ISSN 0790-9470

Economic Perspectives for the Medium Term

SARA CANTILLON JOHN CURTIS JOHN FITZ GERALD

The Economic and Social Research Institute

MARCH 1994

THE ECONOMIC AND SOCIAL RESEARCH INSTITUTE

COUNCIL

Economic Perspectives for the Medium Term

Edited by

SARA CANTILLON, JOHN CURTIS, JOHN FITZ GERALD

Copies of this paper may be obtained from The Economic and Social Research Institute (Limited Company No. 18269), (Registered Office) 4 Burlington Road, Dublin 4.

Price IR£27.50 per copy

Sara Cantillon is an Assistant Research Officer, John Curtis is a Research Assistant, and John Fitz Gerald is a Research Professor with The Economic and Social Research Institute. The *Economic Perspectives for the Medium Term* has been accepted for publication by the Institute, which is not responsible for either the content or the views expressed therein.

Printed by Cahill Printers Limited, East Wall Road, Dublin 3.

Table of Contents

Acknowledgements

The editors would like to thank Mary McElhone of the ESRI who managed to pull the diverse strands of this publication together in record time. They would also like to thank Phil Browne, Mary Cleary, Brenda Forde, Pat Hughes and Annette O'Connell of the ESRI who dealt with the difficult task of producing a consistent standard of presentation from a range of documents which came in a wide range of formats. The authors remain solely responsible for the views expressed in their individual chapters.

CHAPTER 1

Introduction

Sara Cantillon, John Curtis, John Fitz Gerald
The Economic and Social Research Institute, Dublin

This volume is published as a companion to the *Medium-Term Review: 1994-2000.* It contains eight chapters which provide a range of different perspectives on the Irish economy. They provide an important basis for evaluating the prospects for the economy over the rest of the decade.

The first article by O'Connell and Sexton examines the development of the labour market over the last 20 years. Particular attention is given to the issues of female participation in the labour force and the rise in participation in the educational system. Finally, it gives special attention to the phenomenon of long-term unemployment. The results from this study provide a basis for forecasting labour market developments in the *Medium-Term Review.*

The second set of four articles deals with policy changes, both at home and abroad. They consider how these changes may affect Ireland in the medium term.

The Chapter by Matthews develops a methodology for analysing the impact on the Irish economy of the GATT agreement, signed last December. Matthews highlights the fact that the *status quo* could not have persisted indifinitely and, if no agreement had been reached, the move to protectionism would have been very serious for the Irish economy, not least for the agricultural sector. It is against this background that the effects of the GATT agreement must be judged.

The paper suggests that the Irish economy, like most other economies, will be a substantial beneficiary from the agreement through more rapid growth in world trade. This will add to output and employment in both the Irish industrial and services sectors. However, individual industrial sectors, such as clothing, may suffer some job losses. Against the yardstick of what would have happened without a GATT agreement, the losses suffered by the agricultural sector are not very large and are dominated by the gains accruing to the rest of the economy.

In their article Honohan and O'Connell examine the Government's *National Plan,* published last Autumn. They suggest some possible improvements in the plan.

While agreeing with the priority accorded to investment in human resources they stress the need to improve the efficiency of schemes. They feel there is scope for reduction in support for productive investment if other economic policy reforms (notably on taxation) were implemented. While broadly supportive of investment in infrastructure they feel that some inferior projects could be deleted. Generally they express the view that complementary supportive policies are needed.

The Delors *White Paper,* published before the December EU summit provides an analysis of Europe's current economic problems, in particular the crisis in unemployment. Kennedy in his Chapter, provides a critical assessment of the *White Paper* and its implications for Ireland.

He finds that the *White Paper* falls short of a clear statement of EU policy on unemployment, largely due to the constraints the Commission necessarily faces. However, it gives expression, at the highest level of the EU, to a renewed concern about unemployment. Herein lies its significance.

O'Toole focuses on the extent to which the *commission on Taxation* proposals on widening the base for direct taxation have been followed in practice over the last 10 years. He shows how the corporate tax base has been widened in recent

years. However, the opposite is the case for the personal tax base.

The Chapter by McGettigan reviews the economic evidence on the causes of unemployment in Ireland. He finds a fair measure of agreement among researchers. In analysing the problem it is clearly essential to take account of emigration. Most researchers would agree that disturbances in the world economy have played an important role in rising unemployment in Ireland. However, domestic mismanagement of the economy, in particular the fiscal crisis which hit the economy in the 1980s and the necessary corrective action, also played an important role.

Bradley and Wright carry out a comparative study of the economies of Northern Ireland and of the Republic within the framework of consistent macro-economic models set within the context of the wider EU economy. The use of similar models to examine both economies greatly facilitates the comparison of the behaviour of the two economies.

In both economies there is a tendency for an expanding public sector to crowd out the private sector. In the Republic this proved unsustainable in the past, through in Northern Ireland the nature of the UK subvention has made it possible. The study also shows that the behaviour of inter-regional labour mobility has much wider implications than just for the regional labour market, ultimately affecting the whole regional economy.

Finally O'Malley and Scott provide a forecasting model of profit repatriations in Ireland. They find that the turnover in certain high tech manufacturing sectors is a good predictor of exports. This approach underpins the *Medium-Term Review* forecasts for profit repatriations in the period to the end of the decade.

CHAPTER 2

Labour Market Developments in Ireland, 1971-1993

Philip J. O'Connell and J. J. Sexton
The Economic and Social Research Institute, Dublin

The main purpose of this chapter is to set out a perspective of changes in the Irish labour market over the last two decades which supplements and provides a context within which the employment and unemployment forecasts given in the forthcoming *Medium-Term Review* can be better understood.

The commentary begins with a brief overview of demographic trends. Relevant features of the adult population are then discussed, in particular the changing numbers in the labour force, in education and in other "inactive" pursuits. The paper then goes on to discuss trends in employment, unemployment and labour supply, and examines the important relationship between these trends and external migration. The changing sectoral distribution of employment is also analysed. The issue of gender is dealt with in some detail in the chapter, especially the recent trends involving rising female participation in the labour force and the growth in female employment. The chapter concludes with a review of recent unemployment trends, in which the phenomenon of long-term unemployment is the subject of special analysis.

The data on which the analyses in this chapter are based have been derived mainly from Censuses of Population (COP) and Labour Force Surveys (LFS) taken over the period from 1971 to 1993. Full Censuses were taken in 1971, 1981, 1986 and 1991 while Labour Force Surveys were carried out in 1975, 1977, 1979 and annually from 1983 on. In some instances the basic COP or LFS data have been adjusted to facilitate consistency over time. These adjustments were carried out with reference to the aggregate series of employment and unemployment estimates published in the "Trend of Employment and Unemployment" reports produced by the CSO (see References). It should be noted, however, that the analysis of long-term unemployment contained in the final section of this article is based mainly on Live Register data.

The actual data presented in this chapter take two forms. The Appendix Tables A2.1 to A2.7 provide fairly detailed estimates under various socio-economic headings; many of those tables involve trend series for 1971, 1977, 1979 and on an annual basis from 1981; where appropriate however, in order to highlight the salient points, certain aspects of these data have been summarised in smaller summary tables distributed throughout the text.

1. Population Trends

The population of Ireland (Republic) underwent a significant increase during the period under discussion. Table 2.1 shows that between 1971 and 1981 the population rose from 2,978,000 to 3,443,000, a rise of 465,000 or about 16 per cent. The pace of increase slowed considerably in the 1980s; in the 1981/91 intercensal period an increase of 83,000 (2½ per cent) was recorded, the 1991 census indicating a population total of 3,526,000. The most recent estimate for April 1993 is 3,563,000, indicating a further increase of some 37,000.

Table 2.1: Population Trends, 1961-1991

Year	Population (000)
1961	2,818
1966	2,884
1971	2,978
1976	3,228
1981	3,443
1986	3,540
1991	3,526

The essential components underpinning these changes are set out in Table 2.2. This shows

Table 2.2: Components of Population Change for Subperiods between 1961 and 1991

Period	Males			Females			Persons		
	Natural Increase	Net Migration	Population Change	Natural Increase	Net Migration	Population Change	Natural Increase	Net Migration	Population Change
	Annual Averages ('000)								
1961-66	14	-8	6	15	-9	7	29	-16	13
1966-71	14	-5	9	15	-6	10	30	-11	19
1971-76	17	8	25	18	7	25	35	15	50
1976-81	17	4	21	19	3	22	36	7	43
1981-86	16	-8	8	17	-6	11	34	-14	19
1986-91	12	-15	-3	12	-12	0	24	-27	-3

Sources: Censuses of Population, Annual Reports on Vital Statistics.

Note: (1) All the periods commence in April.
(2) A negative entry signifies a net outflow (emigration).

annual average figures for net external migration, the natural increase in the population (i.e., births less deaths) and net population change for 5-year intercensal periods from 1961 to 1991. The figures illustrate the diminishing influence of net emigration on population change in the 1960s with the result that during this decade the Irish population began to increase consistently for the first time since the first half of the 19th century. The pace of increase intensified in the 1970s as the net outflow disappeared altogether and remarkably transformed into a net inflow of population. At the same time, due to greater numbers in the productive age groups, births began to rise causing the natural increase to expand. The combined effect of both of these influences caused the phenomenal rise in population referred to above. The moderation in the rate of population growth in the 1980s was principally due to the re-emergence of net emigration in the first half of the decade when economic conditions in Ireland deteriorated rapidly. However, the number of births also began to fall with the result that the natural increase in the population was reduced consistently throughout this decade. Table 2.2 shows that the annual average natural increase was 36,000 in the late 1970s, but this had declined to 24,000 by the second half of the 1980s. Net emigration reached very high levels in the late 1980s and the twin pressures of the declining natural increase and rapidly rising emigration gave rise to a slight decrease in the total population between 1986 and 1991. However, Irish external migration flows are extremely volatile and have proved to be very sensitive to relative labour market conditions here and abroad. The sharp deterioration in the employment situation in the United Kingdom since the beginning of the 1990s caused net emigration to decrease. The most recent estimates suggest a small net inflow (of about 2,000) in the year to April 1992, followed by a net outward movement of some 6,000 in the year to April 1993.

2. Developments in the Labour Force and in the Adult Population

In current circumstances analyses of the labour market cannot be conducted in isolation from developments in the wider adult population of which the labour force[1] (i.e., those at work and unemployed) forms part. The numbers in the labour force are influenced by the level of participation in education, by changes in retirement patterns and by the degree to which women are motivated either to seek employment or engage in domestic or family related activities. Furthermore, the boundaries between these different states have become increasingly blurred as different groups move in and out of the labour force depending on their personal circumstances, or in response to various inducements, or under

Table 2.3: Net Changes in the Numbers in Different Economic Status Groups in the Population Aged 15 Years and Over, 1971/81 and 1981/91

Component	1971/81			1981/91		
	Males	Females	Total	Males	Females	Total
	Annual Averages (000)					
Labour Force	+8.9	+7.3	+16.2	-1.0	+8.0	+7.0
Education	+2.9	+3.7	+6.6	+4.9	+4.3	+9.2
Home Duties	-	+2.7	+2.4	+0.6	-1.6	-1.0
Other	+5.8	+4.3	+10.2	+3.2	+0.2	+3.4
Total Population 15 years+	+17.4	+17.9	+35.3	+7.7	+10.9	+18.6

the influence of more general economy-wide changes in conditions. The increasing incidence of more flexible working arrangements (for example, in regard to part-time and temporary work, career breaks, etc.) has facilitated these changes. The next logical step in our analysis is therefore to consider recent labour force trends in this wider context, but without at this stage considering the additional dimensions of employment and unemployment.

Appendix Table A2.1 gives a subdivision by "principal economic status" (see footnote 1) of the population aged 15 years covering the period from 1971 to 1993. The trends for the two decades involved is summarised in Table 2.3 which shows annual average changes relating to the labour force, the numbers aged 15 years and over in education, those on home duties and "others", the last mentioned category relating mainly to older persons who have retired from the workforce.[2]

The figures for the earlier decade show that the annual average rise of some 35,000 in the adult population comprised an increase of just over 16,000 in the labour force, nearly 7,000 in education, a relatively small increase in the numbers on home duties (about 2,500 per year) and more than 10,000 for the "other category". The figures do not indicate any material difference in the changes between males and females, but it must be borne in mind that the annual average net increase in the female labour force (over 7,000) reflects a much greater relative increase than for males as the female workforce was much smaller. Reference to Appendix Table A2.1 shows that the female labour force rose by over 25 per cent between 1971 and 1981, compared with a significantly smaller relative increase (of 11 per cent) for males.

