	2½	4½	10,862	2½	4	11,550	2	4	12,253	2½	3½	13,000	2½	3	13,720
Public authorities net current expenditure on goods and services	3,283	—	5½	3,480	—	4	3,620	—	4	3,775	1	4½	3,980	1	4½	4,200
Gross Domestic fixed capital formation	3,677	3½	4½	3,974	3½	4	4,278	3¼	4	4,595	4	3	4,920	5½	3	5,321
Stock changes	70	(¼)*		115	(¼)*		175	(-¼)*		200	(+½)*		320	(1)*		550
Exports of Goods and Services	10,813	5¾	3	11,780	7¾	3	13,208	8½	4½	14,973	7	4	16,665	7½	4½	18,638
FINAL DEMAND	27,994	3¼	4	30,211	4½	4	32,831	4¾	4	35,796	4½	4	38,885	5	4	42,434
Imports of Goods and Services	-10,331	5¼	2	-11,192	6¼	3	-12,248	6½	3½	-13,500	7½	3½	-15,020	8	3½	-16,700
Gross Domestic Product at Market Prices	17,663	2¾	4¼	19,019	3½	4½	20,583	3½	4½	22,296	3	4	23,865	3	4½	25,644
Net Factor Payments	-1,970	(-½)*		-2,137	(-½)*		-2,266	(-¼)*		-2,330	(-¼)*		-2,400	(-¼)*		-2,475
GNP at current market prices	15,693	2½	4¾	16,882	3¼	5	18,317	3½	5	19,966	3	4¾	21,465	3	4¾	23,169

*Contribution to growth of GNP.

benefit from the higher level of economic activity and will rise in real terms. Transfer income comprises Government transfers and international transfers. The former will rise in value as a result of a continuation in the growth of numbers unemployed and increases (predominantly demographically determined) in the base for other Government transfers; the rate of transfer payments has been assumed to be indexed to consumer prices. International transfers have been assumed arbitrarily to rise and stabilise from about 1988. Revenue from taxes on personal income has been derived on the assumption that tax rates, bands and allowances are indexed. These developments would lead to an expansion in household disposable income of just about 6 per cent per annum on average over the next five years. This would be sufficient to generate growth in the volume of personal consumption of about 2½ per cent per annum.

A higher rate of growth might be possible if the personal savings ratio stabilised or declined. However, it is not expected that this in fact will occur. Indeed there may be a tendency for some further increases to occur. The reasons for believing this relate to the expected effect of higher national debt interest payments domestically. To a very considerable degree these payments will accrue to financial institutions. Pensions funds would be expected to account for a significant share of the income and the consequent growth in their funds would manifest itself in higher personal savings. If there was a tendency for pension contributions to be adjusted downwards over the next five years, the likely beneficiary would be the corporate sector, whose savings might rise. There would not appear to be a significant prospect that by the end of the decade the growth of these funds would be passed back to the household sector.

Gross domestic fixed capital formation is expected to rise steadily. A primary contributing factor to this is the expected recovery in investment in building and construction which would be facilitated both by the tend-

ency for interest rates to continue to decline and by the upward trend in real household income. In addition this tendency would be reinforced, especially towards the end of the decade, with an expansion of investment in machinery and equipment. This expansion is, of course, predicated on the projection that export growth recovers and is sustained. An effect of this is to raise capacity utilisation and allow corporate savings to return to more normal levels (see Annex 1) facilitating an increase in the desired capital stock of industry.

A feature of the expected pattern of expenditure on GNP is that it is accompanied by a diminution in the current balance of payments deficit to zero and the emergence of a surplus towards the end of the decade of perhaps 2 per cent of GNP. This development could occur notwithstanding the rise in the marginal propensity to import as domestic demand accelerates. An important contributing factor to this development is the more modest rise in net factor payments prompted by the switch towards domestic financing of public sector borrowing and the reduction which is expected to occur in interest rates. A second contributing factor is that the terms of trade shows steady improvement. This hinges on the outlined development in oil prices and the assumed domestic policy stance of LDCs, (see Part I).

The coincidence of a current balance of payments surplus with a continuing large PSBR raises a number of questions about the likely evolution of the capital account of the balance of payments. It has been assumed here that there will be a continuation during the remainder of the decade of large capital outflows on non-Government account. (See Annex 1 for details). However, if this tendency were to diminish then it is likely that domestic interest rates would decline faster than envisaged, in that case domestic demand might be higher and the current balance of payments weaker than shown here. This question is returned to briefly in Part III.

III. THE DOMESTIC ECONOMY TO 1990: ALTERNATIVE SCENARIOS

1. Introduction

In this Part some alternative scenarios to the main projections are presented. First (Section 2) there is a brief discussion of some of the issues to which regard must be had in attempting to determine an appropriate level of public sector borrowing. Related to this is the question of the speed with which that level should be achieved. Some of the issues which arise in this context are also addressed. Then a number of different adjustment paths for the public finances to that contained in Part II are set out and the effects that might follow from pursuing them are explored (Sections 3-6). Additionally we discuss what might be the implications for the domestic economy of significantly different developments in the international economy to that assumed in determining the benchmark projections of Part II.

2. Alternative Paths of Adjustment

It is extremely difficult to establish what should be the most appropriate level of public sector borrowing. In the context of medium-term economic management we believe that deficits on current Government spending should be balanced over the economic cycle and other borrowing should be undertaken only if a stream of resources can be generated to meet the interest cost of the borrowing. There are many who would disagree with this principle and in practice it is very difficult to say what level of borrowing precisely would be consistent with it. Such estimates as have been suggested¹ have been regarded generally as excessively high. In the context of the 1985 outturn for public sector borrowing of 15¾ per cent of GNP of which about 8¾ percentage points is due to borrowing for current purposes, a reduction of the order of 6-8 per cent of GNP at least might be required. However, regardless of what principle should be applied it seems clear that a substantial reduction in public sector borrowing from the present level would be the outcome required. A second question is over what time horizon should the required adjustment be carried out? There is an apparent contradiction in statements which proclaim that order must be restored to the public finances if output and employment are to grow but that restoring balance will reduce employment. The paradox can be resolved at a conceptual level though not uniquely by including a time dimension. For example, it is often contended that in the "short term" reducing the fiscal

imbalance will reduce both output and employment because demand in the economy is reduced as the deficit is closed. However, failing to reduce the imbalance now means more rapid accumulation of debt leading to higher national debt interest payments and higher taxation or lower spending in the future to pay the extra interest. The longer adjustment is postponed the greater becomes the future burden of taxation and the larger the effect of growth and employment in the *long term*.

While there are many possible outcomes we believe that the specific output response, in the course of a fiscal adjustment, and its trend subsequent to the adjustment having been made will depend upon (a) the magnitude of fiscal adjustment that is required, (b) the speed within which it is accomplished, (c) the manner in which the fiscal adjustment is accomplished and (d) the stance of other economic policies and the expected outlook for world demand. Specifically, the greater the required adjustment to the public finances, and the more rapidly it is implemented the larger will be the short-term reduction in output. And the narrower the scope for enhancing the effectiveness of other policies to promote growth during a fiscal deflation the greater will be the slowdown or fall in output. Provided the fiscal deflation is warranted by economic considerations — as when deficits and national debts are increasing persistently in relation to national output and where there is widespread resistance to additional taxation, then the long-term trend for output will be almost certainly higher than without the fiscal adjustment. The only circumstances in which this might not be the case would be where the fiscal adjustment was carried out in a manner that undermined the underlying competitiveness of the economy or resulted in the destruction of significant productive assets.

In conclusion the more swiftly the adjustment is carried out the higher will be the short-term cost. It is even conceivable that too swift an adjustment would lead to long-term damage. Accordingly, a gradual reduction in deficits is sometimes advocated on the grounds that it allows all parts of the economy to adjust to the changes that are being made. Notwithstanding this we would favour a "short-sharp shock" to a gradual path of adjustment. The latter approach has tended to be the one favoured in Ireland but it has often resulted in no adjustment and sometimes, even reversals. The principal difficulty with the gradual path, in our view, is that markets find it difficult to see that policy has been altered; in these circumstances expectations fail to adjust, demands upon the Exchequer are pursued continuously and it becomes increasingly difficult to maintain the pace of even the most gradual adjustment. In these circumstances it is easy for all semblance of direction in

1. An attempt to apply this principle in practice was made by the National Planning Board. See *Proposals for Plan, April 1984*, p. 49. There it was estimated that a deficit on current spending of 5 per cent of GNP would be needed and that borrowing for capital purposes would have to fall sharply.

policy to break down. Against this we feel that the "short-sharp shock" shows clearly that policy has altered. The short-term costs may be higher but the prospect is offered of attaining a faster growth path when the adjustment is complete. These points are illustrated in the following two scenarios.

3. Alternative Scenario I: More Rapid Adjustment of the Public Finance Imbalance

There is no real prospect of significantly mitigating the short term deflationary effects of reducing public sector borrowing more quickly by altering the stance of other macro economic policies. The instruments that might be attempted to be used are incomes policy; exchange rate policy; and monetary policy. However, it is difficult to see how these could be marshalled in a way that might give significant impetus to growth above that which is contained in the benchmark projection of Part II. Accordingly, the assumptions with respect to these policies are as follows:

- (i) earnings of non-agricultural employees are projected to grow at approximately the same rate as those in trading partners.
- (ii) The effective exchange rate adjusted for relative inflation will remain about constant.

(iii) Debt management will be directed at financing a growing proportion of public sector borrowing from the domestic market.

As regards other "sectoral" or "supply side" policies, undoubtedly there exists the scope to operate more favourable conditions for promoting faster economic growth. However, as these policies are, almost invariably, concerned with achieving structural change, they can take a long time to implement. Moreover, it is impossible to evaluate precisely their quantitative significance. Yet it is obvious that the efficiency of the entire economy could be impaired by, for example, muddled transport or energy policies, or by restrictive practices in relation to professional or other services whether supplied by the public or private sectors; or bad policies in relation to major economic sectors like industry or agriculture. In preparing this scenario it has been assumed that changes are made to policies at a sectoral level and that some positive influences begin to take effect by the end of the decade as a result of the changes.

The precise pattern of adjustment to the public finances which has been assumed in constructing this scenario is shown in Table 3.1. The PSBR is reduced to a level equivalent to 10 per cent of GNP in 1987, compared with over 12 per cent in the benchmark projection, it is maintained at this level for a number of years and then

TABLE 3.1: Public Sector Borrowing Requirement 1986-1990: Alternative Scenario I

Benchmark Scenario			Alternative Scenario: I							
PSBR £ million	As % of GNP	PSBR £ million	As % of GNP	Attributable to						
				Capital borrowing £ million	As % or GNP	Surplus on current account excl. interest £ million	As % of GNP	Interest Payments £ million	As % of GNP	
1985	2,457	15.7	2,457	15.7	-1,173	7.5	+548	3.5	-1,832	11.7
1986	2,375	14	2,000	12	-900	5½	+790	4¾	-1,890	11¼
1987	2,265	12¼	1,785	10	-800	4½	+945	5½	-1,930	10¾
1988	2,155	11	1,925	10	-855	4½	+870	4	-1,940	10
1989	2,100	10	2,100	10	-1,030	5	+940	4¾	-2,000	9½
1990	2,150	9¼	2,150	9¼	-1,200	5¼	+1,150	5	-2,100	9

TABLE 3.2: Growth of Output by Sector 1986-1990: Alternative Scenario I (Per Cent Changes)

	1986		1987		1988		1989		1990	
	B	A	B	A	B	A	B	A	B	A
Agriculture	¾	¾	2½	2½	2	2	1	1	2	2
Industry	4	2	5¾	4½	5¾	5¾	5	6	5	6½
Distribution, Transport and communication	1	1	1	½	¾	¾	1	1½	¾	1½
Public Administration	-½	-½	-½	-½	-½	-	-½	1	-½	2
Other Services	2	1	2½	2	2	2	2½	2½	2	3
GDP	2¾	1¾	3¼	3	3	3	3	4	3	4½
Net Factor Payments*	(-½)	(-½)	(-½)	(-½)	(-¼)	(-)	(-¼)	(-)	(-¼)	(-)
GNP	2½	1½	2¾	2½	3	3	3	4	3	4½

*Contribution to GNP growth

B: Benchmark; A: Alternative Scenario I

follows the pattern of the benchmark. The bulk of the additional adjustment is achieved by reducing borrowing for capital purposes faster than in the benchmark projection but the surplus on current spending (excluding interest) is also raised to a higher level than in the benchmark projection (to 5½ per cent of GNP compared with 4 per cent in 1987). The basis for allocating the additional reduction in borrowing is rather arbitrary: if there is a margin of borrowing for capital purposes which is uneconomic there is little point in giving a higher priority to maintaining capital spending over current spending; furthermore, the scope for actually achieving the adjustment within the time scale allotted might be greater if spending on capital projects is required to bear the brunt of the fall because expenditures in this category tend to be lumpy.

4. Alternative Scenario I: Features of Projection

The consequences for growth in output that might follow such a path of adjustment are summarised in Table 3.2. In 1986 there is much slower growth than in the benchmark projection and growth remains below the benchmark in 1987 also; output of industry is considerably weaker and the demand for services is also slower. Against this the scope for relaxing the budgetary stance begins to widen from 1988, without expanding the overall level of borrowing from 10 per cent of GNP.

Activity regains sufficiently to enable the national debt to be stabilised in proportion to GNP and after 1988

the economy grows faster than in the benchmark projection. Indeed for the remaining years of the decade there would be a tendency for the debt to fall relative to GNP. The profile of demand that might be associated with this alternative output path is indicated in Table 3.3. Relative to the benchmark there is a greater contribution to growth from the foreign sector up to 1988 due mainly to the more depressed state of domestic demand. During the remaining years, however, this pattern is reversed as domestic demand increases relative to the benchmark projection.

In summary, while the initial impact of a more rapid adjustment to the public finance imbalance would be to lower economic growth it is possible that even within as short a period as five years, the cumulative growth in output would be as great as if a much slower path were pursued. Moreover, the growth path on which the economy would be might also be faster so that while there would not be a significantly different outcome for employment under either of the scenarios for the next five years the likelihood is that gains would be greater in the longer term from being on the higher path.

5. Alternative Scenario II: Sluggish Adjustment of the Public Finance Imbalance

Even though there could be faster growth within five years from implementing a more rapid adjustment to the public finances than that contained in the benchmark, it is obvious from past experience that Government find

TABLE 3.3: Expenditure on GNP 1986-1990: Alternative Scenario I (Per Cent Contribution to Change in GNP)

	1986		1987		1988		1989		1990	
	B	A	B	A	B	A	B	A	B	A
Household Consumption	1½	1	1½	1	1¼	1¼	1½	1½	1½	2
Public Consumption	—	—	—	—	—	—	¼	¼	¼	¼
Physical Capital Formation	1	-½	1	-½	¾	1	1½	2	2	2½
Domestic Demand	2½	½	2½	1½	2	2¼	¾	¾	¾	4¾
Foreign Sector	—	+½	¾	1	1½	1¼	-¼	¾	-¾	-¼
GNP	2½	1	3	2½	3½	3½	3	4	3	4½

B: Benchmark; A: Alternative Scenario 1

TABLE 3.4: Public Sector Borrowing Requirement 1985-1990: Alternative Scenario II

Benchmark Scenario			Alternative Scenario: II							
PSBR £ million	As % of GNP	PSBR £ million	As % of GNP	Attributable to						
				Capital borrowing £ million	As % or GNP	Surplus on current account excl. interest £ million	As % of GNP	Interest Payments £ million	As % of GNP	
1985	2,457	15.7	2,457	15.7	-1,173	7.5	548	3.5	1,832	11.7
1986	2,375	14	2,710	16	-1,370	8	+610	3¾	-1,950	11½
1987	2,265	12¼	2,740	15	-1,370	7½	+650	3½	-2,020	11
1988	2,155	11	2,910	14½	-1,470	7½	+660	3½	-2,100	11
1989	2,100	10	2,960	14	-1,470	7	+730	3½	-2,200	10¾
1990	2,150	9¼	3,150	14	-1,575	7	+775	3½	-2,350	10½

it difficult to sustain adequate deflationary steps regardless of what benefits might or might not accrue over the medium term. Accordingly, it is appropriate to consider what economic prospects might be with a slower speed of adjustment to the public finances than that contained in the benchmark projection. It is unlikely that such a slower path would be deliberately adopted as Government policy. Instead it could emerge as a consequence of not adhering rigorously to a more deliberate path. In the dilatory environment in which policy would proceed in this manner it would be too much to assume that there would be a painstaking review to increase the efficiency of sectoral and micro policies and the responsiveness of the economy to them. The best that might be hoped for is that other macro policies might be held on the same course as in the benchmark (and alternative I) scenarios.