The position in the 1980s was very different. The annual average increase in the adult population

1 Throughout this paper the labour force (i.e., those at work and unemployed) is defined on the same basis as that used in Labour Force Surveys and in the Annual Labour Force Estimates published by the CSO. The concept used is that of "principal economic status" (PES) which is based primarily on the survey respondents perception of their own personal circumstances. This concept (PES) covers not only employment and unemployment, but also "other non-active" states such as "full-time education", "home duties", "retired", "permanent disability", etc.
This is not the only way in which the labour force can be defined. Other approaches involve more precision in so far as they take account of aspects such as hours worked, availability for work and search for work. However the concept used has the advantage that it forms the basis of a consistent series of estimates extending back to the early 1970s. Readers should consult the report of the 1988 Labour Force Survey for a fuller description of this and other forms of labour force definitions. A further discussion on these issues is contained in Garvey (1988).

2 This category also includes those suffering from permanent disabilities. It should also be borne in mind that for females the distinction between "home duties" and "others" is not necessarily clearcut.

(nearly 19,000) was much lower than in the 1970s, principally because of increased emigration. The rate of expansion in the labour force (some 7,000 per year) was also much smaller and all of it related to females; in fact the male workforce declined slightly during the 1980s. The number of women engaged on home duties also fell slightly which is consistent with the gradual but consistent tendency for women to participate in the labour market to an increasing degree. The numbers in the "other" category also rose in the 1980s (by about 3,500 per year), a feature which related almost exclusively to males and reflects a continuing tendency towards earlier retirement.

Another notable feature for this later period concerns education. The figures indicate an annual average rise of over 9,000, more or less evenly distributed between males and females. The more detailed data given in Appendix Table A2.1 shows that the numbers aged 15 years and over in education rose from just over 200,000 in 1981 to more than 290,000 in 1991, a rise of almost 50 per cent. This is an aspect which often tends to be overlooked in analysing labour force trends and, given the difficult economic circumstances which prevailed in the 1980s, one can only speculate what the increased levels of unemployment and emigration would have been had this increase not taken place. However, of greater significance in this regard is that this rise in educational participation signals a continuing augmentation in the level of human capital in the population at large.

The fundamentally different trends for males and females in recent decades is perhaps best illustrated by referring to rates of labour force participation. These are given in aggregate form in the final column of Appendix Table A2.1. These figures show that the overall rates for males and females combined have not changed very much over the relatively long period under discussion. There has been a very gradual decline from just over 54 per cent in 1971 to 52 per cent in 1993. However this masks conflicting trends for the sexes. The aggregate male participation rate decreased from over 80 per cent to 70 per cent between 1971 and 1993, while that for females rose from just under 28 per cent to almost 35 per cent. These relative changes may not seem all that dramatic when viewed over such a long period, but they are quite significant when considered in absolute terms. For example, the 1993 female labour force (469,000) would be some 94,000 lower if the 1971 rate of labour force participation continued to prevail. We will, however, defer any further discussion on labour force participation until later in the paper. A proper understanding of this aspect requires that further elements (e.g., age) be considered, as well as a review of other research, in order to try to identify the principal influences involved.

Turning to more up-to-date developments, the annual data given in Appendix Table A2.1 show that with the recent cessation of net emigration, the labour force increased substantially. After a period of stability extending back to the early 1980s the total workforce rose by 65,000 between 1990 and 1993. However as most of this rise (some 48,000) related to the female labour force it is clear that increasing female participation was also a significant element. Moreover the numbers of women on home duties has fallen in recent years; during the early 1980s this number was actually rising (probably as a result of the extremely poor labour market situation) but after mid decade, when it reached its highest level (690,000 in 1985), the number fell by over 60,000 in the period up to 1992. The numbers of persons aged 15 years and over in education also continued to rise, by 36,000 over the three years in question.

3. Employment, Unemployment and Migration

Let us now extend our analysis beyond the aggregate labour force and review trends in terms of employment and unemployment. It is also appropriate at this stage to include external migration in the analysis. The relevant figures are given in Appendix Table A2.2 which contains annual estimates for the labour force and for those at work, unemployed as well as for net external migration over the period from 1971 to 1993.

The aggregate figures for all persons show that the total number at work rose by 107,000 between 1971 and 1980 (a peak year for employment), but as the labour force as a whole expanded by an even greater amount (by 137,000), unemployment also increased, from 61,000 in 1971 to

over 90,000 in 1980. The latter figure represents an unemployment rate of 7.3 per cent, compared with 5.5 per cent in 1971. As indicated earlier in the chapter, this was a period of rapid population growth, mainly because of the remarkable transformation in net migration. The table shows that a net population inflow occurred consistently throughout the decade. Even if the unemployment rate rose during this period, the increase was reasonably modest, especially when compared with the rates with which we have since become accustomed. Broadly speaking, the 1970s were characterised by three distinct periods. The early part of the decade involved a carryover from the boom years of the 1960s. The total number at work rose by over 30,000 between 1971 and 1974. Employment fell during the mid-decade recession, triggered by the first oil price shock in 1973, but the economy recovered in the late 1970s when substantial job gains were achieved. Table A2.2 shows that between 1976 and 1980 total employment in the Irish economy increased by as much as 93,000, or by over 2 per cent on an annual average basis over this four-year period. However, the growth of the late 1970s was not based on strong economic foundations,[3] and the employment level declined again when conditions subsequently deteriorated.

With the renewed onset of world recession in 1980 following the second oil price shock, total employment in Ireland fell rapidly. It decreased by nearly 80,000 between 1980 and 1985 and the level of unemployment escalated to 226,000, or over 17 per cent of the labour force. This was a period of chronic economic stagnation. When viewed in real terms GNP (measured in output terms) was some 1½ per cent lower in 1985 than it was in 1980. After mid-decade economic growth rates began to improve and the employment level began to stabilise. However, employment increases were slow to materialise. There was a modest increase of some 10,000 in employment in 1987 but it was not until 1989/90 that a significant improvement occurred when there was an unexpectedly large increase of 46,000 in the total numbers at work.

Turning to the more recent times, the post-1990 global recession brought the short-lived period of rapid expansion in the Irish economy to an end. Real GNP growth declined from a level of 6 per cent in 1990 to some 3 per cent in both 1991 and 1992. However, the overall level of employment did not fall; Table A2.2 shows that the level of employment in April 1992 was slightly higher than it was two years earlier in April 1990 and increased further (by about 5,000) in the 12 month period to April 1993). Given the ongoing secular decline in agricultural employment, this implies that the numbers at work outside of agriculture continued to show a significant rise.

However, the global nature of the recession created serious problems in external labour markets (particularly in the United Kingdom) and this, as already noted, significantly affected the recent pattern of Irish migration. The cessation of emigration after 1990 meant that the brunt of the problems associated with the current downturn have been borne in the domestic labour market. As a result, the high natural growth in the labour force caused unemployment to escalate. Appendix Table A2.2 shows that the numbers out of work rose from 175,000 in 1990 to nearly 230,000 in 1993. More recent trends in the Live Register figures suggest that the total has since remained at this level.

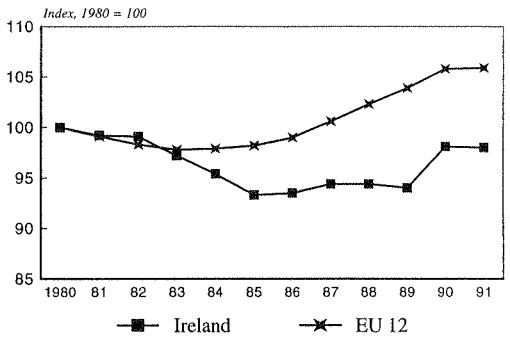
Comparisons with other EU Countries

Despite the employment surge in the later 1980s the jobs performance of the Irish economy throughout that decade was not impressive when compared with other European countries. Not only was the employment recovery late in coming, it was also smaller than in other countries when viewed in relative terms. Most EU countries had begun to record some employment growth from 1984 on, but in Ireland employment continued to fall as the economy languished in recession for several more years. This arose because of the need for continued retrenchment to redress severe fiscal and financial imbalances in the economy which can be traced back to the late 1970s. This difference can be clearly seen from the graphs in Figure 2.1 which shows indices

[3] Government policy in the post-1977 period involved substantial tax cuts and increases in public expenditure. While initially this stimulated strong economic growth and employment expansion, severe balance of payments and budgetary problems subsequently ensued, particularly when the World economy went into recession in 1980. See Barry and Bradley (1991) for a more detailed analysis of this sequence of events.

of total employment change for Ireland and the European Union over the period from 1980 to 1991. At the end of the period concerned total employment in Ireland was some 2 per cent lower than at the beginning, while in the EU it was more than 6 per cent higher. This difference in trend is analysed in more detail according to sectors later in the chapter.

Figure 2.1
Total Employment in Ireland and the European Union 1980-91



This differential growth pattern constitutes one of the reasons why emigration re-emerged in Ireland during the 1980s. This occurred slowly at first, but then more rapidly, due both to the continuing deterioration in the domestic labour market and because relative conditions here and in the United Kingdom began to diverge. While the net migratory balance was approximately zero in the early years of the 1980s, by 1983 there was a net outflow of some 14,000 with the figure reaching significant levels in later years (the net loss reached almost 45,000 in 1988/89). Another factor which may have contributed to the exodus from the mid-1980s onwards was a growing realisation on the part of many young people that the economic problems besetting the economy were not merely transient, but were going to endure for some time.

The migration trends described in the preceding paragraphs have prompted analysts to try and establish or estimate quantitative relationships between Irish external migration and relative labour market conditions in Ireland and abroad (particularly in the United Kingdom). These typically take the form of linear migration equations being used to estimate the effects of relative indicators of UK and Irish unemployment rates and net earnings levels on Irish net external migration. Recent reviews of this work are to be found in NESC (1991), Ó Grada and Walsh (1992) and Honohan (1984). Such relationships are also usually included among the equations in Irish macroeconomic models. While the qualifications which apply to these estimation procedures are well known, over the years they have yielded fairly consistent results, which can be taken as being broadly compatible with the pattern of events as described in the preceding paragraphs. They tend to reaffirm the counter-cyclical aspect of Irish emigration, which tends to rise when the Irish labour market is relatively depressed and decrease, or even turn to a net inflow, when conditions are relatively buoyant in Ireland.

An interesting feature of these models is that they indicate that net income relativities are as important an influence affecting emigration as relative unemployment rates. In some instances the income effect is shown to be the dominant one. This suggests that the procurement of a better job, as distinct from finding employment in the first instance, is one of the compelling reasons why persons emigrate.[4] A related factor here could be the high level of emigration which prevailed among qualified young persons in the 1980s (particularly third-level graduates) for whom obtaining more rewarding employment (both in a financial and occupational sense) would be important.

Relationships between Employment Expansion and Output Growth

Even with the phenomenal employment increase in 1989/90, the job growth performance in the second half of the 1980s as a whole was not very spectacular when compared with the level of economic growth. Real GNP expanded by some 21 per cent between 1986 and 1990 (or 4.9 per cent per annum) but the corresponding increase in the numbers at work was just under 5 per cent (1.2 per cent per annum). While one

[4] This point was reaffirmed by further analysis in NESC (1991) based on extended surveys of school leavers. These inquiries, which traced school leavers' experiences over the period from 1982 to 1987, showed that among those who eventually emigrated, over 40 per cent had a job before they left. While the great majority of these persons (some 80 per cent) were in full-time employment, there were indications that the jobs they held prior to emigration were not commensurate with their educational qualifications.

would not expect the rate of net job growth to match the rate of output increase, this differential is fairly large and is greater than what one would expect if the experience of other European countries during the same period is taken into account. The NESC (1992) report shows that the "employment intensity of growth" (i.e., the ratio between annual average employment growth and annual output growth) was lower in Ireland during this period than for the EU as a whole (the relevant ratios being 0.28 and 0.44 respectively). This report shows further that this ratio was significantly lower than those for the other peripheral member states, all of which were positioned in the 0.40 to 0.70 range.

Aggregate Male/Female Employment Trends

We will conclude this section with a brief description of employment trends with regard to gender. The various influences underpinning the differences in male and female employment trends over recent decades are complex. The following text is merely intended to illustrate in overall terms the divergences which have occurred; Sections 5 and 6 of this paper contain more detailed analyses which attempt to shed more light on the causative factors involved.

While Appendix Table A2.2 should be consulted for detailed year-to-year movements, the position is summarised in Table 2.4 which sets out annual average changes (both absolute and relative) for selected sub-periods between 1971 and 1993. The sub-periods involved have been selected to coincide broadly with the major economic cycles which characterised the entire period. The year 1980 represents the high point in the employment creation phase of the late 1970s; in 1985 the economy was plumbing the depths in terms of employment levels, while the period since then has seen significant job growth.

Both male and female employment rose throughout the 1970s. The number of males at work initially declined during the first half of the decade but this was more than offset by strong employment growth after 1976. The number of females at work rose by a phenomenal amount during this period, by over 60,000 (more than 22 per cent) between 1971 and 1981.

In the difficult circumstances of the early 1980s, male employment fell drastically — by nearly 14,000 on average each year between 1981 and 1986. While the ongoing secular decline in agricultural employment would account for some of this fall, as indicated later in the chapter, it can be attributed mainly to decreases in manufacturing and building employment. On the other hand, female employment rose slightly during this period, which is quite remarkable in the context of the overall job losses which occurred during this extremely difficult phase.

The recent period between 1986 and 1993 is perhaps the most remarkable in terms of divergent male/female trends. During this time male employment continued to fall overall even if at a significantly reduced rate when compared with the early 1980s. On the other hand, during this period the numbers of females at work rose by more than 10,000 on average (or 2.8 per cent) each year, or by no less than 72,000 over the entire 7 year period.

Table 2.4: Annual Averages Changes in Male and Female Employment in Selected Subperiods Over 1971 to 1992

Period	Males		Females	
	No.	%	No.	%
1971-76	-1,000	-0.1	+3,900	+1.4
1976-81	+8,100	+1.0	+8,300	+2.7
1981-86	-13,600	-1.7	+600	+0.2
1986-93	-900	-0.1	+10,200	+2.8

Table 2.5 Employment by Sector, 1971-91

SECTOR	1971	1977	1979	1981	1986	1989	1990	1991
					(000)			
Agriculture	271.7	227.2	221.8	188.6	166.9	162.0	170.0	155.0
Manufacturing	227.8	236.9	256.0	249.3	223.7	227.0	233.0	232.0
Food	45.0	48.4	48.6	46.0	39.1	37.3	36.1	36.0
High Tech.	54.1	64.1	72.8	74.2	73.4	78.4	84.5	80.9
Traditional	128.7	124.4	134.6	129.1	111.1	111.3	112.4	115.1
Utilities	14.1	12.5	14.0	14.4	14.7	13.0	12.0	13.0
Building	84.1	88.4	101.1	102.2	75.9	67.0	76.0	78.0
Distribution	142.6	159.3	161.2	166.1	164.1	168.6	172.0	173.8
Transport etc.	59.8	67.1	68.4	69.3	66.8	67.0	67.7	66.0
Other Market Services	120.0	120.9	142.5	154.3	168.2	178.6	189.9	202.9
Non-Market Services	129.3	171.9	186.6	193.7	210.8	203.8	213.2	213.3
Total	1049.4	1084.1	1151.7	1137.8	1091.2	1087.0	1133.8	1134.0

Source: Table A2.3.

4. Sectoral Employment Trends

Passing references have been made in the commentary to employment trends in various sectors or industries; let us now consider this aspect in more detail. Appendix Table A2.3 gives sectoral employment figures for selected years in the period from 1971 to 1991 distinguishing up to 30 categories. The table also contains amalgamations into 10 broader groupings which coincide with the sectoral subdivision used in the *Medium-Term Review* forecasts. The amalgamated figures are also given in the summary Table 2.5 above.

Agriculture

The figures reaffirm the ongoing secular decline in the number at work in agriculture. Even though the downward trend ceased temporarily between 1986 and 1990, more recent figures indicate a continuation of the decrease. The number fell by as much as 15,000 in 1990/1991, to reach a level of 155,000 or 13.7 per cent of total employment. This compares with a figure of 189,000 (or 16½ per cent of the total) in 1981 and with as much as 273,000 (nearly 26 per cent) in 1971.

Recent research by Kearney (1992) has indicated that the fall in the size of the agricultural work force from year to year is not caused primarily — or even significantly — by farmers becoming unemployed or leaving to take up positions elsewhere. Instead, the decline is due principally to the combined forces of retirement and a reduced rate of entry. This study concludes that even after the persistent decline of past decades, there is still an excess of labour in agriculture relative to the volume and composition of Irish farm output. The conclusion is, therefore, that employment in agriculture will continue to decline but the pace of this reduction is likely to be modulated by the ebbs and flows in the relative fortunes of the farming and non-farming communities. On the basis of past trends, combined with realistic

expectations for the future, the paper predicts that the numbers at work in agriculture will decrease further by between 15 and 20 per cent by the year 2000 as compared with 1991. This would imply a farm work force of some 125,000 by the turn of the century. However, agricultural employment could fall even more sharply if the economic prospects in labour markets external to agriculture were to improve significantly.

Industry

The classification of manufacturing industry (which includes mining) used in this analysis involves 11 categories which are in turn amalgamated into three broad groups designated as "food", "high-tech", and "traditional". The food group is distinguished separately as the factors which influence activity in this sphere are quite different to those which apply to other industries. It is highly influenced by developments in the Common Agricultural Policy (CAP) and will in future be affected by the new GATT agreement. As the current approach to reforming the CAP involves an increasing use of quotas to restrict output, the food processing sector is constrained in the volume of inputs that it can obtain. Furthermore, in a regime where intervention and heavily subsidised sales to Third World countries provide a major market, there is little incentive to increase value added. Employment in the sector fell throughout the 1980s (from 46,000 in 1981 to 36,000 in 1991) and, further job losses are likely.

The second group is intended to cover more recently established enterprises engaged in manufacturing technically advanced equipment and commodities such as computers, instrumentation and pharmaceutical and chemical products. The majority of firms included in this group are foreign-owned branches of multinational concerns and are therefore, for the most part, subject to a very different economic or strategic regime than would apply to Irish owned firms. Finally, the third category is meant to cover more traditional areas such as clothing, textiles, building materials, printing, etc., in which most of the enterprises are indigenous.[5]

The "high-tech" sector experienced a significant employment growth in the 1970s, the numbers at work therein rising by over a third, from 54,000 to more than 74,000 between 1971 and 1981. The level of employment in traditional manufacturing at the end of that decade (129,000) was the same as it was in the early 1970s, having fluctuated somewhat throughout the period.

While employment in "high-tech" industries remained more or less static during the recession in the first half of the 1980s, the numbers at work in more traditional industries underwent a severe decline, by as much as 18,000 or 14 per cent. Decreases occurred in most of the constituent industries in this group, but were particularly noticeable in the clothing and textile area, for which the numbers at work fell from more than 38,000 in 1981 to under 31,000 in 1986. This sub-sector had, of course, been in long-term secular decline, but the severity of the economic downturn in the early 1980s greatly accelerated this process.

During the expansionary phase in the second half of the 1980s, employment in the "high-tech" area recovered quickly; by 1990 the level had reached nearly 85,000 (compared with 73,000 in 1986) but it declined again to 81,000 in 1991. These fluctuations tend perhaps to reflect the volatility of levels of activity and employment in this sector, which is highly influenced by world-wide trends in particular industries. Recovery in the more traditional sector was slower, but eventually the numbers did begin to rise; an estimated employment increase of some 4,000 occurred between 1989 and 1991.

It is of interest to observe the trends for some of the more detailed sub-sectors within the broad industrial groups distinguished in order to identify

[5] It is important to note, however, that it is not possible to achieve a precise distinction along the lines indicated solely on the basis of industrial classifications used in Censuses or Labour Force Surveys. The distinctions involved are necessarily rather broad. For example, it is questionable whether the "high-tech" group should include activities related to the manufacture of vehicles and transport equipment (for which employment has been declining); furthermore, the "traditional" group includes several industries which, even if they are long-standing, have become technologically advanced over the years (e.g., printing). Nevertheless, the distinction involved does provide a useful basis for analysing activities in broad subdivisions of manufacturing which are subject to very different influences.

areas which contributed most to the changes which occurred. In the "high-tech" group the numbers at work in the "machinery" sub-sector (which includes the manufacture of computers, instrumentation, etc.) rose almost continuously over the 20-year period under discussion, from less than 17,000 in 1971 to over 42,000 in the early 1990s. On the other hand, the decline in employment in the traditional manufacturing group can be attributed mainly to continuing job losses in clothing and textiles, and to a lesser extent, in the drinks and tobacco industries.

The "traditional" group does, however, include some industries which have recorded significant job gains, such as the miscellaneous category "other industries" (for which total employment rose from 8,000 to 15,000 between 1971 and 1991) and "clay products" for which the numbers at work increased from 12,000 to over 15,000 in the short period between 1989 and 1991. This latter trend can undoubtedly be attributed to the rise in the level of building and construction activity which took place during this time. After a period of near stagnation, the volume of expenditure on building and construction projects rose by no less than 10 per cent per annum between 1988 and 1991. Most of this investment was in road improvements and other infrastructural works supported by the enlarged Structural Funds. As a result, there was also a significant rise in the numbers employed in the building and construction sector in the late 1980s — from 67,000 in 1989 to 78,000 in 1991 — almost all of which related to private sector building concerns.

Market Services

Let us now turn to consider the diverse area of market services. For the purposes of this analysis, this is sub-divided into three broad sectors covering distribution, transport and communications and other market services. The figures in Appendix Table A2.3 show that after a period of fairly significant expansion in the 1970s, employment growth in the distribution sector has been rather sluggish in recent years. The numbers at work in this large sector rose by only 8,000 (4½ per cent) in the 1980s compared with an increase of over 20,000 between 1971 and 1981. However, this apparently static image obscures a significant restructuring process which has been occurring within the sector. The numbers at work in wholesaling fell by nearly a quarter between 1981 and 1991 (from 49,000 to just under 41,000), while employment in food retailing increased by nearly 8,000 (from 34,500 to over 42,000). The numbers in other (non-food) retailing also rose, rather more slowly, in the 1980s, by 5,000 from 68,000 to 73,000.

Employment in transport and communications has been undergoing a slow but continuous decline since the early 1980s. The current (1991) level of employment of 66,000 is some 3,000 less than in 1981. Bearing in mind the ongoing rationalisation occurring in all modes of transport, and in the telecommunications and postal services, it is likely that the numbers in this sector will continue to decline.

Employment in the "other market services" category, which covers a wide range of business, professional and personal services, has shown phenomenal growth over the period under discussion. The numbers at work in this sector has increased from 120,000 to over 200,000 over the 20 year period under study. This rise continued even throughout the recession of the early 1980s. It is hardly surprising, therefore, that in the more buoyant circumstances during the second half of that decade the pace of employment increase accelerated; between 1986 and 1991 the rise for this subsector was over 20 per cent. Throughout the entire period under discussion the main driving force underpinning this growth related to the provision of business and professional services. The numbers engaged in these activities more than doubled between 1971 and 1991, from 38,000 to over 96,000.

Fairly significant employment growth also occurred in the sphere of private personal services in recent decades. The numbers at work in hotels and restaurants rose by some 55 per cent between 1971 and 1991, from less than 24,000 to 37,000, a feature which derives to some degree from the continued expansion of tourist activities throughout this period.[6] A notable feature of

[6] Over the 20 year period in question income from foreign visitors more than doubled in real terms, a rate of growth significantly faster than the expansion in real GNP. This divergence in growth rates has become even more pronounced in recent years.

the trend for this sector has been the surge in employment in recent years; between 1989 and 1991 the number at work in hotels and restaurants rose by over 6,000 or over 20 per cent. The estimates indicate somewhat slower growth for the miscellaneous "other market services" subsector, from 43,000 in 1971 to 55,000 in 1991. This figure does however tend to cloak fairly diverse trends; job growth in many private sector personal services (other than those already mentioned) was substantial over the period under discussion, but others (such as private domestic service) experienced declines, thus giving rise to fairly modest growth for this area overall.

Non-Market Services

In the sphere of non-market services (which covers mainly public sector activities) the employment trends have varied over the period under consideration. In the 1970s there was strong growth in this sector, employment rising by almost 50 per cent from 130,000 to nearly 194,000 between 1971 and 1981. This expansion extended to all of the subsectors involved (health, education, other public service activities) during this time. Employment in this area rose at a somewhat slower pace in the early 1980s. Subsequently, the introduction of trenchant public expenditure cuts in the second half of the decade brought this expansion to a halt. The figures in Appendix Table A2.3 show that between in 1986 and 1989 employment in non- market services fell by about 7,000, most of this decrease occurring in the "other" category which relates mainly to the civil service and local authorities. After 1989 employment growth resumed in this sector; while the overall expansion has been fairly modest, this tends to obscure a significant rise (of some 6,000 between 1989 and 1991) in the health sector, which was partly offset by a slight decline in the numbers at work in education.

Comparisons with Sectoral Employment Trends in the EU

Finally, let us make some broad comparisons with EU sectoral employment trends. This is done in Figures 2.2 to 2.4 which show indices of employment change over 1980 to 1991 for agriculture, industry and service activities.