The evolution of the public finances, relative to the benchmark which has been assumed for this scenario is set out in Table 3.4. In effect, there is a marginal reduction in borrowing for capital purposes (from 7½ per cent of GNP to 7 per cent of GNP); the surplus on current (non-interest spending) is kept at a constant share of GNP; and a minor reduction occurs in interest payments relative to GNP as interest rates ease, though not by as much as in the benchmark projection. At the end of the decade the public sector borrowing requirement is 14 per cent of GNP and conditions have not been established that would result in a stabilising of the ratio of national debt to GNP.

6. Alternative Scenario II: Features of Projection

The main difference between this scenario and the benchmark projection is that demand is higher for a time as a result of larger public borrowing. However, the stimulatory effect weakens as time goes on because the interest payments absorb a larger share. More importantly perhaps, the economic environment is sluggish and inimical to expansion as fiscal policy throughout the period continues to be deflationary, notwithstanding the higher level of borrowing. The expected pattern of output relative to the benchmark is shown in Table 3.5. Industry output and demand for services grow faster initially, but the effect on GNP is partly diminished by the fact that interest and other factor payments abroad are higher than the benchmark. Growth soon becomes slower, the prospect of not seeing a revival of demand dampens confidence and industrial output. Throughout the period, factor payments reduce growth compared to the benchmark.

Domestic demand would almost certainly be greater, for a time, in these conditions than in the benchmark (see Table 3.6). However, part of this margin would be dissipated through the balance of payments, both through higher imports and larger net factor payments.

In effect this scenario represents a continuation of the type of conditions experienced in the early part of the 1980s, with some mitigating factors such as stronger growth of world trade and lower real interest rates. However, a slow grinding deflationary fiscal policy stultifies the prospects of generating self sustained

TABLE 3.5: Growth of Output by Sector 1986-1990: Alternative Scenario II (Per Cent Changes)

	1986		1987		1988		1989		1990	
	B	A	B	A	B	A	B	A	B	A
Agriculture	¾	¾	2½	2½	2	2	1	1	2	2
Industry	4	6	5¾	6	5¾	5¾	5	4	5	4
Distribution, Transport and Communication	1	1	1	1	¾	¾	1	¾	¾	¾
Public Administration	-½	-	-½	-	-½	-	-½	-	-½	-
Other Services	2	2½	2½	2½	2	2½	2½	2	2	1½
GDP	2¾	3½	3¼	3½	3	3¼	3	2½	3	2½
Net Factor Payments*	(-½)	(-½)	(-½)	(-¾)	(-¼)	(-½)	(-¼)	(-½)	(-¼)	(-½)
GNP	2½	3½	2¾	3	3	3¼	3	2	3	2

*Contribution to GNP growth

B: Benchmark; A: Alternative Scenario II

TABLE 3.6: Expenditure on GNP 1986-1990: Alternative Scenario II (Per Cent Contribution to Change in GNP)

	1986		1987		1988		1989		1990	
	B	A	B	A	B	A	B	A	B	A
Household Consumption	1½	2½	1½	2	1¼	2	1½	1½	1½	1¼
Public Consumption	-	½	-	½	-	½	¼	½	¼	1½
Physical Capital Formation	1	1½	1	1	¾	1½	½	½	2	1
Domestic Demand	2½	3½	2½	3½	2	3½	¾	2½	¾	2¾
Foreign Sector	-	-1	¾	-¼	1½	-	-¼	-½	-¾	-¾
GNP	2½	2½	3¼	3¼	3½	3½	3	2	3	2

B: Benchmark; A: Alternative Scenario II

growth, in the long run and under this scenario, it is inevitable that gains in employment would be small and unemployment would rise continuously.

A summary of the two scenarios is contained in Table 3.7. It is clear from this that a time horizon of five years minimum is required before the benefits from pursuing a more rapid course of action to that contained in the benchmark would become apparent. Indeed with a perspective of up to three years there would appear to be gains both in terms of output and employment from pursuing the slower path.

TABLE 3.7: Alternative Scenario I Relative to Benchmark Deviation from Benchmark Projection (Percentage Points)

	<i>Change in PSBR as % of GNP</i>	<i>Change in GNP (Output) %</i>	<i>Change in Employment %</i>
1986	-2	-1	-1/2
1987	-3/4	-1/4	-
1988	+1 1/4	-	-
1989	+1	1	+1/2
1990	-	1 1/2	+3/4

Alternative Scenario II Relative to Benchmark			
	<i>Change in PSBR as % of GNP</i>	<i>Change in GNP (Output) %</i>	<i>Change in Employment %</i>
1986	+2	+1	+1/2
1987	+3/4	1/4	+1/4
1988	+3/4	1/4	-
1989	+1/2	-1	-1/2
1990	+1/2	-1	-3/4

7. Different Circumstances in the International Economy

FALLING OIL PRICES

Towards the end of 1985 it became clear that the growing pressures in OPEC from budget and international payments balances coupled with excess capacity would lead to a breaching of the production ceilings which were being adhered to. It now appears possible that in the coming years considerable fragmentation could occur in the structure of the oil market. Indeed the prospect that this may occur rapidly and result in a sharp fall in the \$US price of oil deserves to be considered.

For illustrative purposes we assume that a reduction to about \$20 per barrel will be sustained, compared with \$27 3/4 on average in 1985, and \$25 in December 1985. In such an eventuality there would be a number of problems as well as potential gains. The problems concern the effect which such instability would have on the financial balances of oil producers and the effects of that on financial institutions in industrial countries. A second set of problems concerns the possibilities of a rekindling of inflation if domestic demand in industrial countries were to be given a significant sharp boost. Another issue that would be of importance for Ireland is the effect which such changes might have on sterling.

It is likely that, if oil prices remain at or below the \$20 per barrel mark for the remainder of 1986, that some oil exporting countries will find themselves with quite serious financial imbalances. These pressures might indeed be sufficient to lead to a strengthening of the OPEC organisation and a recommitment to a co-

operative strategy to maintain the real price of oil. In the context of the five year time horizon being taken here this turn of events would mean that in effect the evolution of oil prices over the period as a whole would not be significantly different to that assumed in preparing the benchmark projections.

The issue of a rekindling of inflation in industrial countries as a result of booming demand conditions following a sharp fall in oil prices, if it occurred, could actually result in weaker medium-term economic prospects for the Irish economy than those projected in the benchmark scenario. The direct impact on the Irish economy of a price of \$20 per barrel for oil would not be insignificant — an addition to GNP of about 1 per cent and inflation of under 4 per cent compared with 4 1/2 per cent or about 1 1/2 percentage points off the PSBR as a per cent of GNP. However, the indirect impact could be much more significant, although whether this influence would be positive or negative would depend upon the response of industrial countries to the change. While there are high rates of capacity underutilisation in industrial countries, it is likely that bottlenecks in supply would quickly emerge if demand were to suddenly surge as a result of the gain in terms of trade of industrial countries. Undoubtedly the pick-up in activity would result in faster growth in the short term but the likelihood that inflation would revive would be considerable. In the medium term the higher inflation would lead again to policies to deflate economic activity. Against this, lasting benefits would emerge if the industrial countries especially the Europeans, responded by initially absorbing some of the price reduction in higher taxation. Then, if it emerged that the fall in price was being sustained the scope for engaging in a concerted set of policies to bring forward strong growth into the medium term could be exercised. In this set of circumstances it might be possible for Ireland to achieve a sustainable balance in the public finances and the beginning, at least, of a downward trend in unemployment by the end of the decade.

The effects on the value of sterling of a sustained fall in oil prices to \$20 per barrel is another variable which might have economic consequences for Ireland. It is likely that the effect would be to cause sterling to weaken on international exchange markets and perhaps for UK inflation to rise. Of course these effects might be mitigated or totally offset if the UK found itself benefitting from stronger international demand. Nevertheless, the likelihood remains that, in the circumstances envisaged, sterling might tend to weaken over much of the remainder of the decade. It is difficult to predict what the medium-term consequences of this might be for Ireland. In a situation in which UK inflation tended to rise there might be no direct economic effects. But there might continue to be financial effects beyond the short term which would be disruptive. There is a strong though — in our view — perverse tendency for capital outflows to occur from Ireland and for upward pressure to gather on domestic interest rates when sterling weakens against all currencies including the Irish pound. The fact that the fall in sterling is to do with a decline in that economy's capacity to earn foreign currency does not seem to us

to be a logical reason to assume that the Irish pound should be moved within the EMS to reflect the change in sterling. Indeed it is quite possible that over a period of years financial markets here might adjust to a situation in which sterling fell towards parity with the Irish pound, without giving rise to disruptive capital flows. However, in the short term at least these flows are likely to occur if sterling shows signs of depreciation. This would give rise to periodic tendencies for interest rates here to rise. Depending on how long it takes for financial markets to adjust it is conceivable that such bouts would tend to offset possible benefits to Ireland of reduced oil prices.

In conclusion, while lower oil prices than those assumed in the benchmark scenario might prevail over the coming years there is no assurance that these would result in faster economic growth although they would in certain circumstances offer such a prospect. The brief discussion here has highlighted that the precise effects would depend on the interplay of a wide number of variables. Accordingly, we feel that it would be unwise to significantly modify the main scenarios presented here for the next five years until it becomes clearer that the reductions which are currently taking place will in fact be sustained and until the policy response of industrial economies becomes known.

SLOWER ADJUSTMENTS OF INTEREST RATES

In developing the main scenario for the Irish economy it was assumed that the international economy would develop along the lines of the "baseline" scenario contained in the IMF medium-term assessment of the world economy, see Part I Table 1.6 and Table 1.7 for details. Variants of this "baseline" scenario were

presented which considered the effects of "better" or "worse" (see Part I for details) policies being applied compared with the baseline. We see little prospect of the so called "better" policies being applied; but there is a risk that the "worse" policies may in fact be the ones pursued.

In effect that scenario would result in little or no further adjustment occurring to the imbalances in industrial countries. For example, there would be no adjustment to the fiscal imbalance in the US; no progress on structural policies to reduce unemployment in Europe and a trend towards further trade protection. An important consequence of this policy stance would be that real interest rates internationally would not decline below their present level. Output growth in industrial countries would be significantly slower and the expected expansion of world trade would not occur. There is no doubt that in these circumstances the progress that is projected for the domestic economy would be severely curtailed. Two highly significant influences which underly the expected development of the economy in the benchmark projection is the fall in real interest rates and the pick-up in world trade. Were these influences not to develop the likelihood is that growth would be severely restricted and adjustment of the public finance imbalance would be even slower to occur.

In conclusion while there are prospects that certain aspects of the international economy might develop more favourably than assumed in the benchmark scenario there are also downside risks related to the assumed policy stance in industrial countries. The most likely pattern we believe is that contained in the benchmark projection. After that it would appear that the downside risks are rather more heavily weighted than the prospects for a more favourable outcome.

CONCLUDING REMARKS

In Part II a scenario to the year 1990 was constructed which portrays the economy gradually returning to balance, in many respects, during the next five years: there is a renewal of economic growth, a stable rate of inflation which is low by previous experience and comparable to that in our trading partners, a modest growth in living standards generally, equilibrium in the balance of payments, and a tendency for the national debt to stop growing faster than national output. Yet there are important respects in which adjustment is disappointingly incomplete. By the end of the decade the rate of unemployment is even higher than now. Public sector borrowing is still equivalent to more than 9 per cent of GNP of which the deficit on current spending accounts for 4 percentage points — a magnitude which some would regard as intolerably high. The living standards of those in employment at the end of the decade are no higher on average than they were at the beginning. Even these limited improvements are critically contingent upon a particular line of development occurring in the international economy. It is, of course, possible that the international economy will grow faster: the recent development in oil markets, if sustained, could create such a prospect. However, as discussed, the durability of these trends and the international responses which might occur to them are by no means unique, or necessarily beneficial to medium-term growth prospects. Additionally, while the main scenario is based on a development of the international economy which is felt to be most likely, there are risks, rather more heavily weighted on the downside, in our view, that a less encouraging set of circumstances might prevail externally. If that became the case there is little doubt that the progress noted above would be more curtailed.

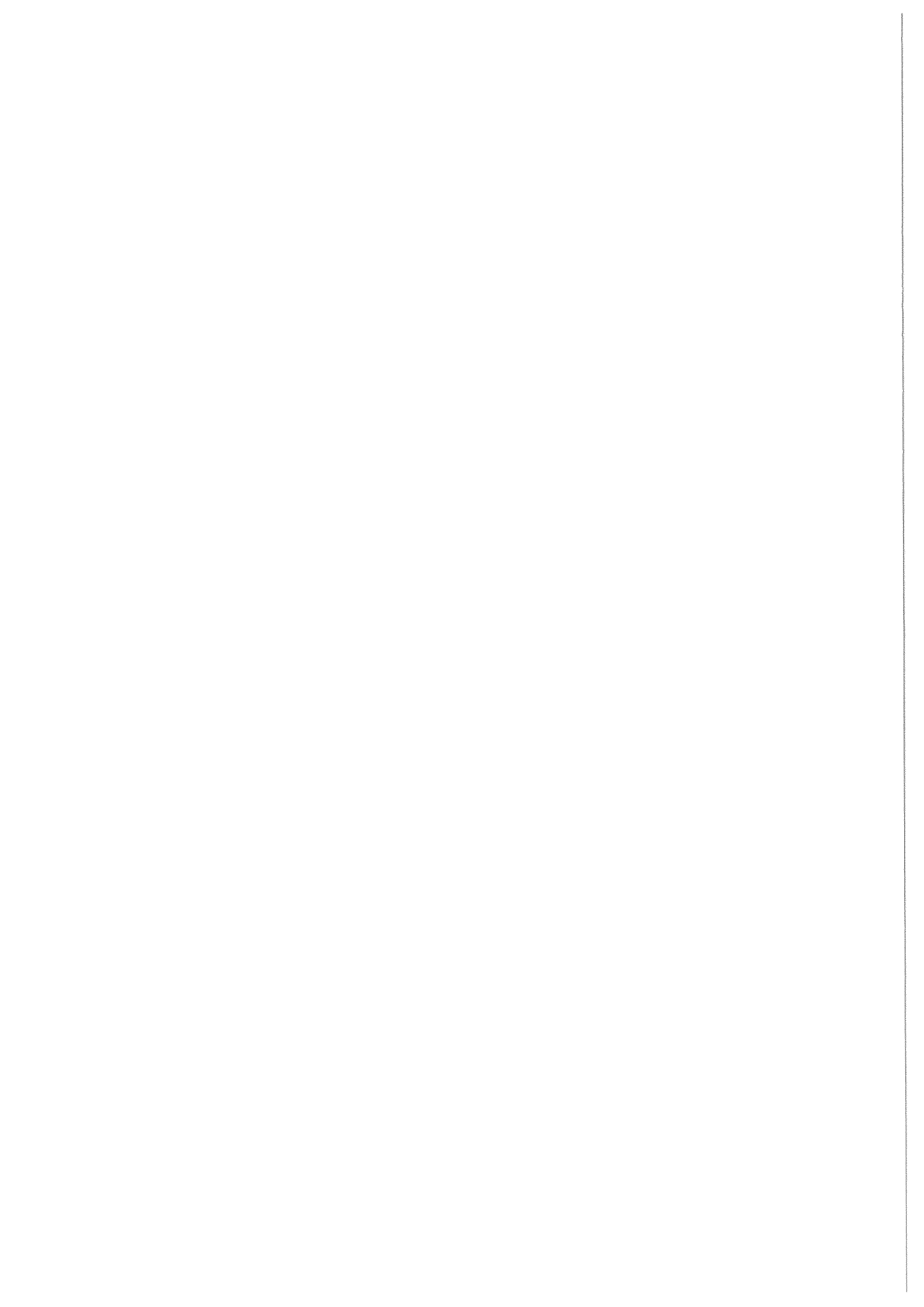
Regardless of what set of circumstances present themselves in the international economy, there are issues which will need to be addressed by domestic policies. A feature which emerges strongly in the projections is a continuation of the reduction in the balance of payments deficit which has been occurring for some time now. Indeed, it is possible that before the end of the decade there will be a surplus on the current account of the balance of payments. While an important constraint on the growth of economic activity may thus be waning, there is unlikely to be any scope for relaxing the fiscal stance before the end of the decade. The task of securing even a stabilised national debt with respect

to national output requires considerable further restriction in borrowing.