Figure 2.2, which shows relative trends in agricultural employment indicates that in the 1980s

Figure 2.2

Employment in Agriculture

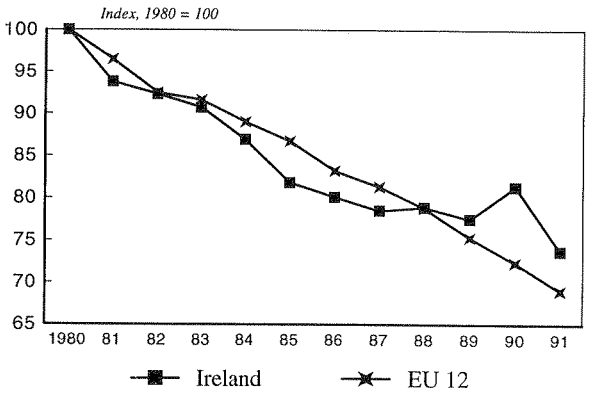


Figure 2.3

Employment in Industry

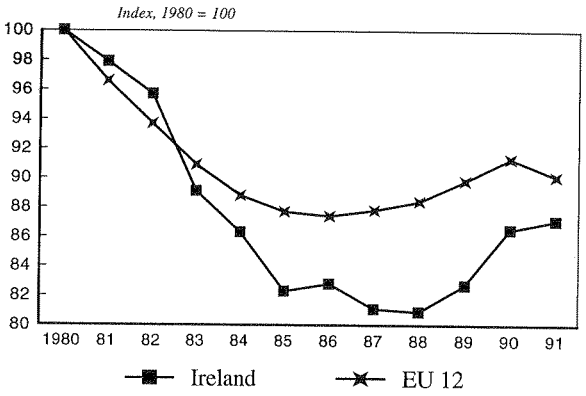
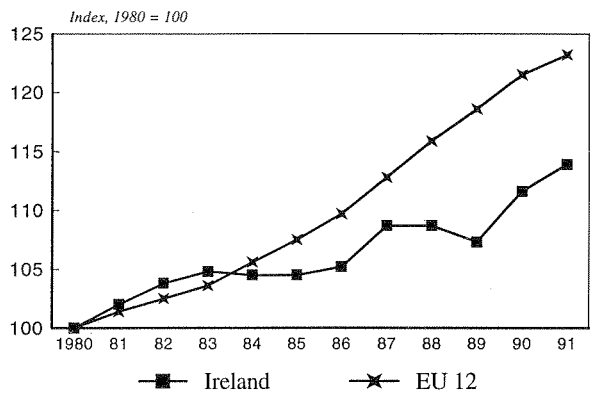


Figure 2.4

Employment in Services



the numbers at work in this sector actually declined more rapidly in the Union as a whole than in Ireland. While this may have served to improve the comparison for that decade from an Irish point of view, there are surely longer-term lessons to be learned from the fact that agricultural employment is continuing to fall rapidly

in other countries where it now constitutes a relatively small element in employment terms. This reaffirms the view expressed in Kearney (1992) that we face many more years of declining numbers in agriculture. Figure 2.3 shows that industrial employment in Ireland at the end of the 1980s was some 13 per cent less than at the start of the decade; this represents a slightly inferior outturn when compared with the EU as a whole which experienced a fall of about 10 per cent. The relative positions were in fact less favourable when viewed from an Irish perspective in mid-decade; in 1987 for example the indexes for Ireland and the EU were 81 and 88 respectively, but the surge in employment in the Irish manufacturing and building sectors late in the decade narrowed the gap.

However, the most interesting comparison in this regard relates to trends in services employment, as this sector now provides the main basis for overall employment expansion in all economies. This comparison is not altogether favourable when viewed in an Irish context. While the total numbers at work in services continued to grow in Ireland throughout the 1980s, Figure 2.4 shows that the rate of growth was significantly less than for the EU as a whole. The overall rate of net job increase for this sector in the EU between 1981 and 1991 was over 23 per cent, compared with 14 per cent in Ireland. This difference was due, to some degree, to greater restrictions on public sector employment in Ireland, especially in the second half of the decade (as referred to in NESC (1992)). There is also evidence, however, that this relative under-performance also applied in market services. A review of the Community Labour Force Survey results for recent years published by EUROSTAT in 1993 indicates that for the combined activities covering distribution, transport and communication, and financial and business services (which accounts for a very large part of market services) employment across 10 EU countries (excluding Spain and Portugal) rose by nearly 18 per cent between 1983 and 1991, compared with 11 per cent in Ireland.

5. Gender and Age-Related Differentials in Employment Trends

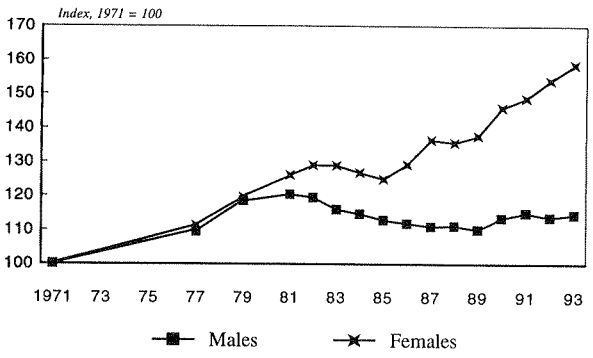
While the foregoing analyses may have served to highlight the broad divergence between male and female employment trends, a more precise understanding of the factors underlying these changes requires further investigation. In this section we consider sectoral employment trends in terms of the gender distinction and also look at employment changes according to the age structure of those at work.

Male and Female Employment Trends for Different Sectors

Appendix Table A2.4 shows employment figures for males and females over the study period according to a broad sectoral subdivision involving agriculture, manufacturing, building and services. In considering the trends in gender differences by sector it is best to exclude agriculture. This sector is overwhelmingly male in terms of employment and, as indicated previously, involves a continuing decline in the numbers at work for reasons which are not closely related to overall economic trends. For this reason the final column of Appendix Table A2.4 shows aggregate non-agricultural employment by sex over the study period. These figures are also represented graphically in Figure 2.5 which shows index numbers of employment change outside agriculture (base 1971 = 100) for both males and females.

Figure 2.5

Non-Agricultural Employment for Males and Females, 1971-1993



The figures show that there were significant increases in non-agricultural employment for both males and females during the 1970s, in each case of the order of 20-25 per cent. However, as the graph illustrates the pattern in the 1980s was quite different as a significant divergence began to appear. Male employment fell rapidly in the early part of the decade — by nearly 40,000 between 1981 and 1985, and by a further 10,000 between 1985 and 1987. This represented a

relative decrease of nearly 8 per cent over the entire 1980-87 period. All of this decline related to job losses in manufacturing and building which were only partly offset by a rise in the number of males at work in services. After 1987 male employment outside of agriculture began to increase again, but rather slowly; in fact the most recent figures (i.e. post-1991) indicate that it has begun to decline yet again.

Female employment outside of agriculture, on the other hand, continued to increase even in the recessionary period of the early 1980s. This rise faltered somewhat between 1983 and 1985 but the decreases were not very substantial and did not in any sense compare with the relatively massive declines in non-agricultural male employment which occurred during this time. After 1986 female employment began to rise rapidly and continued to increase, not only in the buoyant 1988-90 period, but even throughout the post-1990 recession. Table A2.4 shows that the number of females at work outside of agriculture rose by over 30,000 between 1990 and 1993. Most of this recent expansion in female employment relates to services, but there was also a contribution from the manufacturing sector. Between 1985 and 1993 female employment in manufacturing went up by about 10,000, during which time the number of males in the sector hardly increased at all.

References to the recent expansion in female employment inevitably raises the question as to how much of this growth relates to part-time work. Estimates from the series of Labour Force Surveys indicate that the number of part-time female paid employees rose by over 20,000 between 1983 and 1991 (i.e., from 12 per cent of the employee workforce to over 17 per cent). If this is compared with the rise of some 50,000 in non-agricultural female employment over the same period (as per Table A2.4), it suggests that somewhat less than one half of the net rise in the number of females at work between 1983 and 1991 was attributable to part-time work. The number of part-time male paid employees is small, 19,000 in 1991 or about 3 per cent of the employees at work. However, it is significant to note that this number also rose, by about 6,000, between 1983 and 1991 even though the total of males at work outside of agriculture fell during this time. In summary while the number of part-timers still constitutes a relatively small proportion of total employment in Ireland, it is assuming greater importance and accounted for a significant proportion of the employment increase which has occurred since the mid-1980s.

Age-Related Employment Trends

Turning to the question of age, Appendix Table A2.5 shows employment and labour force trends (including participation rates) for two age classes — those aged 15 to 24 years (youth) and those aged 25 years or over (adults). These figures show that even though the youth labour force declined substantially during the 1980s because of greater involvement in education[7] and increased emigration, within this diminishing labour force the unemployment position did not improve, in fact it worsened. The derived Table 2.6 shows that between 1981 and 1993 the unemployment rate for persons aged between 15 and 24 years rose from 14½ per cent to 28 per cent. The reduction in youth employment which gave rise to this trend occurred mainly because the traditional "ports of entry" to the labour market for young people became increasingly closed off, particularly in the case of clerical and junior professional openings, and for skilled and semi-skilled manual work. This aspect is considered in more detail in Section 8.

An interesting feature of the detailed annual estimates given in Table A2.5 is that they show how little the employment surge of the late 1980s appeared to benefit young people. The figures indicate that youth employment actually fell between 1989 and 1991 (by over 10,000) while employment among adults rose by as much as 57,000. Thus, the economic buoyancy associated with this period seemed to involve the re-engagement of older more experienced workers and of older women re-entering the labour force. Thus the sharp rise in unemployment which has occurred since 1990 has involved a disproportionate number of young unemployed, a feature exacerbated by the cessation of net emigration.

---

7 Increased involvement in education should not, of course, be viewed as an alternative to unemployment (in the sense that emigration is) but as a greater investment in human capital which should convey future benefits.

Table 2.6: Unemployment Rates by Sex and Age, 1971-1993

Year	Males			Females			Persons		
	15-24	25+	Total	15-24	25+	Total	15-24	25+	Total
		%			%			%	
1971	6.8	5.8	6.0	5.7	2.6	4.0	6.3	5.2	5.5
1977	15.3	7.9	9.5	10.4	4.0	6.9	13.2	7.1	8.8
1979	10.0	6.4	7.2	8.1	4.3	6.0	9.2	5.9	6.9
1981	17.0	9.7	11.4	11.7	5.5	8.2	14.7	8.8	10.5
1982	17.8	11.2	12.7	14.4	3.8	8.3	16.3	9.4	11.4
1983	22.9	13.2	15.3	16.5	7.3	11.0	20.1	11.8	14.0
1984	26.0	13.3	16.1	18.1	7.9	12.1	22.4	12.0	14.9
1985	26.4	16.8	18.9	21.0	8.6	13.7	24.0	14.8	17.3
1986	29.5	16.2	19.0	20.6	9.2	13.7	25.5	14.5	17.4
1987	29.7	16.8	19.3	22.0	8.6	13.9	26.2	14.6	17.6
1988	27.8	16.4	18.5	20.8	7.7	12.4	24.7	14.1	16.7
1989	24.6	16.1	17.7	19.1	7.1	10.9	22.1	13.7	15.6
1990	20.1	14.2	15.2	16.5	6.4	9.7	18.5	12.0	13.4
1991	26.0	15.4	17.3	21.3	8.1	11.8	23.9	13.2	15.5
1992	27.1	16.4	18.3	22.5	8.2	12.1	25.1	13.9	16.3
1993	29.7	16.6	18.9	24.9	8.2	12.4	27.5	14.0	16.7

The employment trends in the adult labour force have been quite different. Table A2.5 shows that employment for those aged 25 years and over rose substantially (by over 85,000) during the 1980s (even though it did decline temporarily when the economy reached a low ebb in mid-decade). All of this rise is attributable to females; in fact the numbers of males at work aged 25 years and over actually declined, by about 10,000, between 1981 and 1991. Table 2.6 shows that the adult male unemployment rate rose from just under 10 per cent in 1981 to 15½ in 1991. Even though adult female employment rose substantially during this period, so did unemployment, the rate rising from 5½ to 8 per cent over this 10 year span. This was because the female labour force for this age group rose because of increasing labour force participation, a feature analysed in more detail in the next section.

In interpreting these figures over longer periods it is important to bear in mind the effects arising from ageing in the population. Those who were aged 15 to 24 years in 1981 were all in the 25 years and over age category in 1991. The broad picture which emerges from this analyses is one in which a great many young people cannot apparently gain an initial foothold in the labour market, and face either a long transitional period of unemployment or emigration. However, the figures also seem to indicate that many of those who eventually find jobs do seem to remain in employment and thus contribute to an apparent degree of relative job stability in so far as older workers are concerned. However, there are no grounds for complacency because of the relatively lower unemployment rates for older workers. Unemployment in those circumstances can be a particularly intractable problem; such

issues are considered in the final section of this chapter which deals with long-term unemployment.

6. Labour Force Participation; Causative Factors

In this section we extend our analysis beyond the question of employment only and consider the wider issue of labour force participation in some detail. Particular attention is paid to assessing trends and causative factors relating to female labour force participation.

Table 2.7 following (which is derived from Appendix Table A2.5) sets out labour force participation rates for sex/age categories for the period under study. The overall results for all persons aged over 15 years indicate a gently falling degree of participation over the last two decades — from just over 54 per cent in 1971 to 52 per cent in 1993. Broadly speaking this aggregate level of participation has not changed very much since the mid-1980s. However beneath this apparent stability there are very different but offsetting trends. The first relates to the distinction between the youth and adult labour forces. For both males and females aged 15 to 24 years there has been a substantial and sustained decline in labour force participation over the past 20 years, mainly because of increasing involvement in education, a feature which has been illustrated earlier in this chapter. Table 2.7 shows that for young males the degree of labour force participation fell from just under 70 per cent in 1971 to 49 per cent in 1993, while for young females the corresponding decline was from 55 per cent to 42 per cent. The only time when this downward trend was halted was for a brief period between 1977 and 1979 when employment opportunities for young people were relatively abundant.

While the aggregate rates for adults (i.e., persons aged 25 years or over) exhibit greater stability (rising slightly from 52 to 54 per cent over the entire period under study) this obscures the fact that the rate for adult males has been falling while that for adult females has been rising. Adult male participation in the labour force fell from 84 per cent in 1971 to 76 per cent in 1993. However, this has been countered by a significant rise in participation rates for adult females. While this increase was not very marked in the 1970s (the rate increased from less than 20 per cent to over 22 per cent), it accelerated in the 1980s, the rate rising to nearly 33 per cent by 1993. The diverse gender related trend patterns for the two age categories involved are illustrated graphically in Figures 2.6 and 2.7.

Figure 2.6

Labour Force Participation Rates for Males and Females

Aged 15-24 years, 1971-1993

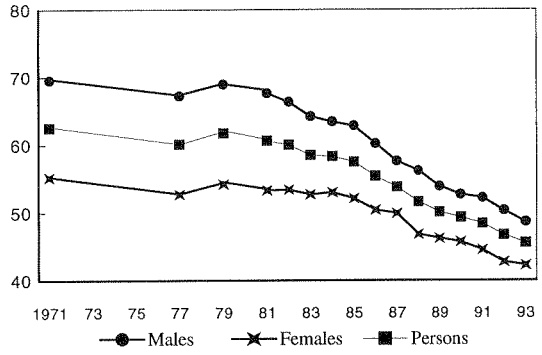
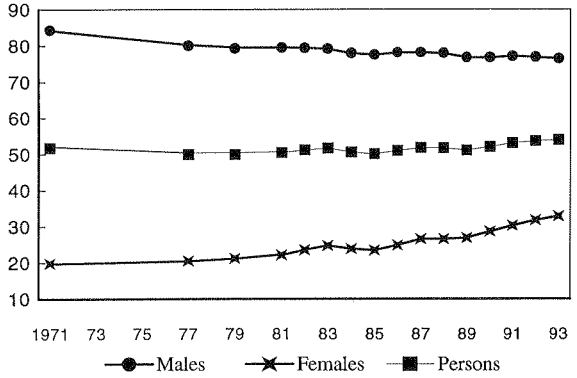


Figure 2.7

Labour Force Participation Rates for Males and Females

Aged 25 years and over, 1971-1993



It should be borne in mind that in the case of females there are differing trends within the older age group shown. Most of the increase in female participation in recent years can be attributed to the 25 to 44 year age band, and to a lesser extent to the 45 to 54 year group. For the older females aged 55 years or over the general tendency (as in the case of males) is for participation rates to decline over time. This has been illustrated in a recent study by Walsh (1993) which contains a detailed analyses of developments of the female labour market over the period from 1971 to 1991.

Table 2.7: Labour Force Participation Rates By Age and Sex, 1971-1993

	15-24			25+			15+		
Year	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
		%			%			%	
1971	69.5	55.2	62.5	84.3	19.8	51.7	80.7	27.9	54.2
1977	67.2	52.7	60.1	80.0	20.5	49.9	76.7	28.2	52.4
1979	68.9	54.2	61.7	79.3	21.2	49.9	76.4	29.2	52.7
1981	67.6	53.3	60.6	79.5	22.1	50.4	76.4	29.8	53.0
1982	66.3	53.4	60.0	79.4	23.5	51.1	76.1	30.8	53.3
1983	64.2	52.7	58.5	79.1	24.7	51.6	75.1	31.4	53.1
1984	63.4	53.0	58.3	77.9	23.8	50.5	74.7	30.7	52.5
1985	62.8	52.1	57.5	77.5	23.4	50.0	74.1	30.4	52.1
1986	60.2	50.4	55.4	78.1	24.8	50.9	73.6	30.9	52.0
1987	57.6	49.9	53.8	78.1	26.5	51.7	72.9	32.1	52.2
1988	56.2	46.8	51.6	77.9	26.5	51.6	72.5	31.2	51.6
1989	53.9	46.2	50.1	76.7	26.8	51.0	71.2	31.2	50.8
1990	52.7	45.7	49.3	76.7	28.6	52.0	70.9	32.4	51.3
1991	52.2	44.5	48.4	77.1	30.2	53.0	71.0	33.4	51.9
1992	50.3	42.7	46.7	76.8	31.7	53.6	70.4	34.2	52.0
1993	48.6	42.2	45.5	76.4	32.8	53.9	69.7	34.9	52.0

Sources: Labour Force Surveys, Censuses of Population

Decomposition of Labour Force Change

It is clear from the foregoing discussion that absolute changes in the overall size and structure of the labour force are dependent both on changes in the population in the relevant age groups, and on the propensity for the population within these age groups to participate in the labour market. It is of interest therefore to try and segregate these two effects in order to provide a clearer understanding of the degree to which each affects variations in the size of the labour force. This can be done by means of a simple mathematical formulation involving incremental elements based on population totals and participation rates. If p and r represent the population total and labour force participation rate respectively for a particular age group and if δp_t and δr_t are the respective changes over time t, then the base year labour force is $L = pr$ and the net change in the labour force may be expressed:

$$(p + \delta_t)(r + \delta r_t) - pr = r\delta p_t + p\delta r_t + \delta p_t\, \delta r_t$$

The first component on the right hand side, which is the population increment multiplied by the base year participation rate, represents the labour force change that would have occurred over time t if participation rates has remained unchanged. This is called the *population effect.* The second component which is the base year population multiplied by the incremental change in the participation rate (called the *participation effect*), represents the change that would occur in the labour force if the population remained unchanged but the participation rate varied. The final term represents an *interaction* between the two effects and is usually fairly small. This

Table 2.8: Decomposition of Labour Force Change in 1971/81 and 1981/91 According to Population and Participation Effects

Age, Effect	1971/81			1981/91		
	Males	Females	Total	Males	Females	Total
	000					
15-24						
Population Effect	41.9	32.6	74.5	0.5	-0.9	-0.4
Participation Effect	-4.7	-4.4	-9.1	-47.4	-25.9	-73.3
Interaction	-1.1	-1.1	-2.2	-0.1	0.1	0.0
Total Change	36.1	27.1	63.2	-47.0	-26.7	-73.7
25 years and over						
Population Effect	95.8	23.6	119.4	60.3	24.4	84.8
Participation Effect	-37.4	18.5	-18.9	-20.7	73.8	53.1
Interaction	-5.5	2.8	-2.7	-1.8	9.0	7.2
Total Change	52.9	44.9	97.8	37.8	107.2	145.0
All Ages						
Population Effect	137.7	56.1	193.9	60.9	23.5	84.4
Participation Effect	-42.1	14.1	-28.0	-68.1	47.9	-20.3
Interaction	-6.6	1.7	-4.9	-1.9	9.1	7.2
Total change	89.0	72.1	161.0	-9.2	80.5	71.3

approach is not particularly new. It has been used in previous studies of the Irish labour market, notably in Sexton (1981) and Walsh (1993).

Table 2.8 shows the results of such a decomposition for males and females distinguishing the two age groups used in the preceding analysis covering the periods 1971/81 and 1981/91. For the earlier period the overall figures covering all age groups and both sexes indicates that burgeoning population growth was the principal factor underpinning labour force expansion in the 1970s. In fact the aggregate participation effect was negative, largely because of the influence of falling participation among older males due to the tendency towards early retirement. There were also smaller negative participation effects relating to both males and females aged 15 to 24 years as a result of increasing involvement in education. However both the population and participation effects were significantly positive for older females, but the latter, at this stage, was not sufficient to offset the negative participation influences deriving from the other sources mentioned.

In the 1980s the overall population effect was still positive, but smaller in size than in the preceding decade because the growth in the population aged 15 and over was slower because of the effects of emigration. The participation effect was again negative and of much the same absolute size as in the 1970s. However on this occasion the elements contributing to this are rather different. For the youth population the negative participation effects due to greater involvement in education are much more pronounced for both males and females, being about eight times as large as in the earlier decade. However, the positive participation effect for older women is also much stronger. The figures show that in this decade over two-thirds of the increase of 107,000 in the female labour force aged 25 years and over can be attributed to a greater propensity to participate in the labour market, with pure population expansion and interaction effects accounting for the remaining third.

Factors Influencing Growing Female Participation in the Labour Force

Even though the foregoing analysis isolates demographic from other causes underlying

growing female numbers in the labour force, it is a purely statistical exercise and does not shed any light on the reasons for increased female participation for any given population level. Some research has recently been carried out which has attempted to identify these influences. We will conclude this section with a review of these issues.

One factor which needs to be borne in mind in considering the question of female participation is the cumulative effect of important changes in the institutional and regulatory provisions effecting women's labour market participation.[8] On first reflection it may seem odd to be referring to this now, given that most of the legal and otherwise overt impediments to female participation were removed in the 1970s. It must be borne in mind, however, that the removal of these obstacles in the mid-1970s came too late to be of any practical benefit to older women at that time. For the most part, they had felt obliged, or had been compelled, to leave the labour force years earlier. For many of them the possibilities for re-entry were not particularly good, even if they were so disposed. Fortunately levels were also still relatively high in the 1970s, even though they subsequently underwent a significant decline. The principal beneficiaries at that time were younger female labour force members and those who entered in later years. It was inevitable, therefore, that the impact of the changes in question, which can be regarded as being due to a combination of legislative, attitudinal and cultural influences, would be initially slow as the process gradually worked its way up through the age bands. Even to this day one will notice the absence of change (or a much slower rate of change) for labour force participation rates among older women. Data given in Walsh (1993) show that the participation rate for women aged 45-54 years in 1971 was just over 20 per cent and it had risen to nearly 29 per cent by 1991. While this does represent a significant change, it is of a much smaller order of magnitude than the increases applying to the younger adult age groups for which the participation rates doubled over the same period. Observing the data in terms of the same age cohort, Walsh's results show that the participation rate for women aged 25-34 years in 1971 was 28 per cent and it was still at this level for this age cohort in 1991 (then aged 45-54 years). Thus, while the cohort/ageing effect is gradual, it is cumulative and throughout the 1980s it must have exercised an increasing impact.

The manner in which the structure of employment demand changed (see Section 4) provides another pointer to the causality underpinning the growth in female involvement in the labour force. Many of the job losses which occurred over the past 20 years, especially those in the early 1980s, related to predominantly manual industry-based activities which were exercised mainly by males. Many of these displacements involved older workers who drifted into long-term unemployment and subsequently left the labour force altogether. On the other hand, the areas of employment growth involved mainly non-manual tasks in the sphere of professional and personal services and in sales, which were more attractive to women.

Thus both changes in the structure of employment demand and in labour market institutions and regulations contributed to the increased inflow of women into the labour market. The changes are also likely to have been reflected in higher wages available to women, thus serving to further increase the attraction of employment. Reforms in the regulations governing the social welfare entitlements of married women are likely to have had a similar effect. Moreover, on the supply-side, as we have noted in Section 2, there was a substantial increase in educational participation for both males and females over the period. This would be expected to have resulted in a convergence of male and female labour force participation and thus to have contributed to the very large increase in female labour force participation among women aged 25 years or over indicated in Table 2.8 above.[9] Other influences, however, such as the absence of child care facilities are likely to have acted as a deterrent. Recent studies which have attempted to analyse the causes underlying the rapid growth in women's

8 Such as the removal of the marriage bar in the Public Service in 1973, the Anti-Discrimination (Employment) and Anti-Discrimination (Pay) Acts of 1974 and 1975, the Employment Equality Act of 1977, and the introduction of a statutory right of maternity leave in 1981.

9 A significant factor here would have been the rise in female participation in Third-Level education.

labour force participation are those of Callan and Farrell (1991) and Walsh (1993).