Indeed the co-existence of a continuing large PSBR with a situation in which there is a prospective surplus on the current balance of payments is one that is likely to establish forces that will cause adjustment. We must admit that we are quite uncertain as to what channels these adjustments are likely to follow or, indeed, the strength which they might assume over the medium term. A corollary of the expected swing in the balance of payments, along with the public finance imbalance is a tendency for savings in the corporate and household sectors to rise. This might result in interest rates falling faster than we have envisaged; such a tendency would relieve the public finance position and lead to higher domestic economic activity and a smaller improvement in the balance of payments. An alternative path would be for private capital outflows to occur persistently on a considerable scale.

Whatever the tendency in this regard we feel that the appropriate response would be to pursue vigorously a course of correction to the public finance imbalance. Even on the basis of our benchmark scenarios the PSBR in 1990 will amount to over 9 per cent of GNP, of which over 4 percentage points is attributable to the deficit on current spending. In our discussions of the appropriate speed of adjustment to the public finances we have concluded that there are likely to be greater gains, in terms of both output and employment, taking a five year view, from pursuing a more rapid adjustment than that which appears in prospect, even though the short-term costs taking, say, a three year view might be greater.

It has also become increasingly apparent from the analyses that if a balanced outcome is to be achieved in economic performance then the establishment of conditions that will enable the economy to respond rapidly to increased world demand and growth are vitally important. The setting of macro-economic policies has a significant part to play in this process. However, there may exist considerable scope for raising the productive potential of the economy by pursuing supply oriented policies at the micro and sectoral level and by relieving structural rigidities, where they exist. We have been unable to focus on these subjects in this issue. It is our intention to focus more closely on the role which they might be given in promoting economic growth and employment creation in our next issue.



ASSESSMENT OF PROPOSALS FOR CHANGES IN THE COMMON AGRICULTURAL POLICY

Robert O'Connor*

Since the inauguration of the Common Agricultural Policy (CAP) in January 1962 there have been widespread demands from all quarters for its modification, but somehow it has managed to survive in more or less its original form. This is amazing considering the varying interests of the different members and the trenchant attacks made upon it from time to time. As Josling *et al* (1981) say "it [the CAP] stumbles from one crisis to the next rescued mainly because of fear, well founded or not, that a collapse of the policy would bring about the demise of the Common Market itself."

Attacks on the CAP have taken various forms but it would be true to say that the major problem stems from the fact that among the member states there are gainers and losers. In particular the balance of contributions into, and receipts from, the budget is a critical political factor. The price of food is another. The UK which in pre-EEC days operated a cheap food policy now finds that food prices have increased considerably, while at the same time, it has to pay budgetary contributions to maintain these prices. So also have the Germans who are the largest contributors to the budget. (See Table 1.)

The main criticism levied against the CAP are:

- (1) The high prices generate surpluses which are expensive to dispose of;
- (2) these surpluses and the cost of disposing of them

have grown at an alarming rate compared with a static level of consumption;

- (3) the CAP does not achieve income equity as between different farmers or different regions. Because of high prices those who produce the most receive the highest income, i.e., the larger farmers on the better soils;
- (4) the disposal of surpluses on the world market is disruptive of world trade;
- (5) too high a proportion of the total EEC budget is spent on agriculture and too little on other projects;
- (6) the new members, Spain and Portugal, will be net beneficiaries from the CAP placing further pressure on limited budgetary funds.

Over the years attempts have been made to deal with these problems. In 1968 quotas and co-responsibility levies were placed on sugar production and this has eased the problems associated with the sugar beet crop. In 1977 what is known as a "prudent" price policy was adopted, whereby agricultural prices were not increased in line with inflation, and since then, except for 1982, real producer prices in the EEC declined every year at an average annual rate of about 3 per cent. The decline was much greater than this in Ireland because of our high inflation rate which was not reflected in the exchange rate of the IR£ within the EMS. The Prudent Price Policy

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TABLE 1: Budget Contribution by Member States in Selected Years 1980-1986¹

Country	1980	1983	1985 ² estimate	1986 ² estimate	1983 as % of GDP in that year ³
	Million ECU				%
Belgium	929.8	1,263.1	1,441.6	1,505.3	1.40
Denmark	346.6	484.3	614.0	758.2	0.76
Germany	4,440.3	6,436.7	8,061.1	9,102.3	0.88
Greece ⁴	—	379.7	490.7	660.6	1.00
France	2,872.7	4,615.1	5,830.7	6,669.2	0.79
Ireland	137.8	253.0	311.6	385.7	1.25
Italy	1,859.7	2,991.1	4,009.9	4,698.2	0.75
Luxembourg	19.0	35.5	53.5	61.8	0.72
Netherlands	1,249.6	1,580.9	1,859.5	2,204.3	1.05
United Kingdom	3,146.1	5,161.1	5,238.6	5,382.6	1.01
Total	15,001.6	23,200.5	27,911.2	31,428.2	0.90

1. Does not include adjustments made in subsequent years.

2. 1985 and 1986 exclude inter-government agreement.

3. Related to GDP at market prices.

4. Greece's contribution is calculated on a GNP basis.

5. The estimated contributions by Spain and Portugal are 3,015.5 and 343.3m ECUs respectively.

Source: Department of Agriculture, Dublin.

together with a co-responsibility levy of 1.5 to 2.0 per cent failed to halt the increase in milk production and in 1984 the milk super levy had to be introduced. This levy has succeeded in regulating milk production, but the beef and cereal surpluses still remain and there is strong pressure to bring them and other surpluses into line with consumption.

TABLE 2: Degree of EEC Self-Sufficiency for Some Products

	1973	1982	1990
		%	
Cereals*	90	105	127
Sugar	92	154	122
Beef/Veal	85	102	103
Pigmeat	101	101	101
Sheepmeat	61	72	89
Poultry Meat	103	112	108
Milk Products	108	118	113

*Cereal substitutes are not included in making the calculations, though they affect the results by lowering the internal consumption of cereals.
Source: *The Agricultural Situation in the Community, 1984.*

The figures in Table 2 show the degree of self sufficiency within the EEC in selected agricultural products for the years 1973 and 1982 with projections for 1990 on the basis of present policies. In the nine-year period the degree of self supply has increased considerably. Most products are now in surplus, or near surplus, and the beef position would be much worse if concessionary imports under the GATT were taken into account. Clearly, the Community is faced with a serious problem of surplus disposal.

The effect of over production has led to large stockpiling by the Community and in September of 1985 most stocks were higher than at the same time in any previous

year. At that time there were in intervention or in aided private storage, 18 million tonnes of grain, 1.2 million tonnes of butter (much of it quite inedible due to age), 500,000 tonnes of skim milk powder, 700,000 tonnes of beef, 2.05 million tonnes of sugar, 50,000 tonnes of olive oil and 18 million hectolitres of wine. There would be much more of these commodities in storage were it not for the fact that during the year large amounts were exported with the aid of export refunds varying from about 30 per cent of the intervention price for cereals to about 70 per cent of this price for milk products.

The composition of FEOGA Guarantee¹ section payments for different products in 1984 given in Table 3 shows that 29.6 per cent of total payments went for the disposal of milk products, 9.2 per cent for cereals, 8.9 per cent for sugar, 13.9 per cent for beef and veal, 7.9 per cent for fruit and vegetables, 6.7 per cent for wine and 9.5 per cent for oils and fats. These payments, after allowing for levies of various kinds, came to over 60 per cent of the total EEC budget in that year and when structural payments and MCAs are included, total agricultural spending took over two-thirds of the total budget.

The trend in total guarantee section expenditure and that on the main products of interest to Ireland since 1975 is given in Table 4.

The Present Crisis and Proposed Solutions

In 1984 the CAP faced what was probably its most serious crisis so far. The EEC budget became exhausted and attempts were made by the Commission to increase

1. Guarantee section payments relate to support price payments of various kinds as distinct from Guidance Sector Payments which relate to structural programmes.

TABLE 3: FEOGA Guarantee Expenditure by Sector in 1984 (million ECUs*)

Product	Export Refunds	Intervention			Total	
		Storage	Other	Total	Amount	%
Cereals and rice	945.2	314.3	438.3	752.6	1,697.8	9.2
Milk and milk products ¹	1,943.4	1,710.4	1,787.9	3,498.3	5,441.7	29.6
Oils and fats	8.5	68.7	1,674.8	1,743.5	1,752.0	9.5
Sugar ²	1,190.0	429.8	11.7	441.5	1,631.5	8.9
Beef and veal	1,392.7	814.5	339.6	1,154.1	2,546.8	13.9
Sheepmeat	—	—	433.5	433.5	433.5	2.4
Pigmeat	157.0	38.9	—	38.9	195.9	1.1
Eggs and poultry	69.8	—	—	—	69.8	0.4
Fruit and Vegetables	58.6	—	1,396.0	1,396.0	1,454.6	7.9
Wine	18.6	135.6	1,068.4	1,204.0	1,222.6	6.7
Tobacco	36.5	28.2	711.7	739.9	776.4	4.2
Fisheries	0.9	—	14.7	14.7	15.6	0.1
Other	—	—	375.1	375.1	375.1	2.0
Processed products	382.4	—	—	—	382.4	2.1
Total Agricultural Expenditure	6,203.6	3,540.4	8,251.7	11,792.1	17,995.7	98.0
MCAs and ACAs	—	—	—	—	376.2	2.0
Total Guarantee Section					18,371.9	100.0

*1 ECU = IR£0.714

1. After adjustment for co-responsibility levy.

2. Before adjustment for co-responsibility levy.

Source: *14th Financial Report on EAGGF for the year 1984.*

TABLE 4: FEOGA Guarantee Section Expenditure 1975-1984 (000 Million ECU)

Year	Total expenditure		Net expenditure as % of EEC GDP	Expenditure on main products			
	Gross	Net ¹		Milk	Beef & Veal	Cereals excl. rice	Sugar (net exp.)
1975	4.5	3.9	0.35	1.2	0.9	0.6	0.2
1976	5.6	4.4	0.34	2.3	0.6	0.7	0.1
1977	6.8	4.7	0.33	2.9	0.5	0.6	0.3
1978	8.7	6.4	0.40	4.0	0.6	1.1	0.5
1979	10.4	8.3	0.46	4.5	0.7	1.6	0.5
1980	11.3	9.3	0.46	4.8	1.4	1.7	0.1
1981	11.0	9.2	0.42	3.3	1.4	1.9	0.3
1982 ²	12.4	10.2	0.42	3.3	1.2	1.8	0.4
1983 ²	15.8	13.5	0.52 ³	4.4	1.7	2.4	n.a.
1984 ²	18.3	15.9	0.57 ³	5.4	2.5	1.7	n.a.

1. Gross expenditure less levies including co-responsibility levies.

2. Including Greece.

3. Provisional.

Source: *The Agricultural Situation in the Community, 1984.*

the member states' VAT levy from 1.0 to 1.4 per cent. This proposal ran into considerable opposition from the larger member states and was only agreed on conditions that constraints be placed in future years on the amount of the budget which would be available for agricultural purposes. Article 2 of the Conclusions on Budgetary Discipline stipulates that "the Commission ensures that the growth in the net cost of supporting agricultural markets in future years is less than the growth in 'own resources' except in special circumstances such as Community enlargement" (Com. (84), 83). How strict or effective this constraint will be is a matter of opinion, but what is clear is that the funds available to support agriculture will be determined in future on an on-going basis. Open-ended commitments as in the past will hardly be permitted. Indeed, the Commission says (Green Europe, 1985) that an increase between 1985 and 1986 in agricultural expenditure of seven per cent in real terms (equal to the average annual increase during the past 10 years) would already in 1986 lead to a transgression of the new limit of 1.4 per cent of VAT which comes into effect in that year.

In order to cope with the new budgetary situation the Commission has now issued a Green Paper entitled "Perspective for the Common Agricultural Policy" (July 1985). This paper discusses the issues facing the Community and makes suggestions for policy directives in future years. It states that up to now the CAP has been characterised by an emphasis on the instrument of price support, that the limits of this approach have now been reached and that complementary instruments should be developed. The paper does not say that price supports should be withdrawn entirely, but it does say that market prices must be given a greater role in guiding supply and demand within the agricultural policy. This means adopting a much more restrictive price policy than heretofore. According to the Commission the sector most urgently in need of adjustment is that of cereals and though the paper does not say so, it is obvious that if cereal prices could be reduced most other prices would be affected. Prices of white meat (pigmeat and poultry) which are not supported to any great extent would be reduced automatically through increased production, and red

meats would have to follow suit in order to compete on the market. Sooner or later milk prices would also be affected because of the large amount of grain used in milk production. At least a reduction in grain prices could be used as an argument against increasing real milk prices (Sheehy, 1985).

The extension of quotas is not favoured. The paper states that it cannot be in the long-term interest of Europe to extend the empire of quotas. If this were to happen the Community would be drawn into a labyrinth of administrative measures for the quantitative regulation of production, while if higher prices were envisaged within the framework of quotas there would be the risk of resistance from consumers and of the development of substitute products. It concludes by saying that "there can be no alternative to pursuing a price policy more adapted to the realities of the internal and external markets but taking account of the Community's obligations to the agricultural community."

The paper tries to sweeten the pill somewhat by making statements about agriculture as a protector of the environment, the need to keep people on the land in the poorer regions and the better integration of agriculture in regional development. Towards this end it suggests giving direct income aids to the poorer farmers and states that an essential element of any system of income aids would be a financial participation by the Community. The level of this participation is not stated, but if it is to be on the same lines as most existing schemes, a participation by the member states will also be expected. Indeed, judging by the estimated costs to the Commission, fairly substantial national contributions will be necessary if the scheme is to have any impact at all.

The Income Aids Suggested

The first income aid option put forward is a pre-pension scheme. Under this option, aid would be paid to farmers between 55 and 65 years of age who would abandon their agricultural activity.² On reaching 65 the

2. The White Paper does not say what would be done with the land but we assume it would be devoted to some recreational or other non-agricultural activity — perhaps forestry on some of it.

beneficiaries of this scheme would be integrated into the normal national pension schemes. It is estimated that the scheme would cover 15 per cent of whole-time farmers in the Community; each would receive about £50 per week from the EEC and the total cost would be about IR£250 million for the Community as a whole. On the basis of this take-up, Ireland's share would be about IR£15 million. The pre-pension scheme is almost identical to the farm retirement scheme introduced in the 1970s which did not work and had to be abandoned.

The second option suggested is to give aid to professional farmers³ whose agricultural incomes fall below a certain percentage of the comparable regional income (average gross wage income for the region). The aid would be temporary, limited to a five-year "period of transition" giving the farmer a financial relief during these years in order to allow him decide on his future and make the necessary adjustments. It is stated that in order to avoid too abrupt a cut-off at the end of the transitional period the aid would need to be degressive (reduced in the final years). According to a first estimate, some 1.9 million farmers would be concerned by such a scheme. The cost would be about IR£700 million per annum for the EEC as a whole or about IR£370 per farmer. It is estimated that Ireland's share would be about IR£60 million.