Callan and Farrell, using data from a sample of 2,500 women collected in 1987,[10] found that the probability of a married woman being in the labour force increased with potential earnings (estimated for non-participants on the basis of their education, work experience, and related variables) and the local availability of suitable jobs, and decreased with age, the presence of children and husband's earnings. The study also concluded that higher educational levels and declining family size would result in greater labour force participation. In a further analysis they apply the wage-participation relationship estimated for 1987 to explain past trends and project future trends. On this basis they argue that increased wages accounted for between half and two-thirds of the growth in married female labour force participation between the early 1960s and the late 1980s. It should be noted, however, as the authors acknowledge, that the estimated relationship between wages and labour force participation over time is based on cross-sectional data from 1987, *after* the contextual changes discussed above took place, with the result that the explanatory variable — the 1987 wage-participation relationship — already reflects the effects of both the contextual changes on wages and the capacity of women to respond to those changes.

Walsh's (1993) model of female labour force participation is based on an analysis of aggregate trend data relating to labour force participation, net earnings, social welfare benefit levels and birth rates over the years from 1971 to 1991. His time series analysis indicated that two variables — the real level of unemployment benefits and birth rates — explain year-to-year variations in adult female participation. Walsh's conclusion regarding the importance of unemployment benefits is puzzling for several reasons. First, as he acknowledges himself, "only a minority of those in the labour force is unemployed" and it is not clear that changes in *unemployment* benefit rates are more important to those considering entry to the labour force than wage rates. Second, his operationalisation of the wage variables — year-to-year changes in average wages — assumes that it is annual fluctuations, rather than more gradual wage shifts which are theoretically salient; a moving average of wages might have been more appropriate since it is clear from the data that wages are quite volatile from year-to-year. Finally, as in the case of the Callan and Farrell model, no account is taken of changes in the cultural and regulatory contexts effecting women's capacity to respond to shifts in returns to labour market participation.

It is clear that the factors underlying the growth in female labour force participation over recent decades are complex, and that there are varying views as to the degree of emphasis that should be given to the different influences in explaining this growth. It is likely that all of the factors mentioned, including cultural and attitudinal ones and the effects of removing institutional barriers, had an impact, but the existing body of research does not allow us to determine clearly the relative importance of these different influences.

7. Long-Term Unemployment

In the final section of this chapter we consider the question of long-term unemployment (LTU). As convention currently dictates, this is defined as constituting those unemployed for at least one year. Although unemployment is most frequently reported in terms of the total number of individuals in that state at a point in time, it does not in fact consist of a stable stock of individuals when considered over any time span. There are continuous flows into and out of unemployment, with the result that at any given point the numbers will include those who have recently entered unemployment, those who have been unemployed for long periods and those who are about to enter or re-enter employment or otherwise leave the unemployed state. The escalation in long duration unemployment since the early 1980s has caused analysts and policy makers to view unemployment in terms of these additional dimensions and this, in turn, has influenced policy responses. Ireland suffers from an exceptionally high level of long-term unemployment. The proportions of the labour force and of those unemployed, who have been out of work for one year

[10] The data were taken from the ESRI Survey of Income Distribution, Poverty and Usage of State Services.

Differing Measures of Unemployment: The Labour Force Survey and the Live Register

The classification of a person as unemployed on the basis of principal economic status (PES) in the Labour Force Survey is based on the respondent's subjective assessment of their usual situation (See foonote 1). The Live Register is a measure of the number of persons registering as unemployed on a monthly basis in order to claim social welfare payments or qualify for Social Insurance credits. While the two trends have been similar over time historically, they have diverged substantially since the mid-1980s. In 1985 the Live Register figure, then 228,000, exceeded the Labour Force Survey measure by only 2,000. That gap increased to 31,000 in 1989 and to 65,000 in 1993. We would not expect the two measures to yield identical levels of unemployment. Some persons who are in fact unemployed may not appear on the Live Register because they fail to satisfy eligibility criteria, and some who do satisfy such criteria may not be unemployed as defined in the concept of PES. The more recent divergence in the two series can be attributed to two main factors which would lead to a shortfall of LFS estimated unemployment *vis-à-vis* the Live Register: (1) greater numbers of females aged over 25 years are now signing on the Live Register following the 1985 Social Welfare Act which removed restrictions on married women signing on many are believed to identify themselves as engaged in "home duties" in the Labour Force Survey; (2) those who have withdrawn from the labour force, or are only marginally attached to it, but who, nevertheless, are registered for receipt of social welfare payments are also unlikely to describe themselves as unemployed in the LFS. The number of discouraged workers and those marginally attached to the labour force is likely to have increased over the 1980s with the growth of mass unemployment and the increase in the incidence of longterm unemployment. On the other hand, many young people who are unemployed and who either have insufficient contributions to qualify for Unemployment Benefit or who, living at home, do not satisfy the means test for Unemployment Assistance, have little incentive to sign on the Live Register. This should result in the Live Register underestimating the true level of unemployment among young people (and the LFS based measure). In the second half of the 1980s, outward migration was concentrated among younger persons, which may have had the result of reducing the shortfall with regard to this component of the Live Register data which previously offset the excesses in the other areas referred to (See NESC (1993) for a more complete discussion of the divergence between the two series).

or more is one of the highest in the EU. Estimates from the 1990 Community Labour Force Survey indicate that for Ireland the share of LTU in total unemployment was over 60 per cent, compared with an EU average of 46 per cent. The Irish proportions are surpassed only by those of Belgium and Italy.

While virtually all of the data previously quoted in this paper relate to Labour Force Survey estimates, in examining the issue of long-term unemployment use is made of data on the registered unemployed (Live Register), as these figures are available on a more up-to-date basis and in considerable detail, particularly in regard to classifications by duration of registration.[11]

Table 2.9 contains a summary of the most recent data available, relating to April 1993. It shows a classification of the registered unemployed by sex, age and duration of registration. The figures show that at the time in question 132,102 persons (44.3 per cent) out of the total unemployment stock of 297,958 were unemployed for one year

11 The use of register based (as distinct from survey) data normally results in a lower measure of the relative degree of long-term unemployment (i.e., when expressed as a proportion of total unemployment). The substantial differences in registration systems across countries also precludes the use of such figures in making international comparisons, but this does not imply that they cannot be usefully interpreted in a national context. For a more detailed discussion on this issue, see Sexton (1988).

Table 2.9: Registered Unemployed classified by Age and Duration of Registration, April 1993

Age	Duration				Total Unemployed	Long-term Unemployed	
	<1yr	1-2yrs	2-3yrs	3yrs+		Number	%
Males							
<25	34,617	8,696	4,390	4,053	51,756	17,139	33.1
25-34	29,010	8,833	5,616	11,868	55,327	26,317	47.6
35-44	19,413	6,846	4,824	14,916	45,999	26,586	57.8
45-54	12,109	4,343	3,316	11,450	31,218	19,109	61.2
55+	6,704	2,042	1,107	3,135	12,988	6,284	48.4
Total	101,853	30,760	19,253	45,422	197,288	95,435	48.4
Females							
<25	24,316	5,448	2,265	2,152	34,181	9,865	28.9
25-34	19,966	5,166	2,661	4,430	32,223	12,257	38.0
35-44	11,020	3,039	1,654	3,540	19,253	8,233	42.8
45-54	6,116	1,552	910	2,066	10,644	4,528	42.5
55+	2,585	709	373	702	4,369	1,784	40.8
Total	64,003	15,914	7,863	12,890	100,670	36,667	36.4
Persons							
<25	58,933	14,144	6,655	6,205	85,937	27,004	31.4
25-34	48,976	13,999	8,277	16,298	87,550	38,574	44.1
35-44	30,433	9,885	6,478	18,456	65,252	34,819	53.4
45-54	18,225	5,895	4,226	13,516	41,862	23,637	56.5
55+	9,289	2,751	1,480	3,837	17,357	8,068	46.5
Total	165,856	46,674	27,116	58,312	297,958	132,102	44.3

or more. However, within the former group, no less than 85,428 persons (or nearly 29 per cent of the overall total) were out of work for more than two years, and 58,312 (nearly 20 per cent) were unemployed for more than three years. The registered long-term unemployed are predominantly male — to the extent of 95,400 or over 72 per cent of the total. Furthermore the incidence of LTU is also greater for males (48.4 per cent), than for females (36.4 per cent).

There is a noticeable association between duration of unemployment and age. LTU is much more prevalent among the older age classes. The final column in Table 2.9 shows that while the share of long-term unemployment in total

unemployment is just over 30 per cent for those aged less than 25 years, it rises with increasing age, the ratio for persons aged 45 to 54 years being 57 per cent. However, the LTU share decreases somewhat (to 46.5 per cent) for the oldest age group involving persons aged 55 years or more, largely because of the impact of pre-retirement schemes which allow registered unemployed persons in this age class to quit the Live Register and retain their benefits, as long as they give an undertaking to remain out of the labour force.[12] The somewhat larger differential in the LTU share for this oldest age group for males suggests that older unemployed men have availed of the pre-retirement option to a much greater degree than have women.

Heretofore, the emphasis has been on viewing long-term unemployment within age groups. However, it is also relevant to consider the age composition of the LTU group as a whole. In this context, Table 2.9 shows that 79.5 per cent of the total body of LTU persons in April 1993 was aged 25 years or over. The corresponding proportions for males and females were 82.0 per cent and 73.1 per cent, respectively. Over one-half of the overall LTU total related to persons aged 35 years or over.

In summary, therefore, one can say that the Irish long-term unemployment problem involves a significant majority of males and its age composition is weighted very heavily towards the older age classes.

Turning to the question of time trends, Table 2.10 shows how LTU has risen inexorably over the past 13 years. These figures show that the

Table 2.10:Total Registered Unemployed and Long-Term Unemployed (LTU), 1980-1993

	1980	1981	1986	1989	1990	1991	1992	1993
Long-term Unemployed								
Males	27,292	32,503	84,394	80,295	75,383	76,966	87,420	95,435
Females	4,888	6,040	19,267	24,221	24,883	26,727	31,090	36,667
Total	32,180	38,543	103,661	104,516	100,266	103,693	118,510	132,102
Total Unemployed								
Males	70,730	97,074	172,931	163,421	151,792	166,290	187,555	197,288
Females	21,973	29,262	60,983	70,656	71,459	78,185	92,326	100,670
Total	92,703	126,336	233,914	234,077	223,251	244,475	279,881	297,958
% Long-term Unemployed								
Males	38.6	33.5	48.8	49.1	49.7	46.3	46.6	48.4
Females	22.2	20.6	31.6	34.3	34.8	34.2	33.7	36.4
Total	34.7	30.5	44.3	44.7	44.9	42.4	42.3	44.3

12 Over 17,000 persons aged under 65 years (14,000 males and 3,000 females) were either on the Pre-Retirement Allowance Scheme (PRETA) or the Pre-Retirement Credits Scheme (PRECS) in April 1993. This number has increased significantly in recent years, partly due to extensions in the coverage of the schemes. The total number covered by these schemes in April 1991 was just over 9,000.

number of registered long-term unemployed persons rose from 32,200 in April 1980 to 132,100 in April 1993. The number declined somewhat in 1990 when economic conditions were particularly favourable, but it resumed its upward climb when labour market circumstances subsequently deteriorated. When expressed as a share of total registered unemployment, the incidence of LTU is seen to have increased from less than 35 per cent to over 44 per cent over this time span.

It is necessary to view the phenomenon of long-term unemployment over an extended period in order to see beyond the temporary effects of economic cycles on the duration of unemployment. In fact, the above-mentioned shares usually decrease in value during the onset of a recessionary period as the overall unemployment total becomes inflated due to the inflow of increased numbers of recently unemployed persons. In time, however, especially if the economic downturn persists, many from this larger body of newly unemployed persons will be unable to find work, with the result that the LTU total will become further augmented. The pattern which has emerged across many Western economies during the 1980s is that the stock of LTU did not fall to any significant degree when economic conditions improved, it merely stabilised, with the result that the next dip in the economic cycle caused the total to rise further, leading to the build-up of a very large body of disadvantaged unemployed.

The Effects of Duration on Leaving Unemployment

It is of interest to examine the probability of leaving or escaping from unemployment after an extended duration in that state. Such "escape" probabilities can be estimated by linking the numbers in the duration categories given in Table 2.9 for successive years. For example, persons who were unemployed for between 1 and 2 years in April 1993 (46,674) must have all been unemployed for less than 1 year in April 1992, for which the overall total was 161,371. The former group can thus be regarded as "survivors" into 1993 from the latter larger original group: in this sense the "survivorship" probability is 0.289, or looking at it another way, the "escape" probability is 1-0.289 or 0.711. This procedure can be interpreted as indicating that a person who at any point is unemployed for less than a year, has a probability of about 0.7 of escaping from that state over a subsequent one-year period.