To simplify the administration of the scheme the aid would be calculated as a flat rate allowance per unit of production (hectare or livestock unit). It would thus be similar to the current disadvantaged area payments scheme, but the Green Paper does not say whether or not the new proposal would be additional to, or a substitute for, the latter. It is presumed that it would be additional.

The third option is similar to the second, except that in this case part-time as well as whole-time farmers would be aided. Only the very poor, however, would be included, those whose total incomes fall below 50 per cent of the comparable income at the regional level. The amounts payable would be the difference between current income (agricultural plus non-agricultural) and about 50 per cent of the comparable income, but deductions from amounts payable would be made for family members living in the farm household who have gainful off-farm employment. This scheme would not be degressive, but it would probably be limited to the present generation of farm holders and would thus be self eliminating. According to the first estimate, about 1.25 million farmers would be concerned in the EEC as a whole and the costs would be in the order of IR£700 million per annum for a start or about IR£560 per head. Ireland's share in this scheme would be about IR£50 million.

A fourth option is a payment for taking land out of production. Costings on this are not worked out, but if we can judge from the other options the amount paid per acre would not be very large. Under this option the land made available could be bought or rented on a long-term

basis for non-agricultural use, e.g., the creation of ecological refuges and reserves, leisure parks, afforestation, etc. The Paper states that every farmer could participate in such a scheme although it may be expected that farmers with marginal land or poor production structures would be mainly interested. However, the aid would be fixed in proportion to the volume of production abandoned. Since the aim is to reduce output there would be little point in making high payments for land which is currently producing very little anyhow.

For all the options put forward, the fixing of the amount of aid to be granted would be a crucial question. However, it is obvious that the aids would have to be kept small since they must come directly out of the agricultural budget which will be severely limited over the coming years. Price increases, on the other hand, come from consumers through their food purchases, they do not affect the budget directly except for export refunds, and are thus invisible — a reason why farmers prefer them to direct payments.

Comments on the Green Paper

The first responses of Community members to the Green Paper proposals are now beginning to come through and it seems that there will be strong resistance from countries like Ireland. The income aids proposed are very small, while the price reductions which would be effective in reducing surpluses would have to be very substantial. Also, since these reductions could not be offset by similar cuts in input prices, the position would be very serious for even the most efficient farmers. A high proportion of farm input prices are not related to output prices — oil, machinery, transport, etc., and to some extent fertilisers.

It is doubtful, of course, if any realistic price package can do what has to be done, namely, to bring supply into line with demand. Between 1978 and 1984 real agricultural prices in Ireland (output prices deflated by the Consumer Price Index) fell by 37 per cent, yet over the same period, the volume of agricultural output increased by 17 per cent. There was a slight fall in output in the first three years and a rise thereafter. Something similar happened in the United States in the Great Depression of the 1930s. Though prices received by farmers declined by 53 per cent between 1929 and 1933 the volume of output dropped by only 4 per cent. In 1934 output declined severely, but it picked up again after this and in 1937 it was 11 per cent higher than in 1929 while prices were 18 per cent lower (Heady, 1952, pp. 692-697). Figures for price changes and output growth in the USA in the 1930s and in Ireland from 1979 to 1984 are given in Table 5.

It could be argued that these experiences are special cases and that theories relating to supply responses cannot be based on them. However, the literature on this subject indicates that aggregate supply elasticity in agriculture is very low and that large price drops would be necessary in order to cause a substantial decline in the volume of farm output (see Sheehy, 1982-83; NESCA, 1977; O'Connor and Kelly, 1978). A price decline for an individual product will cause a reduction in the amount

3. Farmers who get 50 per cent of their total income from farming and who work more than half their working time in this sector.

TABLE 5: Indices of Real Agricultural Prices and Output Volume in the USA in the 1930s and in Ireland 1976-1984

United States ^a			Ireland ^b		
Year	Farm Prices ^c	Volume of Gross Output	Year	Farm Prices ^c	Volume of Gross Output
1929	100	100	1976	88.4	85.8
1930	84	98	1977	95.4	93.9
1931	59	107	1978	100	100
1932	44	104	1979	93.8	99.2
1933	47	96	1980	76.3	98.6
1934	61	81	1981	74.6	98.3
1935	74	99	1982	69.3	104.5
1936	77	88	1983	66.4	107.8
1937	82	111	1984	63.0	117.0

Source: (a) Heady, E.O. (1952), pp. 692 and 697.

(b) CSO, Dublin.

(c) Irish Prices deflated by Consumer Price Index, US prices are actual.

of that commodity produced and probably an increase in some other one, but if all prices are reduced farmers are stuck; they must go on producing. Once resources such as land and capital are employed in farming they are fixed and cannot easily be moved elsewhere. Machinery is likely to be used until it wears out and land indefinitely. Labour might move if it could, but in the present era of high unemployment it has no place to go except on to the dole queues. The Green Paper in its introduction averts to this fact when it says that, in the present conditions of high unemployment an acceleration of the rural exodus would be intolerable, yet in another section it suggests policies which could well cause such an acceleration.

Another danger is that severe price cuts would create intense pressure throughout the Community for the re-nationalisation of agricultural supports and could mean the end of both the CAP and the Common Market itself. If agriculture cannot be protected to some reasonable extent within the Community there will be little desire to have free trade in non-agricultural products. The Green Paper mentions the avoidance of re-nationalisation as a priority, but for some reason it fails to realise that price reductions of the magnitude envisaged may cause this to happen, particularly in states with small agricultural sectors. Finally, as stated above, a reduction in cereal prices will lead to an increase in the production of most, or perhaps all, livestock products.

The above discussion indicates that the policies suggested in the Green Paper will not solve the EEC farm problem and indeed it would be dangerous to try them. By the time it was discovered that price policies were not effective in reducing supply irreparable damage would be caused. During that period the demands by farmers for re-nationalisation could hardly be resisted.

What then can be done to bring supply and demand into line within the EEC? It would appear, despite what the Commission says, that the only solution is some kind of a quota system for many of the products in surplus supply. Already we have quotas for milk and sugar beet which are working well. Restrictions have also been placed on wine production and it is expected that these will prove effective also.

For products like cereals and beef the situation is more

difficult. In the case of cereals, acreage limitations for the different crops could be imposed, based on a survey of existing acreages. Beef would be much harder to curtail. Quotas for dead meat and live fat animals could be operated on a country by country basis by limiting the total amounts eligible for intervention and for exports refunds, but it would be impossible to operate an equitable quota system for beef at the farm level. It seems, however, that it will not be necessary to put any direct constraints on beef production. Since the introduction of the milk super-levy there has been heavy slaughtering of cows and the latest projections are for a very large reduction in beef output within the Community over the coming years (Riordain 1985). Indeed there could well be a scarcity of cattle⁴ in a few years time because the beef surplus, (though expensive to dispose of), is small relative to total production. The proportion of world beef production traded on the world market is only about 4 per cent compared with 15 per cent for cereals and 9 per cent for butter, while EEC exports of beef are only about 6 per cent of world market trade supplies compared with 60 per cent each for butter and skim milk powder (Comm. (81) 608).

To summarise the discussion, it has to be said that the proposals in the Green Paper, though put forward in good faith, will not solve the financial problems of the Community. The income aids suggested are so small as to be insignificant and it will be impossible to increase them to any great extent. The restrictive price policies hinted at will be of little help either. Even large reductions will not change aggregate supply very much in the medium term. The main effect will be to lower farm incomes and that should hardly be a policy aim *per se*. Indeed when the issues are fully discussed it is unlikely that there will be much enthusiasm for drastic price cuts in most EEC states. The likelihood is for small real price reductions each year on a trial basis in order to see what happens.

What is likely to happen is that the present constraints on milk, sugar and wine will be tightened up further.

4. Table 2 projects an increase in self supplies of beef by 1990 but the heavy slaughtering of cows in 1985 indicates that this projection may be incorrect.

Cereal production will probably also be curtailed and prices will be reduced somewhat. Beef production will not be constrained by quota, but there will be limits on intervention buying and probably on export refunds. These will put a break on price rises and limit the production of intensive high cost beef. In these circumstances it is hoped that Irish producers should have an advantage. We can produce grass better than any other country in Europe and with good management our beef output could expand while that in other countries was declining. That, at least, must be our hope. There are few other avenues available.

Outlook for Irish Agriculture in the Medium Term

Regardless of whether we have quotas or a very "prudent" price policy the outlook for Irish agriculture in the medium term is not exceptionally bright. The impact of the milk quota has had, and will have, a serious effect on output growth. In the period 1975-1983 milk production accounted for nearly 90 per cent of the increase in the volume of output and with this outlet curtailed, there is no effective substitute in the medium term (Kearney, 1985).

The Irish weather has always placed a severe constraint on grain growing. Modern machinery and the introduction of winter cereals have ameliorated this constraint to some extent, but the recurrence of years like 1985 show that we cannot expect any substantial growth in this enterprise. The proposed lowering of grain prices will not help either.

With reduced cereal prices the pig sector should be expected to grow, and is doing so in many other states in the Community, in response to the increased pig meat consumption. In Ireland, however, we seem to be making no progress in this direction. Pig production in this country is probably as efficient as in any other country in the world except Denmark, yet pig numbers are declining in recent years because we have failed to sort out the processing and marketing problems.

There is intense competition for the home market where profits are directly related to the amounts of salt and water which can be pumped into the bacon and ham. Only a few firms are interested in maintaining the standards required for the export market. This state of affairs cannot continue. With medical opinion now so strongly against salt it is likely that hard cured bacon will cease to be consumed in significant quantities by the end of the decade. When that happens the Irish processors will have difficulty in competing with imports and nobody can be too happy about the outcome. The prospects for growth in the pig sector in the short term are therefore not very good. In the medium to long term, on the other hand, the processing industry will probably sort itself out if the Government introduces legislation to bring factory standards up to those in operation in other EEC countries. To be competitive, we need a small number of large hygienic slaughtering plants supplying carcasses to satellite cutters who will supply the home and export market with a product that consumers require. This is the direction which the industry has taken in other countries. It will go the same way here.

It must be realised, of course, that pig production is no longer a traditional farm enterprise. Seventy per cent of pigs are now produced in about 300 units and this degree of concentration will intensify. The same is true for the poultry industry. Concentration has grown considerably in recent years and will continue to do so, but the enterprise is too small to be of any great overall significance. Nevertheless, both the poultry and pig industry must be developed to the maximum extent possible. Every avenue must be explored in these trying times.

The area where most growth can be expected over the coming years is the sheep and lamb sector. This enterprise has expanded by 30 per cent since 1980 after many years of decline, and with milk production blocked off it can be expected to continue growing under the impetus of the EEC sheep meat policy. The ewe premium in 1985 (which is based on the difference between the guide price for lambs and the market price) was IR£16.00 per head while in the disadvantaged areas there was a further payment of IR£9.50 per head on the first 150 ewes in every mountain breed flock. Unfortunately sheep and wool production (including headage payments) account for only about five per cent of agricultural output so that a very rapid increase would be needed to make any significant contribution to overall growth. The main problem is that sheep production is a difficult enterprise requiring specialist skills and is therefore not favoured by a large proportion of farmers at the present time. Younger farmers, however, are likely to become interested as other channels of expansion become closed off but it will take time to bring about a significant increase in output.

In the circumstances where dairying is curtailed and sheep production is not widely favoured, cattle production is the only grass-based enterprise of any consequence available in the immediate future. Indeed, regardless of price, cattle will continue to be produced on every grassland field in the state and the Government must see to it that this enterprise is given every opportunity to expand.

The main constraint to expansion will be supply of calves. With dairy cows declining, calves are already in short supply and so it is imperative that we expand the beef cow herd as quickly as possible. The forthcoming grants of about £100-£122 each for beef cows and calves in the disadvantaged areas should contribute to the required expansion, but this scheme will need to be publicised widely and seminars arranged to stress the national importance of beef production. Efforts should also be made to prevent the slaughter of dairy cows and schemes should, if possible, be introduced to have surplus dairy cows sold to beef producers. ACOT advisers are already pressing ahead with programmes for better beef producing systems using continental breeds. It is hoped that this work will be intensified.

Growth Projections

Kearney (1985) has predicted a volume output growth of about 1 per cent per annum between 1984 and 1990. This is a reasonable projection on the basis of his assumptions. If, however, we can get an increase in the beef

cow herd it should be possible to push growth up to about 1½ or possibly 2 per cent per annum. Farm incomes, however, are a different matter. If prices are curtailed seriously we can expect a fall in real incomes.

On the basis of a price/cost squeeze of 1½ per cent per annum (real output prices increasing by ½ per cent and real input prices by 2 per cent per annum), Kearney estimates a probable real decline in incomes of 3 per cent per annum between 1984 and 1990. A different study Sullivan, (1985) is more optimistic. On the basis of a model of the agricultural sector which keeps CAP expenditure within Community guidelines and the present price/cost ratio constant, Sullivan projects an income fall of about 0.9 per cent per annum between 1982 and 1990. He says however that if the reduction in the farm labour force is taken into account the results could show gains in per capita incomes.

Sullivan's projections appear to be somewhat optimistic, but everything depends on how prices go. If EEC prices are maintained through quotas, those lucky enough to have quotas will benefit through higher incomes, but those without quotas will be excluded from the table and there will be little growth in overall output. If, on the other hand, the quota regime is relaxed and prices are cut, everybody can compete but incomes will be reduced. My own judgement is that the quota regime will dominate and that incomes will be maintained at the expense of growth. Furthermore, if there is an alignment within the EMS as now seems inevitable, there is likely to be a devaluation of the Irish green £, which could be the equivalent of a fairly substantial price increase.