While the "escape" probability as calculated in this way is reasonably large for the category indicated, it decreases dramatically when longer duration classes are involved. The corresponding escape probability for the transition from the 1 to 2 year unemployed duration class to the 2 to 3 year class is 0.37, and it decreases further to less than 0.25 for the transition from the 2 years or over duration category to that involving 3 years or over. Thus the probability of escaping from unemployment decreases markedly with the length of the time spent in that state. A full range of such escape probabilities covering the period from 1989 to 1993 is given in Table 2.11. It will be noted that the probabilities have tended to decrease across all transition classes over this period, i.e., the likelihood of leaving unemployment decreased as economic conditions deteriorated. These decreases are much more noticeable for the longer duration categories indicated. The period covered is, however, a relatively short one which involved a transition from considerable economic buoyancy to recession. One would expect the escape probabilities to increase again as economic conditions improve, even though whether they would regain the levels which prevailed in 1989/90 is questionable. It is relevant to mention in this regard that previous research carried out by Breen and Honohan in 1991 indicated that, while such escape probabilities are subject to cyclical related movements, they do not tend to vary greatly in the long run.

One can suggest several reasons why the long duration unemployed find it especially difficult to escape from that state. The very fact of being out of work for a prolonged period of itself creates a severe disadvantage, given employers' known propensity to engage more recently unemployed persons or younger persons entering the labour force for the first time.[13] In addition, the particular circumstances which have prevailed in the Irish labour market over the past decade or so,

13 See Whelan *et al.* "A Study of the Employment Possibilities of the Long-Term Unemployed". Department of Labour, Dublin, forthcoming.

Table 2.11: Probability of Leaving the Live Register for Successive Periods over 1989-93

Period	<1 year to 1-2 years	1-2 years to 2-3 years	2-3 years to 3+ years
1989/90	0.744	0.449	0.308
1990/91	0.718	0.383	0.277
1991/92	0.695	0.385	0.213
1992/93	0.711	0.368	0.229

involving a continuous inflow of relatively well qualified young people, has rendered the situation more acute. In these circumstances, the existing unemployed, particularly those in the older age groups and those with low levels of educational attaintment, tend to get pushed further down the queue of job seekers. It is noticeable that the only recent (brief) period which saw a decline in the numbers of long-term unemployed was in 1989/90 when employment creation was running at a high level *and* emigration (which tends to syphon off young labour markets entrants) was still high due to relatively favourable conditions in the UK labour market.

Other reasons, apart from the "duration dependence" argument just outlined, have been put forward for the large increase in long-term unemployment over the past decade. It has been suggested that unemployment benefits are too high relative to average net earnings (partly as a result of failure to integrate the benefit and taxation systems) and that this has deterred unemployed persons from availing of existing employment opportunities. While such an influence may be relevant in certain circumstances (e.g., for unemployed persons with several dependants), it hardly seems plausible to advance this as a primary reason underpinning the increase of some 100,000 in long-term unemployment throughout the 1980s, given the acknowledged dearth of job opportunities that has applied over virtually all of that period.

Given the changed nature of job opportunities, it is likely that many of the older workers who suffered job loss in the 1980s might not have found employment even if labour market pressures were less intense, as their educational profile was extremely disadvantageous. A 1993 study by Sexton and O'Connell indicated that almost 50 per cent of long-term unemployed persons had no formal educational qualifications, a proportion which increases to almost two-thirds for LTU persons aged 35 years and over. These figures compare with a corresponding proportion of less than 25 per cent without educational qualifications for persons unemployed for less than a year.

Future Levels of Long-Term Unemployment

While the LTU "escape" probabilities for the period from 1989 to 1993 given in Table 2.11 show a tendency to fall, it is plausible to assume on the basis of the findings of Breen and Honohan (1991) that in the longer term these values will fluctuate within narrow bounds. On this basis, by making assumptions regarding the gross inflow to unemployment, and applying *assumed* escape probabilities to the existing duration structure of unemployment at a given point in time, it is possible to provide some estimates of the likely future levels of both total and long-term unemployment. We present the results of such a simulation in Table 2.12. Our first assumption, regarding inflows to unemployment, are presented in column 1 of the table showing annual numbers unemployed for less than 1 year. These inflows are based on our interpretation of the implications of the *Medium-Term Model* forecasts for labour demand to the year 2000 when compared against the known annual inflows over the period from 1989 to 1993. The model suggests a gradual decline in inflows to short-term unemployment, from 166,000 to 130,000 between 1993 and 2000. Our second assumption is that the escape rates are constant and equal to the mean of the four observations from the 1989-1993 period — a period which includes years of both expansion (1989-90) and contraction (1990-1993) in the labour market.

Table 2.12: The Registered Unemployed by Duration of Registration with Simulation Involving Constant Escape Probabilities after 1994 (averages).

Year *(April)*	Duration: Less than 1 year	1-2 years	2-3 years	3+ years	TOTAL	Long-term Unemployed	% Long-term
1989	129561	37067	21063	46386	234077	104516	44.7
1990	122985	33193	20417	46656	223251	100266	44.9
1991	140782	34711	20464	48518	244475	103693	42.4
1992	161371	42875	21340	54295	279881	118510	42.3
1993	165865	46674	27116	58312	297967	132102	44.3
1994	160000	46940	28172	63285	298397	138397	46.4
1995	155000	45280	28333	67752	296365	141365	47.7
1996	145000	43865	27331	71179	287375	142375	49.5
1997	140000	41035	26477	72977	280488	140488	50.1
1998	135000	39620	24769	73675	273064	138064	50.6
1999	130000	38205	23915	72927	265047	135047	51.0
2000	130000	36790	23061	71740	261591	131591	50.3

Our simulation suggests that total registered unemployed should fall gradually by 36,000 from 298,000 in 1993 to just over 260,000 by the year 2000. Long-term unemployment is likely to increase from 132,000 in 1993 to a peak of 142,000 in 1996 and then return to 132,000 in 2000. Thus, while the model suggests some decline in total unemployment, the observed pattern of escape from long-term unemployment is such that we can anticipate no reduction in the number of long-term unemployed until after the turn of the century. Accordingly, the ratio of long-term unemployment to total unemployment is forecast to increase from 44 per cent in 1993 to 50 per cent in 1997 and to remain at that level to the end of the century. These simulations suggest that high levels of long-term unemployment are virtually unavoidable on the basis of a continuation of current policies in the period up to the year 2000 and beyond, even if economic conditions improve considerably, as is anticipated in the *Medium-Term Model.* This has clear implications for labour market policies, particularly in addressing the problems of the large numbers of disadvantaged unemployed.[14]

14 It should be noted that the escape rates underlying the simulation take into account existing labour market policies, including training and employment programmes for unemployed workers and early retirement schemes, participants in which are not registered as unemployed and are therefore included in our escape rates. We note that the *National Development Plan* for the years 1994-1999 and the current Budget both contain provisions to substantially expand programmes targeted specifically on the long-term unemployed. The impact of these expanded programmes are not reflected in our simulation. A once-off expansion in such programmes can be expected to lead to a once-off reduction in the level of long-term unemployment. However, we can anticipate on the basis of past experience that this may be followed by an increase in the number of new inflows to short-term unemployment in subsequent years — the size of the increase being determined by the numbers coming off training and employment schemes who do not find employment and register for unemployment assistance.

8. Concluding Remarks

In the final section of this chapter we review some of the principal issues dealt with and consider how these might be associated with the changes which have occurred in the labour market over the past 10 years, particularly the sharp rise in unemployment. Obviously there are so many influences affecting the employment and unemployment situation that any comprehensive or wide ranging discussion of all of these is outside the scope of this exercise. Among the various aspects involved are demographic and behavioural issues, changing employment structures, labour costs, employment legislation, the level of social welfare benefits, insufficient rates of output growth and so on. Even though we will offer summary comments on a number of these aspects, our discussion will centre principally on the first two, i.e., demographic and behavioural effects and the changing structure of employment.

Demographic and Behavioural Aspects

The first of these headings is concerned basically with effects of changes in the size of the work force, whether these changes derive from purely population effects or movements in labour force participation. Some commentators contend that labour force expansion has had little to do with the recent rise in unemployment. It is true that in the 1980s the Irish labour force underwent only modest growth (because of the effects of high emigration) and the unemployment rate continued to rise over this period, from just under 7 per cent to 16 per cent. Reference is also made to the experience in other countries (notably the US, Japan, and the emerging nations on the Pacific rim) where there has been very rapid labour force growth and simultaneous employment expansion. There is some validity in this argument if it is made in a longer-term context. At any one time from information on the current demographic structure in a country, when taken with reasonable expectations concerning labour force participation, it is possible to chart the potential growth in the national labour force over an extended period into the future. In these circumstances the argument is that society should respond by putting in place growth incentives and changes in organisational structures with a view to meeting the employment challenge. Indeed this sentiment is similar to that expressed by the 1954 Commission on Emigration which, in commenting on the "safety valve" of emigration stated:

> If that outlet did not exist, the country would have been compelled to resort to intensive development ... in such circumstances the will to make greater use of national resources would have been strengthened and the means of developing these resources would have been more eagerly sought after. Instead the ready outlet of emigration has provided the remaining population with a reasonably satisfying standard of living and has been responsible for an acquiesence in conditions of underdevelopment which are capable of considerable improvement.

This argument is less compelling however if it is applied to a shorter time horizon for which it is difficult to conceive of appropriate remedial measures which can have significant short-term employment effects — especially in relation to an economy which can experience sizeable fluctuations in the size of its labour force. Take the recent period between 1990 and 1992. Even though the level of employment in the Irish economy remained constant, unemployment soared by some 50,000 because the workforce expanded rapidly (also by 50,000) due to the twin pressures of population growth and rising labour force participation. Usually in such circumstances emigration would serve to relieve the situation. However, on this occasion recession abroad precluded this and perhaps for the first time in recent history we had to bear the full brunt of the pressures in the labour market.

There have been attempts through the medium of macro-economic models to measure the extent to which different factors, including demographic and behavioural influences, have contributed to the rise in Irish unemployment. Recent such exercises are those of Newell and Symons (1990), Bradley and Barry (1991). The paper by McGettigan contained in this report also deals with this issue. Basically the method involves using an econometric model to simulate unemployment levels historically and then holding base year parameter values constant in succession for the different factors under study in order to isolate the contribution of each to the change in the unemployment rate over the period chosen. In the case of the demographic/behavioural influence this would involve eliminating both the

trend change in labour force participation and the population induced change in the size of the labour force.

The results obtained depends very much on the period analysed. In Barry and Bradley's work an analysis covering the period from 1970 to 1987 suggests that "external factors" and "demographic/behavioural influences" were important in causing the rise in unemployment over this period, contributing 4.3 and 3.8 percentage points to the overall simulated rise of 9.7 in the unemployment rate.[15] Domestic policy factors accounted for the remaining 2.0 percentage points. However, if the shorter 1979/86 period is chosen, the demographic factor is shown to be negligible and domestic issues assume much greater importance. This is hardly surprising. The first half of the 1980s was a period when the chickens came home to roost after the excesses of the late 1970s. Domestic intervention in the economy was substantial, and while this was necessary for budgetary and monetary reasons, it was unavoidably negative from an employment point of view.

Affects of Changes in the Structure of Employment

Our analysis of sectoral employment trends (Section 4) has already illustrated the far reaching changes which have occurred in the structure of employment. However, the changes run deeper than these figures indicate. Different industries have significantly different occupational or skill structures and therefore the sectoral movements over recent decades have given rise to fundamental changes in the occupational/skill profile of the employed workforce. While in this regard the influence of sectoral changes has been the dominant one, occupational profiles have also been evolving within industries. This has applied particularly to managerial and professional activities at all levels which have assumed significantly greater importance within enterprises, irrespective of the economic fortunes of these enterprises. In contrast the extent of manual activities (particularly unskilled) has been in decline.