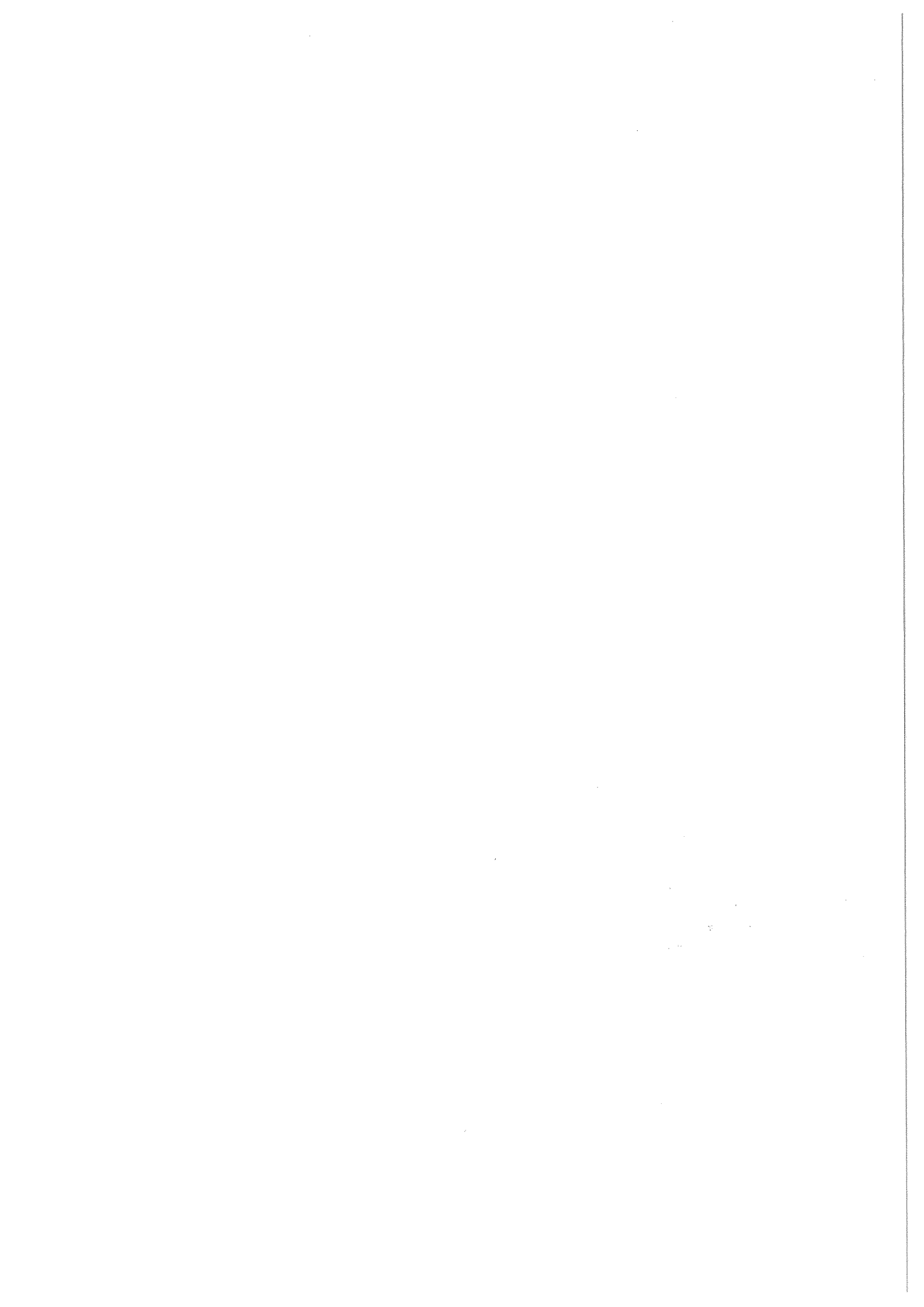
References

- EEC COMMISSION, 1981. *Guidelines for European Agriculture Memorandum to Complement the Commission's Report on the Mandate of 30th May 1980*. Com. (81) 608, Brussels.
- EEC COMMISSION, 1984. *The Agricultural Situation in the Community*.
- EEC COMMISSION, 1984. *14th Annual Report on the European Agricultural Guidance and Guarantees Fund*.
- EEC COMMISSION, 1984. *Budget Discipline*, Com. (84) 83, Final, Brussels, February.
- GREEN EUROPE, 1985. *Perspective for the Common Agricultural Policy*, July. The Green Paper of the Commission, Agricultural Information Service of the Directorate General for Information, Brussels, EEC.
- HEADY, E.O., 1952. *Economics of Agriculture and Resource Use*, Prentice Hall, New Jersey, Englewood Cliffs.
- JOSLING, T.E., MARK LANGWORTHY and SCOTT PEARSON, 1981. *Options for Farm Policy in the European Community*, Thames Essay No. 27, London: Trade Policy Research Centre.
- KEARNEY, B., 1985. *The Economic Outlook*, Paper presented to ICOS Annual Conference, November.
- NATIONAL ECONOMIC AND SOCIAL COUNCIL, 1977. *Alternative Growth Rates in Irish Agriculture*, Report No. 34 (Prl. 6236), Dublin: Stationery Office.
- O'CONNOR, R. and P. KELLY, 1978. "Agriculture: Medium Term Review and Outlook" in B. R. Dowling and J. Durkan (eds.), *Irish Economic Policy: A Review of Major Issues*, Dublin: ESRI.
- RIORDAN, BRENDAN, 1985. *The Cattle Market in the Short Term*, Information Up Date Series No. 9, Dublin; An Foras Talúntais, September.

SHEEHY, S.J., 1982/83, "Co-Responsibility and the Future of Irish Farming" *Journal of the Statistical and Social Inquiry Society of Ireland*, Vol. XXIV, Part V.

SHEEHY, S.J., 1985. *Irish Agriculture Towards 2000*, Paper presented on the occasion of the 30th Anniversary of the IFA, November.

SULLIVAN, MAURICE, A., 1985. *Evolution of EC Finances and Implications for Future Farm Prices*. Unpublished M.Agr.Sc. Thesis, NUI, Dublin.



FOREIGN-OWNED INDUSTRY IN IRELAND: PERFORMANCE AND PROSPECTS

Eoin O'Malley*

During the 1960s and 1970s, Ireland experienced strong growth in manufacturing industry based very largely on investment by foreign multinational companies. While the formerly protected indigenous industries struggled to adapt to free trade conditions after the mid-1960s, hundreds of foreign firms set up new subsidiaries in Ireland. This growth of foreign-owned industry played a vital role in Ireland's transition from a predominantly agricultural economy to what is now conventionally recognised as a developed industrial country. The first half of the 1980s, however, has been a more difficult period for manufacturing, and even the foreign industries have experienced a continuous decline in employment, in marked contrast to the previous two decades.

This article reviews developments in the foreign-owned manufacturing sector and considers its likely contribution to the economy over the next five years. It is timely now to consider whether this sector is merely experiencing temporary difficulties because of recession or whether there are deeper problems with longer-term implications.

Phases of Foreign Investment

Most foreign-owned industries in Ireland can be roughly classified into three types, according to the period when they were established, their motivation for investing here and the nature of their products. First, those established up to the 1950s were motivated mainly by a desire to sell to the Irish market. Since the policy of protection against imports at that time made it difficult for them to export to Ireland they overcame the protectionist barriers by setting up production here. They were mostly British firms involved in industries such as motor vehicles, processed foods, detergents and other consumer goods, and they have mostly declined under freer trade conditions. By 1980, they employed about 17,000 people or one-fifth of the total in foreign industries.¹

Second, from the late 1950s to about the end of the 1960s, new foreign investment in Ireland was largely in production of technologically mature and often labour-intensive products for export markets. The industries concerned included clothing, footwear, textiles, plastics, and light engineering. As Vernon (1966) suggested, these mature industries, with standardised products, were most capable of locating in industrially undeveloped countries because they no longer depended on the specialised

technologists, skills, suppliers and services found in advanced industrial centres. And since they are generally quite labour-intensive they had a motivation to move to relatively low-wage locations once they were sufficiently "mobile", or free from the need for close contact with advanced industrial areas. The international dispersal of such industries occurred quite early in relatively low-income countries on the periphery of the developed world, such as Puerto Rico and Ireland. Then, from about the mid-1960s, such mobile multinational industries increasingly went to poorer less-developed countries with much lower wages.² Grants and tax concessions which were often introduced in the host countries (including Ireland) added to the attraction of low wages.

The third type of foreign industry to come to Ireland, from about the late 1960s (overlapping in time with the second group), has involved newer, more technologically advanced products, such as machinery, pharmaceuticals, instruments and electronics, again primarily for export. Typically these industries involve only certain stages of production which are usually not the most demanding on local technological inputs, skills and high-quality suppliers. Again there is some parallel here with the type of mobile industry which has been able to go to less developed countries since the late 1960s (Helleiner, 1973), although the industries coming to Ireland include some more highly skilled activities, particularly in electronics, even if they have usually lacked the key technological and business functions of the firm. The majority of them are American-owned companies aiming to produce primarily for European markets and they have selected Ireland as a suitable relatively low-cost, virtually tax free site within the EEC.³ Thus Ireland's main competitors in attracting such industries would usually be other European countries.

Employment and Output

While the first group of formerly protected foreign industries has shown little dynamism since the early 1960s, the other two groups of new export-oriented firms contributed substantially to employment growth. Table 1 shows that these new grant-aided foreign industries were wholly responsible for the increase in industrial employment in 1966-73, while growth in indigenous and older

2. Teeling (1975, Ch. 1) found that the composition of new foreign industries in Ireland up to 1971 bore a close resemblance to those found in more conventionally recognised Less Developed Countries.

3. A survey of foreign firms reported in the *Allied Irish Bank Review*, April 1981, found that two-thirds of them (and presumably even more of the most recent arrivals) regarded a site within the EEC as an important or a necessary attraction, since their main purpose is exporting to Europe.

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1. This was the number employed in foreign-owned firms which had not received a New (or Small) Industry grant under the scheme first introduced in the 1950s.

TABLE 1: Manufacturing Employment in New Foreign Industry and the Rest of Industry, 1960-73 (Thousands)

	1960	1966	1973
New Foreign Industry	3	10	36
Rest of Industry	169	188	186
Total	172	198	222

Note: New Foreign Industry is defined as majority foreign-owned firms which received New or Small Industry grants.

Source: Derived from *Trend in Employment and Unemployment, Survey of Grant-Aided Industry* (1967) and IDA Employment Survey.

TABLE 2: Predominantly Foreign Manufacturing Sectors

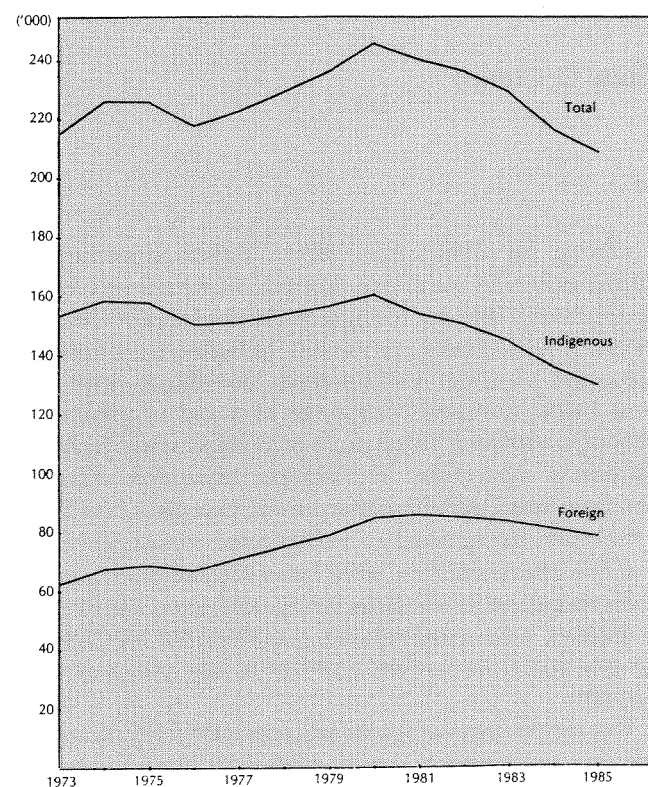
Sector	Foreign Employment 1985	Foreign as per cent of Total Employment
Computers & Office Machinery	11,018	90
Chemicals & Artificial Fibres	8,989	67
Electrical Engineering	8,610	74
Instrument Engineering ¹	7,064	94
Mechanical Engineering	3,307	52
Motor Vehicles and Parts	2,214	58
Rubber Products	1,721	85
Footwear	1,166	52
Metals	758	68

¹Includes "Healthcare Products".

Source: IDA Employment Survey.

foreign industries came to a halt under freer trade conditions. Figure 1 shows trends in manufacturing employment since 1973, distinguishing between indigenous and all foreign firms. Again, the foreign companies were the main source of growth until 1980, but their employment then fell in four consecutive years from 1981 to 1985.

Unfortunately there is no regular data series on industrial output distinguishing foreign from indigenous firms. It is possible, however, to gain an impression of output and labour productivity trends in foreign industry by examining the data on sectors which are mainly composed of foreign firms. Table 2 lists these sectors, showing the percentage of their employment accounted for by foreign companies. The sectors in the table account for 57 per cent of employment in all foreign industries,

FIGURE 1: Manufacturing Employment 1973-85, (thousands)

Source: IDA Employment Survey.

the remainder being widely spread across other sectors, with fairly substantial amounts in clothing, textiles and food processing.

The growth of employment, output and labour productivity in the foreign-dominated sectors is outlined in Table 3.

As the table shows, the employment record of all these sectors deteriorated in 1979-84 as compared with 1973-79, although the growth rate in Computers and Office Machinery was still very high. And in most sectors the rate of change in output also showed signs of weakness, being negative in four of them in 1979-84, with three of the remaining five recording lower rates of growth than in 1973-79. Taken as a whole, however, the rate of growth of output in this group of industries

TABLE 3: Average Annual Percentage Rates of Change in Predominantly Foreign Sectors, 1973-84

	Employment		Volume of Output		Labour Productivity	
	1973-79	1979-84	1973-79	1979-84	1973-79	1979-84
Computers & Office Machinery	23.3	18.5	42.9	40.6	15.9	18.7
Chemicals & Artificial Fibres	3.3	0.5	14.1	8.1	10.4	7.6
Electrical Engineering	3.2	1.3	3.7	6.4	0.5	5.1
Instrument Engineering	17.2	2.6	7.2	8.2	-8.6	5.4
Mechanical Engineering	7.3	-2.0	9.4	0.7	2.0	2.9
Motor Vehicles and Parts	-2.3	-8.9	-4.0	-11.2	-1.7	-0.4
Rubber Products	-1.0	-8.4	3.7	-4.6	4.8	4.2
Footwear	-4.5	-9.1	-5.9	-5.0	-1.5	4.6
Metals	-7.0	-8.4	-2.9	-0.1	4.4	9.0
Weighted Average	3.1	-0.1	9.6	12.1	6.4	12.2

Sources: *Census of Industrial Production* and monthly industrial inquiries.

accelerated, which was almost entirely an effect of changing composition — due to the increasing weight of the relatively fast-growing electronics industry (Computers and Office Machinery and part of Electrical Engineering). Most sectors also show an increase in growth of labour productivity, with the overall increase being very marked, again partly an effect of the increasing weight of electronics which had particularly rapid productivity growth. Thus, taken sector by sector, both weakness in output growth and unprecedented labour productivity growth aided by technological change generally played a part in the deterioration in employment trends. The overall acceleration in output growth in this group of industries taken as whole was due to rapid growth in electronics, the weight of which was increasing within the group.

The deterioration in growth of most foreign-owned industries in the early 1980s was, of course, quite largely an effect of recession in the EEC markets where they sell most of their products. But recession alone did not produce such a marked deterioration in 1974/76 and there is reason to believe that there are also other, more lasting factors at work.

For one thing, the earliest generation of (mostly British-owned) formerly protected foreign industries, which came to Ireland before the 1960s, has been in persistent decline for a long time past.⁴ Many of the companies concerned probably ran down or closed their Irish plants following the removal of the protectionist barriers which had originally motivated their establishment. Quite commonly, the Irish plants would have been too small in scale for efficient production and therefore non-viable under free trade. The clearest example of this was the car assembly industry which has now disappeared. The decline of these formerly protected industries, however, was already under way in the 1970s and it did not prevent overall rapid growth in foreign industry then, since the newer generations were growing quickly.

The Life-Cycle Effect

Another factor which is probably now affecting the overall growth of foreign-owned industries is the emergence of a life-cycle effect among the new grant-aided firms. It appears that new foreign plants commonly experience rapid employment growth in their early years as they build up to initial target size, followed by periods of slower growth, stagnation and eventually decline or closure. This life-cycle factor was in evidence before the recession of the 1980s, as is seen in Table 4 which shows employment change from 1973 to 1980 in foreign-owned New and Small Industry plants which were already established before 1973.

Employment in the whole group of firms established prior to 1973, and in most sectors within the group, declined over the following seven years at a time when Ireland had the fastest growing manufacturing sector in the EEC. Thus the rapid overall growth of employment

TABLE 4: Employment in Foreign New and Small Industries Established Prior to 1973 (Numbers)

	1973	1980	Per cent change
Food	2,246	2,514	11.9
Drink & Tobacco	376	548	45.7
Textiles	3,829	3,419	-10.7
Clothing & Footwear	3,095	2,168	-30.0
Wood & Furniture	562	448	-20.3
Paper & Printing	1,402	1,209	-13.8
Chemicals	3,490	5,493	57.4
Clay, Glass & Cement	938	941	0
Metals & Engineering	15,017	14,063	-6.4
Other Manufacturing	7,223	6,486	-10.2
Total	38,178	37,289	-2.3

Source: Derived from IDA Employment Survey.

TABLE 5: Employment in Foreign New and Small Industry, by Date of Establishment in Ireland (Numbers)

Date of Establishment	1973	1980	Percentage Change
Up to 1952	8,015	6,675	-16.7
1953-60	6,413	5,935	-7.5
1961-64	4,662	4,771	2.3
1965-68	8,748	7,658	-12.5
1969-72	7,740	10,473	35.3

Note: The precise date of establishment of some firms is not available. These employed 2,600 in 1973 and 1,777 in 1980, a decline of -31.7 per cent. They are included in Table 4 but not in Table 5 since they cannot be allocated to age cohorts.

Source: Derived from IDA Employment Survey.

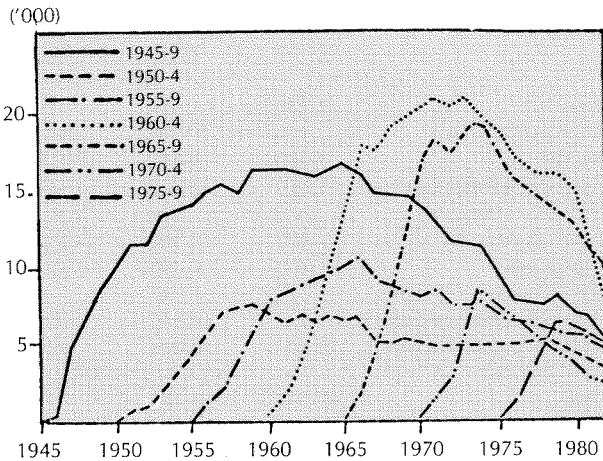
in foreign industry at that time was sustained only by the continuing and growing inflow of new first-time foreign investors. This is consistent with the suggestion that foreign firms tend not to grow much after reaching their initial target size but rather tend to decline after some time.

Table 5 shows employment change by date of establishment in Ireland and it provides further evidence of this tendency. With the very slight exception of the 1961-64 age cohort, employment declined in the older cohorts. The most recent cohort, for 1969-72, which would have included many firms still in the phase of expansion to initial target size, is the only one with substantially growing employment. Leaving out this cohort, employment in plants established before 1969 fell by 12 per cent in 1973-80. (Incidentally, the exceptional growth in Chemicals in Table 4 is almost entirely due to relatively new firms established in 1969-72.)

The trends revealed in Tables 4 and 5 would not have been evident in the earlier stages of the inflow of new foreign industries, since the overall picture would at first have been dominated by the expansion phase of relatively new plants. Thus McAleese and McDonald (1978) found that foreign New Industries established prior to 1966 had increased their employment up to 1974 by over 40 per cent. However, as time passed, with the average age of plants increasing and the proportion of relatively new expanding plants declining, the situation changed to that shown in Table 4.

4. Employment in older foreign-owned industries which did not receive a New or Small Industry grant declined by 15 per cent between 1973 and 1980.

FIGURE 2: Employment in Grant-Assisted Industries in Northern Ireland by Age Cohort



Note: This chart includes new indigenous industries, but a substantial majority of the employment is in overseas firms.
Source: Northern Ireland Economic Council (1983).

Employment data for new industries in Northern Ireland illustrate the likely pattern more clearly since they cover a much longer period, going back to the late 1940s. Figure 2 shows the trends there, broken down by age cohort. It is clear that each cohort grows rapidly at first, followed by stagnation and decline, and the data for the Republic of Ireland are consistent with the suggestion that a similar pattern has occurred here, although the experience of decline seems less severe than in the North. If such a pattern persists, the *overall* trend is increasingly influenced by the large stock of relatively old declining plants, so that an ever greater inflow of new first-time investors is needed to maintain any specified growth rate. If there is a falling rate of new first-time investment, the overall trend can eventually turn to decline. The deterioration in the performance of foreign industries in the Republic in the first half of the 1980s was caused by a combination of international recession, the growing influence of this life-cycle factor and (as will be shown below) a decline in new first-time investment. And unprecedented labour productivity growth contributed substantially to the worsening employment trend.

In order to judge whether eventual decline of each generation of new firms is likely to be a persistent pattern, one must consider why it has occurred in the past. But in the absence of more detailed research, answers to this question must be rather tentative. In the case of the technologically mature, labour-intensive foreign industries, which were typical of those established in the 1960s, the production process would have been quite settled and the products, such as textiles, clothing and footwear, quite standardised. These industries thus arrived in Ireland at a relatively late stage of the industry life-cycle, so that they would have tended to face weak growth in demand, as is typical with mature industries. In addition, because they were technically mature, plants in the same sectors could locate in less advanced industrial areas. Thus at about the same time or soon after the time when such industries could be set up in Ireland, they could also be established in low-wage less-developed countries. As Teeling (1975) suggested, this meant that each generation of these industries could tend

eventually to come under competitive pressure from lower cost producers, and this too could have created difficulties for some of the plants in Ireland. In essence, therefore, the life-cycle of such foreign industries in Ireland would have been a truncated version of the life-cycle of the industry internationally, consisting only of the late growth or mature phase before stagnation or decline set in.

The newer, more technologically advanced generation of products, such as chemicals, instruments and electronics is a somewhat different matter, however, since many of these industries were established in Ireland much earlier in the life-cycle of fairly new industries with rapidly growing sales. But usually only certain relatively technologically undemanding stages of production are carried out (i.e., compared with the activities carried out in their home countries). Thus in some cases, at least, further dispersal of such activities to lower-cost countries may again tend to occur. Such industries also tend to undergo a process of concentration, as the smaller and weaker firms which prospered in the initial upsurge of new products succumb to stronger competition. This "shake-out" process may tend to be damaging eventually for some of the companies which established plants in Ireland, since these companies have tended to be relatively small by the standards of multinational corporations. Perhaps most important, the life of individual products in new high-technology industries tends to be relatively short since developments in product technology lead to rapid obsolescence. Thus Irish plants without a strong product development capability may be vulnerable unless new products are continually introduced by the parent company. Finally, although these newer industries face faster growth in demand, they are still past the early growth phase and drawing closer to the expected phase of slower growth.

All in all, one might expect the newer, high technology industries to have a somewhat longer period of growth in Ireland than the mature labour-intensive industries, but they would still have a truncated life-cycle compared with the same industries internationally. Table 3 indicated that chemicals and mechanical engineering are already showing some signs of weakness, or at least they have not had sufficient dynamism to over-ride the effects of a general recession. Since the strongest growth has been in electronics (which includes most of Computers and Office Machinery and part of Electrical Engineering), it is worth examining the electronics industry in more detail to see if the life-cycle effect is in evidence there yet.

Table 6 shows employment changes in foreign electronics firms, by date of establishment in Ireland.⁵ There is consistent evidence of a life-cycle effect. Employment in the two oldest cohorts, of firms established up to 1968, was already declining in the 1970s, and the next cohort, of firms established between 1969 and 1972, grew rapidly at first but this growth flattened out in the 1980s. And the two following cohorts grew a good deal faster in the 1980s, but the more recent of the two had a far higher

5. The electronics industry is defined somewhat more narrowly here than the IDA's usage of the term. It includes most of Computers and Office Machinery and part of Electrical Engineering.

TABLE 6: Employment Change in Foreign-Owned Electronics Firms, by Date of Establishment in Ireland

Date of Establishment	Employment (Numbers)			Average Annual Percentage Change	
	1973	1980	1985	1973-80	1980-85
Up to 1964	1,810	1,347	807	-4.1	-9.7
1965-68	1,560	1,064	773	-5.3	-6.2
1969-72	381	1,589	1,744	22.6	1.9
1973-76	0	2,231	3,309	—	8.2
1977-79	0	1,203	3,705	—	25.2

Note: Only companies still in existence in 1985 are included. If companies which closed before then were included, the rates of growth would be somewhat lower, or the rates of decline would be greater.

Source: Derived from IDA Employment Survey (see footnote 5).

rate of growth. Evidently, even the electronics industry does not escape the effect of the life-cycle factor. The rapid overall growth of recent years masks this underlying trend only because most of the industry is so new, but the logical outcome of persistence of the trends illustrated in Table 6 is a slower rate of growth before very long. The IDA recognises, however, that it is important to attract strong firms and research and development facilities to Ireland. Increased attention has been focused on these factors in recent years and it could result in longer life cycles for companies coming to Ireland.

New Industries

Since it seems that the inflow of new first-time foreign investment must play the major role in sustaining the expansion of foreign-owned industry as a whole, it is worth briefly reviewing recent trends in the establishment of new industries. Table 7 presents three indicators of these trends, since there is no single ideal indicator. IDA Approved New Foreign Investment (i.e., the total investment expected in projects which are approved in the year indicated), in Column 1, peaked in 1981, then fell substantially until 1983 before recovering in 1984. However, by far the largest project approved in 1984 had not actually gone ahead by the end of 1985. Furthermore, these figures are in current Irish pounds, so the real value of investment would have fallen by more and recovered by less than it appears because of inflation. Measured in constant (1980) prices, IDA-approved new foreign investment fell from £285m in 1981 to £64m in 1983 and £202m in 1984.

Column two shows American firms' capital investment in Ireland, in current dollars, indicating a peak around 1979-81 followed by decline.⁶ Although it shows no recovery in 1984, an increase to \$151m was forecast for 1985. Job gains in new and expanding foreign industries, in Column 3, have also declined from the peak level reached at the end of the 1970s. Again there was no sign

6. This series, based on surveys carried out in the USA, shows actual investment in the year indicated, whereas the IDA series in Column 1 shows the investment expected in projects approved for grants in the year indicated. This makes the IDA series more volatile because actual investment in large projects may be spread over more than one year although it is all announced at one time and therefore is concentrated in one specific year in the IDA series. Also, the American series, unlike the IDA series, includes capital expenditures by established firms although it mainly consists of investment in new projects.

TABLE 7: Capital Investment and Job Gains in New Foreign Industry

	New Foreign Investment Approved ¹ (£million)	US Firms' Capital Expenditure (\$million)	Job Gains in Foreign Firms ² (Numbers)
1978	150.1	102	9,263
1979	208.8	213	10,189
1980	279	207	8,712
1981	327.2	229	7,633
1982	196.3	146	6,665
1983	86.5	124	7,333
1984	284.1	123	5,936

Notes: ¹New foreign investment approved is the total investment intended in new projects which are approved for grants by the IDA in the year indicated. Not all of this investment necessarily occurs in fact, and it may be spread over the year of approval and later years. ²Job gains are the sum of employment increases in expanding foreign firms and new first-time foreign projects. They do not represent the net employment change in foreign industry, which would be the difference between gains and losses.

Sources: IDA Annual Reports for Column 1. US Department of Commerce, Survey of Current Business, March 1985 and previous issues for Column 2. IDA Employment Survey for Column 3.

of a recovery in job gains in 1984, but this may be partly because employment increases follow investment after some time lag. Although the three indicators in Table 7 are rather different, they all show that the inflow of new foreign industries weakened in the early 1980s. There were some signs of recovery in 1984 or 1985, but not to the level reached some years earlier. As was already mentioned, this weaker inflow of new foreign investment, in combination with a tendency for established firms to decline eventually, resulted in relatively low growth in most sectors which, together with an acceleration in labour productivity, led to the overall decline in employment in the 1980s.

To turn to the question why the inflow of new investment declined, it was partly a reflection of a general fall in US investment in Europe and partly a result of a fall in Ireland's share of this investment. US manufacturing investment in Europe peaked at 11.1 billion dollars in 1980 and fell to 7.8 billion in 1983 and 7.9 billion in 1984 (all in current prices). And Ireland's share of US investment in Europe ranged between 1.9 per cent and 2.3 per cent in 1979-81 but declined to 1.5 per cent in 1982 and

1.6 per cent in 1983 and 1984.⁷ The general fall in American investment was no doubt largely an effect of recession, particularly in EEC markets. And the fall in Ireland's share reflects increasingly intense competition from other European countries to attract mobile industries because they have experienced high unemployment. Britain, in particular, has competed more vigorously for mobile investment, Spain has successfully attracted more American industry too, perhaps due to the benefit of its recent entry to the EEC, and other countries have introduced more aggressive schemes to attract foreign industries.

In addition, investment in Ireland from other European countries fell substantially, from £76.6m in 1980 to £22.5m in 1984 (IDA Annual Reports), which represented a decline from 27 per cent of foreign investment in Ireland to 8 per cent. This is again no doubt largely a reflection of the European recession, as well as the relative weakness of European firms in the major growth industry, Electronics. Prospects for the recovery of foreign investment in Ireland would appear to depend quite heavily on a sustained European recovery from recession, although strong competition for mobile investment would still make it difficult to regain the peak inflow of new industry experienced around 1979-81.

Value of Output Retained in the Irish Economy

Official statements of industrial policy in recent years have stressed that the objective is not only to maximise the number of sustainable jobs in industry, preferably in high-skilled activities, but also to raise the output of industry and to maximise the proportion of the value of this output retained in Ireland. Wealth generated by industry is retained in Ireland in the form of wages and salaries, purchases of Irish goods and services as inputs, and reinvestment of profits. In this way, too, further employment and incomes are generated indirectly in this country. On the other hand, part of the value of industrial output leaves the country, in the form of payments for imported materials and services and profit outflows.

There has been no regular series of data on the proportion of the value of output retained in the Irish economy by industry, but the IDA initiated an annual survey to fill this gap in 1984. Table 8 gives a breakdown of the cost structures of a number of categories of industry in terms of percentages of sales, distinguishing items which clearly involve expenditures retained in the Irish economy from other items which involve expenditures abroad or a potential outflow of factor payments.

The table shows that expenditures in the Irish economy are a much higher proportion of the sales of Irish indigenous industry (at 79 per cent) than of foreign-owned industry (at 44 per cent). All the individual items of Irish economy expenditure are a higher proportion of sales among Irish firms, but the main difference from foreign

TABLE 8: Industry cost structure 1983 (per cent of sales)

	<i>Irish</i>	<i>Foreign</i>	<i>Non-Food</i>	<i>Food</i>
Wages & Salaries	18.85	16.22	21.84	11.28
Irish Materials	45.84	16.38	11.43	64.95
Irish Services	14.1	11.56	15.8	8.58
Irish Expenditures	78.79	44.16	49.07	84.81
Imported Materials	13.45	29.43	27.68	9.87
Imported Services	1.04	6.87	5.6	.71
Profit	1.07	16.07	11.72	1.85
Depreciation	3.02	2.45	3.42	1.78
Interest	2.63	1.02	2.51	0.98
	21.21	55.84	50.93	15.19

Source: Industrial Development Authority (1985), Table 1.

firms is the higher proportion spent on Irish material inputs. This is balanced mainly by the higher proportion of the value of foreign industry's output accounted for by imported materials and profits. Their profits do not all necessarily leave the country but the evidence suggests that most of them do eventually; we return to this issue below.

Part of the reason for the relatively high Irish economy expenditures of indigenous industry is because most of the food industry is Irish-owned, and Irish materials account for a very high proportion of the value of its sales, as is also shown in Table 8. But even leaving out the food sector, Irish economy expenditures account for 69 per cent of sales of indigenous non-food industries compared with 38 per cent in foreign non-food industries (IDA, 1985, Chart 6). Thus, on average, a pound's worth of output from Irish non-food companies means about 80 per cent more spent on Irish inputs than the same output from foreign companies.⁸ It may be concluded that growth of foreign industries generally contributes proportionally less to the economy than growth of indigenous industries. As foreign-owned firms have grown increasingly important in the industrial sector over the past twenty-five years, the contribution to economic growth arising from a given increment to total industrial output would therefore have tended to decline. For output growth has been accompanied by an increase in the proportion of its value accounted for by imported inputs and, as we will see below, exported profits.

To take this point a step further, the composition of the foreign-owned manufacturing sector itself has been changing so that the fastest growing sectors, which have become increasingly important, tend to be those with the lowest Irish economy expenditures in relation to sales. Table 9 illustrates this point, showing average annual growth rates and Irish expenditure as a percentage of sales in the predominantly foreign-owned sectors. The figures indicate that the contribution to economic growth

7. These figures are from the US Department of Commerce, *Survey of Current Business*, various issues. Note that much US investment in Europe is in re-equipment of established industries, whereas a larger proportion of the investment in Ireland is in new "greenfield" projects. Thus Ireland's share of investment in new projects is larger than the figures suggest, but there is little doubt that Ireland's share has fallen somewhat.

8. Note that Irish economy expenditures are not equivalent to value-added in the economy since there are secondary leakages, in the sense that material and service inputs purchased in Ireland contain some imported inputs. But Irish economy expenditures give an indication of the relative contribution to the economy of the output of different sectors.

TABLE 9: Growth Rates and Irish Economy Expenditures in Predominantly Foreign Sectors, 1973-84

Sector	Output annual average growth (per cent)		Irish Expenditure as per cent of Sales, 1983
Computers & Office Machinery	41.8		25.2
Chemicals & Artificial Fibres	11.3	{ Pharmaceuticals	28.9
		{ Artificial Fibres	38.8
Instrument Engineering	7.6	{ Instrument Engineering	35.0
		{ Healthcare Products	36.2
Mechanical Engineering	5.4	{ Precision Toolmaking	71.7
		{ Mechanical Engineering	63.6
Electrical Engineering	5.0		42.0
Rubber Products	-0.1		54.5
Metals	-1.7		84.5
Footwear	-5.5		59.2
Motor Vehicles	-7.4		44.7

Sources: *Census of Industrial Production* and monthly inquiries for Column 1. IDA (1985), Appendix V for Column 2.

TABLE 10: Trading and Investment Income and Profit Outflows, 1980-84 (£ million)

	1980	1981	1982	1983	1984
Net Trading & Investment Income	-367.5	-515.9	-938.3	-1,196.3	-1,622
Trading & Investment Income — Outflow	-832.1	-1,083.1	-1,522.9	-1,745.4	-2,240
Of which:— Profits, Dividends, Royalties	-258	-361.7	-498.7	-658.6	-940
Profits, etc., as per cent of GDP	2.8	3.2	3.8	4.5	5.8

Source: *Balance of International Payments 1984*, CSO.

arising from a given increment to the output of foreign industries has probably been declining, because most of the growth has come in sectors with low Irish economy expenditures.⁹ Largely as a result of these trends, it has been possible for Ireland to have the highest rate of growth in industrial production in the OECD over the period 1980-84 while industrial employment slumped and the economy grew a good deal more slowly than in many other countries (see OECD, 1985, Table 18).

It is worth focusing on the question of profits of foreign companies and profit outflows, since this has become an important issue recently. Following revisions to the balance of payments accounts in 1984, it became clear that the outflow of profits of foreign companies has grown very quickly in the 1980s and is now quite significant in relation to GDP. Profit outflows are identified in the balance of payments accounts as part of the Debit or outflow side of Trading and Investment Income flows and the trend in these items is shown in Table 10. "Trading and Investment Income — Outflow" represents the gross outflow of interest payments plus profits, dividends and royalties of foreign companies. The outflow of profits, dividends and royalties shown in the table includes non-

manufacturing companies but estimates of the amount arising from manufacturing suggest it accounts for between 78 per cent and 92 per cent of the total.¹⁰ The IDA (1985, Section 5.5) estimates that between 75 per cent and 80 per cent of profits of foreign manufacturing firms left the country in 1983.

It is not particularly surprising that foreign companies should want to withdraw their profits but there is some question as to why the outflow of profits rose so sharply in the 1980s, considering that foreign investment has a long history in Ireland going back decades before this. The main reason is because the profits themselves increased very quickly, rather than because of a greater propensity to withdraw a higher proportion of profits. The profits of American companies in Ireland, for example, grew by an average of 3 per cent a year in 1977-80, rising to 47 per cent a year in 1980-83, measured in Irish pounds. The acceleration in the growth rate was less marked when measured in dollars, at 9 per cent a year in 1977-80 and 25 per cent in 1980-83.¹¹ Since the companies concerned may tend to seek their return in terms of dollars, the fall in the value of the dollar up to 1980 followed by a rise after that may be part of the explanation of the sharp acceleration in profit growth in terms of Irish pounds.

What is even more significant, however, is the fact that most of the fastest growing foreign-dominated sectors (listed in the top half of Table 9) are exceptionally

9. The proportion of material input needs of foreign companies sourced in Ireland has, however, been increasing (IDA, 1985, Section 5.3), but this need not mean that their expenditure in Ireland as a percentage of output has increased. For in the fastest growing sectors, profits account for a relatively high proportion of sales while wages and/or total material purchases account for relatively low proportions. Thus even a steady increase in the *proportion* of materials sourced in Ireland can be insufficient to stop an overall decline in Irish economy expenditure as a percentage of sales, as the composition of output shifts towards this type of industry.

10. See OECD (1985), pp. 47, 48 and IDA (1985), Section 5.5.

11. US Department of Commerce, *Survey of Current Business*, various issues.

profitable.¹² Profits as a percentage of sales in 1983 were 42 per cent in Pharmaceuticals, 32 per cent in Healthcare Products, 22 per cent in Computers & Office Machinery, 20 per cent in Instrument Engineering, 13 per cent in Mechanical Engineering and 11 per cent in Electrical Engineering — as compared with an overall average for manufacturing of 8 per cent (IDA, 1985, Appendix III). A good deal of these industries are relatively new, established in the second half of the 1970s and early 1980s, with the peak in new foreign investment occurring around 1979-81. As the new industries came on stream, continuing to build up their output for some years after the initial investment, profits would have increased rapidly as well.

The Chemicals sector, which includes Pharmaceuticals, was particularly influential. Chemicals is capital-intensive and it earns a high rate of return on capital investment so that the absolute amount of its profits is very large. Investment in Chemicals by US firms peaked in 1979/80 and by 1982-84 American Chemical companies in Ireland were making profits of \$380m. to \$451m a year, representing about 60 per cent of total profits of US manufacturing firms in Ireland in those years. In fact, the Chemical companies in Ireland accounted for over 14 per cent of all US manufacturing profits in Europe in the three years 1982-84 and between 6 per cent and 8 per cent of all US manufacturing profits outside the USA itself. In Irish pounds, US Chemical firms' profits were £295m and total US companies' profits were £438m in 1982, while the total profit outflow was £499m. It is possible, therefore, that something around half of the recent outflow of profits has come from quite a small group of American Chemical companies. (There are just 34 American firms in the Chemical industry, and only 11 sizeable ones employing over 100 people). More recently, too, the outflow from the Electronics industry has probably been growing in importance.

It is worth noting, incidentally, that despite the large profit outflow from foreign companies and their high levels of expenditure on imported inputs, they are still significant net contributors of foreign exchange to the Irish economy because they export a very high proportion of their output. Exports account for 82 per cent of sales of foreign industries, and over 95 per cent in the fastest growing sectors (IDA, 1985). So although their imported inputs and outflow of profits amounts to close to 55 per cent of their sales on average (Table 8), the value of their exports is significantly greater. Their net foreign exchange earnings, however, are only about 45 per cent of the value of their exports. Since most of recent exports growth has come from the newest foreign industries, with the lowest proportions of Irish economy expenditures, net foreign exchange earnings would have represented a declining proportion of total exports.

12. See O'Leary (1984) for a discussion of factors which may underlie their high profitability. In particular, note that "profits" recorded by foreign plants in Ireland would represent the difference between sales revenue and costs to the Irish plants only, whereas additional costs may well have been incurred elsewhere, particularly in research and development which precedes production in an Irish subsidiary. Thus the true profitability of research-intensive projects could commonly be lower than actually recorded in Ireland.

The Medium-Term Outlook

One of the main factors affecting the future outlook for the foreign-owned manufacturing sector is the likely rate of growth in international demand, particularly in western Europe which is the major market for the sector. As discussed elsewhere in this volume, some modest increase in growth rates in European industrial countries may be expected in the second half of the 1980s, perhaps to something over 3 per cent a year, which would be a welcome improvement over the first half of the decade although scarcely dramatic in its effects. In the light of this expected improvement, the prospects for foreign-owned industry can be considered.

First, on the employment front, changes in employment can be considered as the net outcome of job losses and job gains. Job losses in foreign industry averaged 5,500 a year in the period 1975-79, rising to 8,200 a year in 1980-84, which meant average rates of job loss (in relation to employment) of 7.6 per cent in 1975-79 and 9.5 per cent in 1980-84. Ordinarily, one might assume that recovery in demand in the second half of the 'eighties would mean a return to lower rates of job loss, perhaps similar to the late 1970s. However, as was shown in discussing the life-cycle effect above, at least part of the deterioration in employment in the early 1980s could be regarded as structural in nature rather than purely an effect of recession. There is probably an underlying tendency for job losses to rise gradually. For this reason rates of job loss in the future probably will not return to the level of the 1970s although they should improve compared with the early 1980s under the influence of better demand conditions. Perhaps a reasonable assumption is that the rate of job loss would average about 8.6 per cent a year, the average for the past ten years.

Job gains, on the other hand, can be more realistically thought of, not in terms of a *rate* in relation to existing employment because relatively little expansion comes from established firms, but as *absolute* additions to the existing stock coming primarily from new projects. Gains averaged 9,100 a year in 1975-79, falling to 7,300 a year in 1980-84, with only 5,900 coming in 1984. Job gains probably tend to lag behind investment, so that part of the gains in recent years reflect high investment around 1979-81. But investment has been lower in recent years and the immediate prospects for the next year or two suggest little increase over 1984. Thus the main source of stimulus to job gains up to about 1987 looks rather weak. More buoyant demand conditions should improve matters after that, but intense competition for mobile investment in Europe means that it will be difficult to regain the peak level of investment recorded around 1979-81. Probably a reasonable assumption is that job gains in the second half of the 1980s will be much the same as in the first half, i.e., about 7,300 a year.

Under the assumptions of an average rate of job loss of 8.6 per cent a year and average job gains of 7,300 a year, employment would increase slightly, by about 0.4 per cent per year or a total of 1,600 jobs over the period 1985-1990. This would leave employment in foreign-owned industry still about 6,000 below the peak level reached in 1981 — an outcome which would put the

employment experience of foreign industry in the 1980s as a whole in sharp contrast to the 1960s and 1970s. The outcome could be somewhat more favourable, if new investment picks up and life cycles begin to lengthen. If these effects were substantial net gains of perhaps 1,000 per annum might occur. But in order to regain the 1981 level of employment by 1990, with the assumed rate of job loss of 8.6 per cent a year, average net gains of 1,500 a year and gross gains of 8,900 a year would be required. This is almost the same as the amount recorded in the second half of the 1970s, and while it is not impossible it looks rather unlikely at present.

It is rather more difficult to assess the prospects for output growth in foreign-owned manufacturing since the available data on past output trends do not distinguish foreign from indigenous firms. Thus there is no solid basis for comparison in past experience although it was possible to look at the experience of a number of predominantly foreign sectors (see Table 3). It is reasonably clear that most foreign industries had negative or reduced rates of growth in the first half of the 1980s, with the principal exception of Electronics where growth remained very high, at least until 1985. This high growth rate in Electronics had a major influence on the overall rate of growth.

In the second half of the 1980s, if there are better demand conditions, growth rates should improve in most foreign-owned industries. But the performance of Electronics, and to a lesser extent Chemicals, cannot realistically be thought of in terms of a response to demand conditions. For the recent rapid growth in these sectors came primarily from a substantial inflow of new companies which grew quickly in their early years, resulting in high rates of growth in relation to the relatively small existing base. As these companies age, their growth should slow down, and the inflow of new firms will represent a declining influence relative to the larger base existing now — even if the inflow is as strong as in the past in absolute terms. Thus slower rates of growth may be expected in the new high-technology industries in the second half of the 1980s and subsequently.

If the growth rate of Computers & Office Machinery falls to an average of 20 per cent a year, if Chemicals simply continues at the same rate as in 1979-84, and if all other foreign-dominated sectors included in Table 3 improve by 2 per cent a year, the overall outcome to 1990 would be no improvement over the first half of the 1980s despite an improvement in most sectors. If the growth of Computers & Office Machinery averages 10 per cent a year (still a very respectable rate), the overall outcome in the predominantly foreign-owned industries would be a decline from 12 per cent a year in the first half of 1980s to 8 per cent in the second half. Such figures are merely illustrative but they suggest that perhaps the best to be hoped for is a continuation of the same overall rate of growth, although slower growth would be a more realistic expectation over the next five years and almost inevitable in the long run. Since the fastest growth is still expected in Electronics and Chemicals, which have relatively low Irish economy expenditures in relation to output, the contribution to the economy will probably grow more slowly than output. And because these sec-

tors appear to be the main source of profit outflows, the outflow should continue to increase, but probably at a diminishing rate particularly in view of the decline of investment in Chemicals since 1979/80.¹³

Conclusion

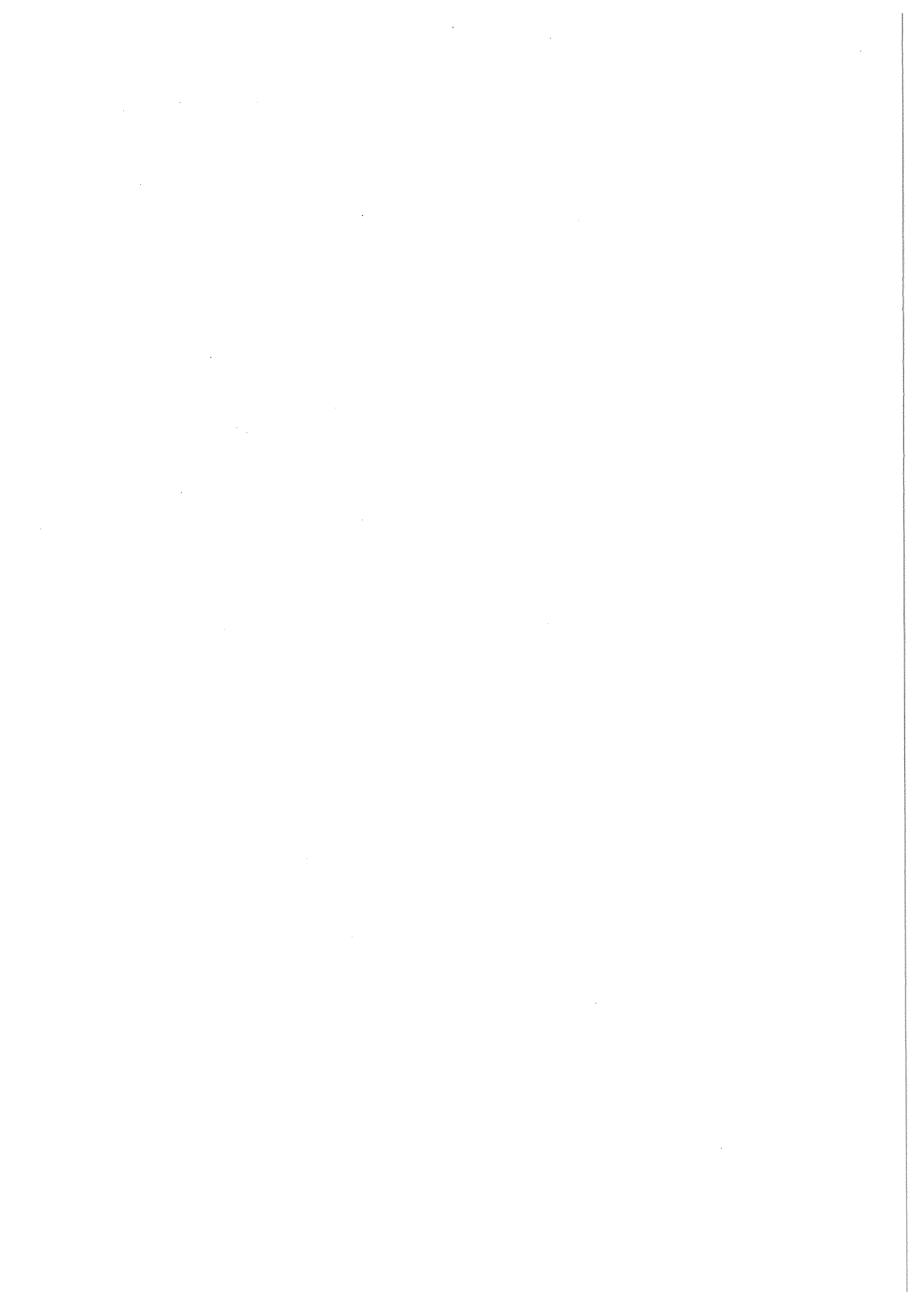
Ireland's industrialisation since the early 1960s has depended heavily on rapid growth of foreign-owned industries, but much of the multinational sector has shown signs of weakness in the first half of the 1980s. One problem appears to be the life-cycle effect, which means that foreign companies tend to grow more slowly and often to decline some years after their establishment in Ireland. This means that the growth of foreign-owned industry as a whole depends largely on the inflow of new first-time foreign investors. But this inflow appears to be insufficient, in relation to the now substantial existing stock of slow-growing or declining companies, to sustain high overall rates of growth for much longer.

A major implication for industrial policy is that we must seek a better performance from indigenous industry. This conclusion has, of course, been taken on board in official statements of industrial policy, but there remains room for doubt as to whether the task is being approached with sufficient urgency or an adequate strategy.

References

- HELLEINER, G.K., 1973. "Manufactured Exports from Less Developed Countries and Multinational Firms", *Economic Journal*, Vol. 83, No. 329, March.
- INDUSTRIAL DEVELOPMENT AUTHORITY, 1985. *The Irish Economy Expenditures of the Manufacturing Sector*, Dublin: IDA.
- McALEESE, D. and D. McDONALD, 1978. "Employment Growth and the Development of Linkages in Foreign-owned and Domestic Manufacturing Enterprises", *Oxford Bulletin of Economics and Statistics*, Vol. 40, No. 4, November.
- NORTHERN IRELAND ECONOMIC COUNCIL, 1983. *The Duration of Industrial Development Assisted Employment*, Report No. 40, Belfast: Northern Ireland Economic Development Office.
- O'LEARY, J., 1984. "Some Implications of the Revisions to the Balance of Payments and the National Accounts", *Irish Banking Review*, September.
- OECD, 1985. *OECD Economic Survey 1984/1985 — Ireland*, Paris: OECD.
- Survey of Grant-Aided Industry*, 1967. Survey team's report to the IDA, Dublin: Stationery Office.
- TEELING, J., 1975. *The Evolution of Offshore Investment*, DBA thesis, Harvard University.
- VERNON, R. 1966 "International Investment and International Trade in the Product Cycle", *Quarterly Journal of Economics*, Vol. LXXX, No. 2, May.

13. US investment in chemicals in Ireland was \$88m in 1979, \$85m in 1980, an average of \$42m in 1981-83 and \$33m in 1984 with the same again forecast for 1985 (US Department of Commerce, *Survey of Current Business*, various issues).



ANNEX 1

Detailed Tables Underlying Benchmark Projection

This Annex is included to illustrate and elucidate the consistency of the overall framework presented in the main text. Individual figures should not be regarded as "forecasts".

TABLE A1: Public Sector Borrowing, Domestic Credit Expansion and the Balance of Payments, 1985-1990. £ million

	1985	1986	1987	1988	1989	1990
Public Sector Borrowing Requirement (PSBR)	2,457	2,375	2,265	2,155	2,100	2,150
Less Non-Monetary Financing	1,051	1,000	1,150	1,300	1,300	1,350
Monetary financing of PSBR	1,406	1,375	1,115	855	800	800
of which Foreign	(944)	(650)	(350)	(250)	(200)	(150)
Domestic Banking System	(462)	(725)	(765)	(605)	(600)	(650)
Change in Commercial Bank Lending to Private Sector	-50	50	56	60	100	100
DCE (Government Accounts)	1,356	1,425	1,171	915	900	900
Adjustment	142	-89	-65	-8	30	-50
DCE (Banking Statistics)	1,498	1,336	1,100	907	930	850
Less Change in Net Non-Monetary Liabilities	50	100	100	150	175	200
Less change in M3 (%)	400	500	500	600	650	650
Equals basic balance of payments	-1,048	-736	-506	-157	-105	-
of which: current balance	-498	-449	-206	243	345	450
private non bank capital flows (and balance of payments residual)	-550	-287	-300	-400	-450	-450

TABLE A2: Balance of Payments Financing 1985-1990. £ million

	1985	1986	1987	1988	1989	1990
Current Balance of Payments	-498	-449	-206	+243	+345	+450
Exchequer Foreign Financing	889	600	300	280	150	100
State Sponsored Bodies Capital Flows	55	50	50	50	50	50
Other Official Capital	95	75	80	75	50	50
Capital Inflows Through Banks	180	100	150	50	50	-100
Private Capital and Residual Items	-550	-287	-300	-400	-450	-450
Change in Official External Reserves	171	129	74	218	195	100

TABLE A3: Gross Domestic Product at Factor Cost and Gross National Product at Market Prices, 1985-1990. £ million

	1985	1986	1987	1988	1989	1990
<i>Agriculture, Forestry and Fishing</i>						
Income from self employment	1,233	1,298	1,350	1,440	1,490	1,585
Wages and Salaries	132	135	150	160	170	180
<i>Non-Agricultural Income</i>						
Wages, Salaries and Pensions	9,420	10,010	10,660	11,400	12,140	12,930
Trading Profits of Companies (including P.O. (POSB))	2,485	2,800	3,040	3,350	3,685	4,192
Other Trading Profits, Professional Earnings	1,195	1,289	1,395	1,550	1,690	1,770
Rents	303	330	360	390	415	440
Adjustment for Stock Appreciation	-133	-162	-60	-60	-100	-120
Adjustment for Financial Services	-760	-840	-860	-800	-825	-875
Depreciation	1,786	2,017	2,224	2,400	2,550	2,717
GDP at Factor Cost	15,661	16,877	18,258	19,836	21,215	22,819
Plus Taxes on Expenditure less Subsidies	2,002	2,142	2,325	2,460	2,650	2,825
GDP at Market Prices	17,663	19,019	20,583	22,296	23,865	25,644
Net Factor Income	-1,970	-2,137	-2,266	-2,330	-2,400	-2,475
GNP at Market Prices	15,693	16,882	18,317	19,966	21,465	23,169

TABLE A4: Company Income, Appropriations and Savings 1985-1990. £ million

	1985	1986	1987	1988	1989	1990
Trading Profits of Companies and Income of Post Office	2,485	2,800	3,040	3,350	3,685	4,192
Less Government Trading and Investment Income	510	450	500	520	550	575
Private Company Profits before Interest Payments	1,975	2,350	2,540	2,830	3,135	3,617
Less Adjustment for Financial Services	-760	-840	-860	-800	-825	-875
Private Company Profits after Adjustment for Financial Services	1,215	1,510	1,680	2,030	2,310	2,742
Less Dividends	612	783	900	1,050	1,100	1,150
Undistributed Profits	603	727	780	980	1,210	1,592
Less Tax on Undistributed Profits	230	240	245	250	265	275
Company Savings	373	487	535	730	945	1,317
Stock Appreciation	-133	-162	-60	-80	-100	-120
Company Savings net of Stock Appreciation	240	325	475	650	845	1,197
as per cent of GNP	1.5	2.0	2.5	3.2	4.4	5.2

TABLE A5: Public Authorities Income, Expenditure and Savings 1985-1990. £ million

	1985	1986	1987	1988	1989	1990
Taxes on Income and Wealth	3,564	3,790	4,025	4,325	4,585	4,855
Taxes on Expenditure Less Subsidies	2,002	2,142	2,325	2,460	2,650	2,825
Net Trading and Investment Income	510	450	500	520	550	575
TOTAL INCOME	6,076	6,382	6,850	7,305	7,785	8,255
National Debt Interest						
Paid to Residents	1,057	1,134	1,051	1,222	1,271	1,300
Abroad	775	742	752	739	734	712
Transfers	2,193	2,322	2,475	2,650	2,810	2,965
Net Current Expenditure on Goods and Services	3,283	3,480	3,620	3,775	3,980	4,200
TOTAL EXPENDITURE	7,308	7,678	7,898	8,386	8,795	9,177
SAVINGS	-1,232	-1,296	-1,047	-1,081	-1,010	-922
As per cent of GNP	-7.9	-7.5	-5.7	-5.5	-4.7	-4.0

TABLE A6: Exports, Imports and the Balance of Payments, 1985-1990.

	1985		1986		1987		1988		1989		1990	
	£ million	Per cent change Volume Price	£ million	Per cent change Volume Price	£ million	Per cent change Volume Price	£ million	Per cent change Volume Price	£ million	Per cent change Volume Price	£ million	Per cent change Volume Price
1. EXPORTS												
— Agricultural	1,790	4 2	1,897	2 3	1,990	2 2½	2,085	1 2½	2,160	2 3	2,265	2 2,265
— Manufacturing	6,340	6½ 3¼	7,006	10 4	9,850	11 4½	11,425	9 4	12,950	9 4½	14,750	14,750
— Other Industrial	1,542	4 0	1,604									
— Other	128	5 4	141	0 4	146	0 4½	153	0 4	159	0 4½	165	165
— Merchandise	7,800	5¾ 2¾	10,648	8¼ 4	11,986	9 4½	13,663	7½ 4	15,269	7½ 4½	17,180	17,180
— Top Adjustment	-205		-190		-195		-200		-210		-250	-250
— TOTAL MERCHANDISE	7,595	6 2¾	10,458		11,791		13,463		15,059		16,930	16,930
— Tourism Exports	712	4 4¼	773	3 4½	832	2½ 4	887	3½ 3	915	4 3	1,012	1,012
— Other Invisible Exports	506	4 4¼	549	2 4½	585	2½ 4	623	3 3	600	2½ 3	696	696
TOTAL EXPORTS	10,813	5¾ 3	11,780	7¾ 4	13,208	8½ 4¼	14,973	7 4	16,665	7¼ 4¼	18,638	18,638
2. IMPORTS												
— Merchandise	-9,370	5¼ 2	-10,159									
— Services	-961	5¼ 3	-1,042									
TOTAL IMPORTS	-10,331	5¼ 2	-11,192	6¼ 3	-12,248	6½ 3½	-13,500	7½ 3½	-15,020	8 3½	-16,790	-16,790
3. TRADE BALANCE (1-2)	482		588		960		1,473		1,645		1,848	1,848
4. FACTOR PAYMENTS	-1,970		-2,137		-2,266		-2,330		-2,400		-2,475	-2,475
5. TRANSFERS	990		1,100		1,100		1,100		1,100		1,100	1,100
6. BALANCE OF PAYMENTS (= 3+4+5)	-498		-449		-206		243		345		450	450
As Per Cent of GNP	-3.2		-2.7		1.2		1.2		1.6		2.0	2.0

TABLE A7: Savings and Capital Formation. (As Per cent of GNP)

	1980- 1985	1985- 1990	1986	1987	1988	1989	1990
Savings of							
Personal Sector	14.3	14½	15½	14½	15½	14½	14½
Companies	0.5	3½	2	2½	3¼	4½	5¼
Public Authorities	-8.0	-5½	-7½	-5¾	-5½	-4¾	-4
Balance of Payments Deficit	8.3	—	2¾	1¼	-1¼	-1½	-2
Net Physical Capital Formation	15.1	12½	12½	12¼	12	12¾	13¾

ANNEX 2

The Relationship between the National Debt/GNP ratio and the interest rate paid by Government

Let D = National Debt

Y = Nominal GNP

and I = Interest payments on the national debt.

In the steady state $D/Y = \frac{D + \Delta D}{Y + \Delta Y}$

$$\therefore \frac{\Delta D}{\Delta Y} = \frac{D}{Y}$$

and $\boxed{\Delta D = D \frac{\Delta Y}{Y}}$ (A)

or $\boxed{\frac{\Delta D}{Y} = \frac{D}{Y} \frac{\Delta Y}{Y}}$ (B)

Now $I = D \cdot i$ where i is the interest rate.

So if $i = \frac{\Delta Y}{Y}$ then from (B) $\frac{\Delta D}{Y} = \frac{I}{Y}$

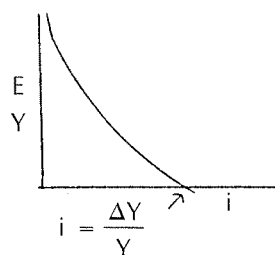
However if $i < \frac{\Delta Y}{Y}$

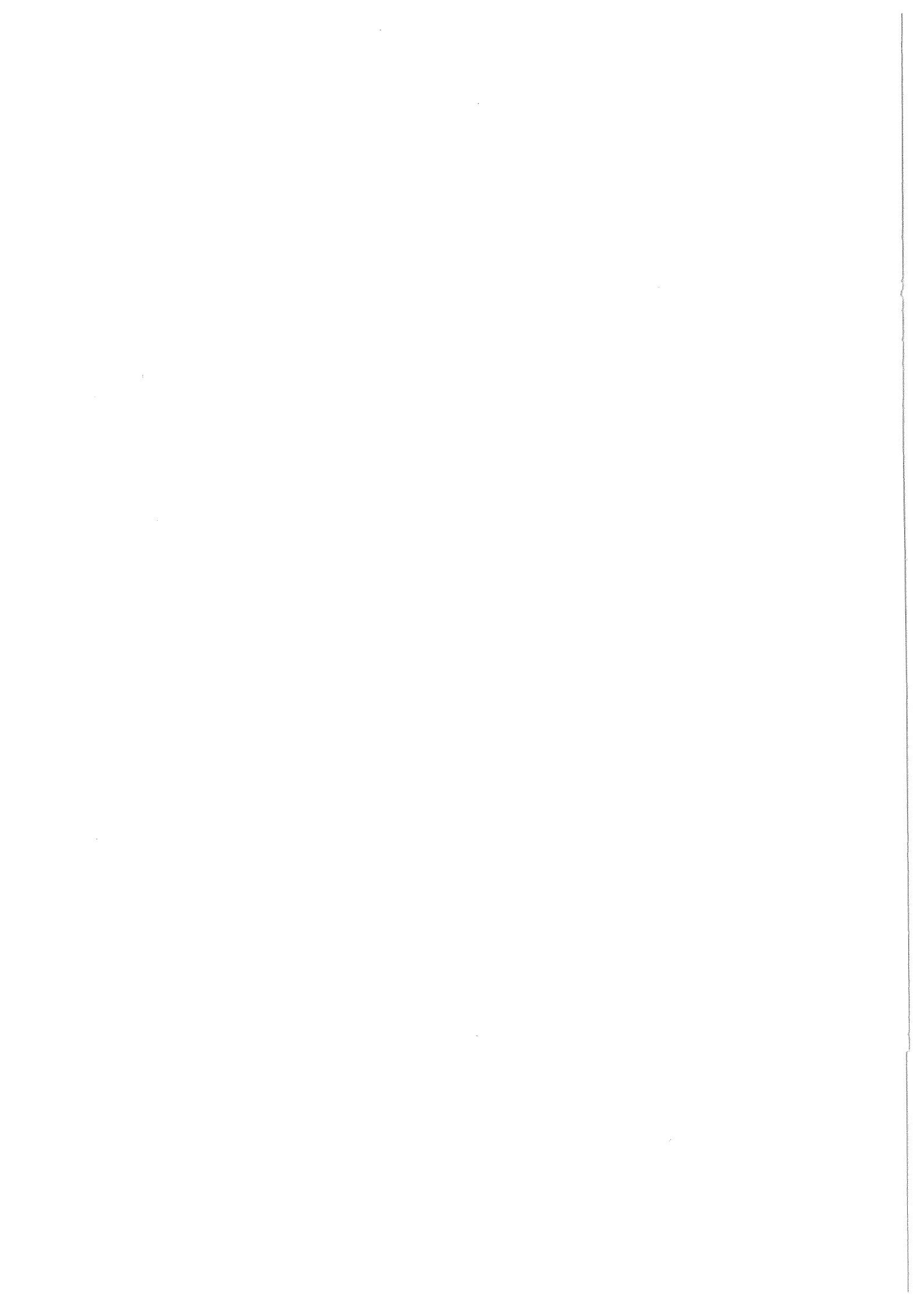
$$\text{then } \frac{E}{Y} = \left(\frac{\Delta D - I}{Y} \right) = \frac{D}{Y} \left(\frac{\Delta Y}{Y} - i \right) > 0$$

where E is borrowing over and above that required to finance national debt interest.

Similarly if:

$i > \frac{\Delta Y}{Y}$ then $E/Y < 0$





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