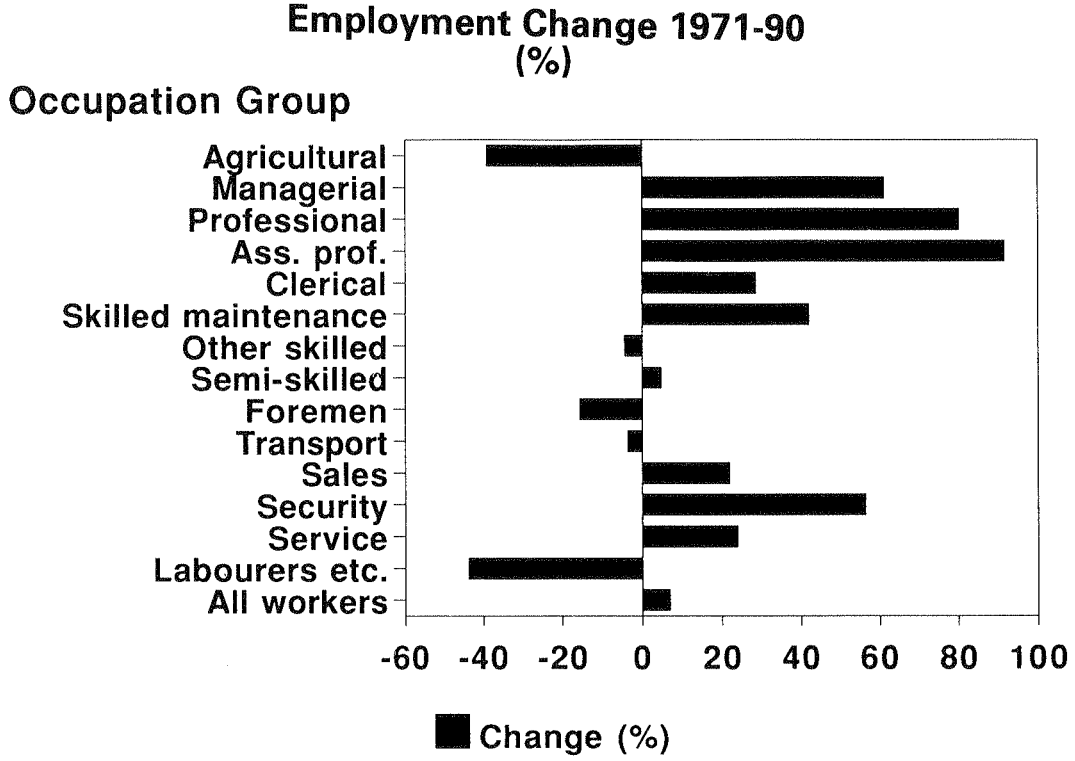
The extent of these changes is illustrated graphically in Figure 2.8, taken from Corcoran, Sexton, O'Donoghue (1992), which indicates the relevant changes for different occupational groups over the period from 1971 to 1990. The significant increase in managerial and professional activities just referred to is clearly evident, as is the relevant decline of manual occupations (particularly the unskilled). Service type occupations have also increased in importance. These developments have naturally led to changes in the occupational distribution of employment. Appendix Table A2.6, which is taken from the same source, shows that between 1971 and 1990 the share of total employment attributable to persons with managerial and professional occupations rose from 16 per cent to over 26 per cent. Services occupations also assumed greater importance during this period, even though the increase was somewhat less dramatic. In contrast manual workers constituted a diminishing proportion of total persons at work throughout this period, the relevant share declining from 33 per cent in 1971 to just over 29 per cent in 1990.

These changes, which follow an international pattern, involved much more than just a shift from manual to non-manual activities. The new types of jobs on offer required either qualifications or personal skills (or both) and a degree of flexibility which were not characteristic of traditional forms of employment. The fact that these changes coincided with the removal of many impediments to female involvement in the labour market resulted inevitably in many of these new opportunities being availed of by women. It was also the case that many of those who suffered job loss from traditional areas (especially from industry in the early 1980s) could not adapt, or did not have the particular skill or aptitudes associated with the new vacancies. Therefore for them unemployment, and eventually long-term unemployment, became the inevitable consequence, especially for older workers.

It must be acknowledged that some of the new job opportunities which have emerged have involved low wage or part-time work. This is, however, a feature which is, perhaps, more characteristic of external labour markets, particularly in the United States. In Ireland and in other European countries (with the exception of the United

[15] The simulated rise in unemployment is not precisely the same as the historical rise, but it tends to be very close to it.

Figure 2.8



Kingdom) institutional factors in the labour market would have tended to curtail the expansion of slow wage employment. However the upward trend in part-time working in Ireland, as referred to earlier in the paper, is perhaps indicative of a gradual extension of more peripheral forms of employment.

One might have expected young people to benefit to some degree from the type of employment opportunities which materialised during the 1980s. It is clear from our earlier analysis (Section 5) that this did not happen to any significant degree. The employment level for persons aged 15 to 24 years fell by as much as 27 per cent between 1981 and 1991; the unemployment rate for the same age group rose from 15 per cent to 24 per cent. It is even more remarkable that this should have happened at a time when in overall terms the educational attainments of young people has increased greatly. Many of the more highly qualified young persons emigrated in the 1980s. Moreover Sexton and O'Connell (1993) in analysing the educational levels of the unemployed in 1991, demonstrated that over 75 per cent of short-term unemployed persons (who would be predominantly young) possessed at least basic educational qualifications[16] and nearly 40 per cent had successfully attained Leaving Certificate standard or higher.

The difficulties which faced young people is brought into even clearer relief if one considers how they fared on entering the labour market. Appendix Table A2.7, which contains estimates from the annual Department of Enterprise and Employment Survey of Second Level School Leavers, shows the position of 1981 and 1991 school leavers some one year after leaving education. Even though the cohort in question was of much the same size in both years (about 66,000) less than 25,000 were recorded as being in employment from the 1991 group, compared over 39,000 from the group who left school 10 years earlier. One will note in particular the sharp fall in the numbers in clerical and professional type employment and, to a lesser degree, in manual activities. While the reductions are to some degree related to declines in the intake of young recruits into traditional areas such as the public sector, semi-state agencies and banks, the decreases in professional and junior managerial occupations and in service activities are remarkable when one

[16] That is Intermediate or Group Certificate.

bears in mind the overall growth in these occupations as already indicated.

On the basis of this evidence it is clear that the problems facing young people in the labour market in the 1980s were due to a significant degree to the sheer pressure of competition for the limited employment opportunities on offer. The numbers out of work would have risen to even greater heights if emigration was not an option and if the educational sector was not expanded significantly in size.

Wider Issues

Let us conclude by making some brief comments on the wider problems facing us in regard to employment creation. Essentially there are two alternative approaches in attempting to meet this challenge — either to attain more rapid increases in output or to substantially raise the employment potential of the economy for given levels of output. It is of interest to note that the first mentioned deficiency (i.e., insufficient growth) was suggested by Walsh (1987) as the principal reason underlying the growth in unemployment throughout the first half of the 1980s. However the attainment of above average growth rates is extremely difficult in our circumstances, given the openness of the Irish economy and its susceptibility to external influences. Even though we have in the past attained growth rates above the prevailing international norms, the world economy exerts a powerful influence and imposes limits on achievable levels of expansion. Any attempt at unilateral expansion based on domestic pump-priming (like that attempted in the late 1970s) is fraught with fiscal and monetary dangers. Such initiatives have proved unsustainable even in much larger more economically independent countries (e.g., France in 1981).

It is possible, however, to conceive of a situation where we achieve faster growth through greatly enhanced penetration in the international markets through the provision of quality goods and services made available by a more efficient workforce. Needless to say, this is more easily said than done. Raising output, growth and employment through enhanced education, skills and better entrepreneurship is a long-term process. This, to some degree, reflects elements of the approach to the problem set out in Kerins (1993). And the mere enhancement of skills and attitudes is not enough — we must achieve this at a faster pace than our competitors. Furthermore unless a larger proportion of such growth is attained through the indigenous sector (in both primary production and services) employment creation will lag behind. While the multinational manufacturing sector clearly has a role to play, the responsibility for improving the employment situation lies primarily in the hands of indigenous players, and unless there is a substantially increased contribution to growth from this sector, significant inroads in reducing unemployment will not be made.

Suggestions for raising the employment intensity of growth mainly focus on either promoting sectoral shifts or reducing labour costs and deregulating the labour market. We have already referred to sectoral shifts in the context of promoting indigenous industry, and we have noted that the Irish economy has undergone significant restructuring over the past three decades. While cutting wage costs, reducing social protection and deregulating the labour market, would undoubtedly lead to increased employment, we are convinced that, as is argued in the European Commission's recent paper, *Growth, Competitiveness, Employment,* such changes (especially if applied extensively) would involve costs which are socially unacceptable and politically untenable. Drastic reductions in wages could worsen the employment crisis by depressing domestic demand, and thus undermine growth and employment. Moreover, given the openness of the Irish labour market, wage reductions at home would be expected to lead to a resurgence of emigration, particularly of highly skilled workers seeking higher paid jobs with better conditions abroad. At the same time, various reports, including the European Commission (1993) and NESC. (1993), argue that some reduction in the incidence of taxation of earned income (including both income tax and social security contributions), made possible by a restructuring of the tax system and a broadening of the tax base, would be reduce wage costs and lead to some employment increases without negatively affecting wage rates. While tax reform may be justified on equity grounds, its impact on employment may be quite limited. Empirical research (Fitz Gerald and McCoy, 1992; Sexton, 1992) suggests that a *general* cut in wage costs,

achieved through a reduction in employers' social insurance contributions and compensated for by increased taxes on either property or energy, are likely to have very limited impact on employment. More promising in this regard would be reductions in taxes on earned incomes targeted on those with low-to-middle incomes, thus reducing taxation on the employment of less-skilled workers — those who are disproportionately concentrated among both unemployed, and particularly the long-term unemployed.

References

BARRY, F. and J. BRADLEY 1991. "On the Causes of Ireland's Unemployment", *The Economic and Social Review,* Vol. 22, No. 4, Dublin.

BRADLEY, J., J. FITZ GERALD, D. McCOY 1991. *Medium-Term Review 1991-1996,* Dublin: The Economic and Social Research Institute.

BREEN, R. and P. HONOHAN 1991. "Trends in the Share of Long-Term Unemployment in Ireland", *The Economic and Social Review,* Vol. 23, No. 1, Dublin.

CALLAN, T. and B. FARRELL 1991. *Women's Participation in the Irish Labour Market,* Dublin: National Economic and Social Council, Report No. 91.

CENTRAL STATISTICS OFFICE, *Censuses of Population* (various issues), Dublin: Stationery Office.

CENTRAL STATISTICS OFFICE, *Annual Labour Force Survey Reports* (various issues), Dublin: Stationery Office.

CENTRAL STATISTICS OFFICE, *Annual Reports on Vital Statistics* (various issues). Dublin: Stationery Office.

CENTRAL STATISTICS OFFICE, *Live Register Half Yearly Age by Duration Analysis* (various issues), Dublin: Stationery Office.

CENTRAL STATISTICS OFFICE 1988. *The Trend of Employment and Unemployment, 1979-1985.* Dublin: Stationery Office.

CENTRAL STATISTICS OFFICE 1991. *The Trend of Employment and Unemployment, 1986-1988.* Dublin Stationery Office.

COMMISSION OF THE EUROPEAN COMMUNITIES 1993. *Growth, Competitiveness, Employment: The Challenges and Ways Forward into the 21st* Century — White Paper, Luxembourg: Office of Official Publications of the European Communities

COMMISSION ON EMIGRATION AND OTHER POPULATION PROBLEMS 1954. Dublin: Stationery Office.

CORCORAN, T., J. J. SEXTON, D. O'DONOGHUE 1992. "A Review of Trends in the Occupational Pattern of Employment in Ireland 1971-1990", Dublin: FÁS/ESRI, Manpower Forecasting Studies, Paper No. 2.

EUROSTAT 1993a, *Employment and Unemployment Aggregates 1980-1991,* Luxembourg.

EUROSTAT 1993b, *Labour Force Survey, 1983-1991,* Luxembourg.

FITZ GERALD, J. and D. MCCOY (eds.) 1994. "The Macroeconomic Implications for Ireland" in *The Economic Effects of Carbon Taxes*, Dublin: The Economic and Social Research Institute, Policy Research Series, Paper No. 14.

GARVEY, D. 1988. "What is the Best Measure of Employment and Unemployment in Ireland?", *Journal of the Statistical and Social Inquiry Society of Ireland,* Vol. XXV, Part V, Dublin.

HONOHAN, P. 1984. "The Evolutions of the Rate of Unemployment in Ireland", *Quarterly Economic Commentary,* Dublin: The Economic and Social Research Institute.

KEARNEY, B. 1992. "Trends in the Farm Labour Force." *FÁS Labour Market Review,* Vol. 3, No. 1, Dublin.

KERINS, A. 1993. *Learning Societies and Low Unemployment. Education and Training in Low Unemployment Countries,* Dublin: Irish Management Institute.

NATIONAL ECONOMIC AND SOCIAL COUNCIL 1991. *The Economic and Social Implications of Emigration* (by J.J. Sexton, B.M. Walsh, D. Hannan, D. McMahon). Dublin: National Economic and Social Council, Report No. 90.

NATIONAL ECONOMIC AND SOCIAL COUNCIL 1992. *The Association Between Economic Growth and Employment Growth in Ireland,* Dublin: National Economic and Social Council, Report No. 94.

NATIONAL ECONOMIC AND SOCIAL COUNCIL 1993. *A Strategy for Competitiveness, Growth and Employment,* Dublin: National Economic and Social Council, Report No. 96.

NEWELL, A. and J. SYMONS 1990. "The Causes of Ireland's Unemployment", *The Economic and Social Review,* Vol, 21, No. 4, Dublin.

Ó GRÁDA C. and B.M. WALSH 1992. "Irish Emigration: Patterns, Causes and Effects", Centre for Economic Research, Department of Economics, University College, Dublin.

SEXTON J. J. 1981. "The Changing Labour Force", in *The Irish Economy and Society in the 1980s.* Dublin: The Economic and Social Research Institute, Twenty First Anniversary Conference, October 1981.

SEXTON J. J. 1988. "Long-Term Unemployment. Its Wider Labour Market Effects in the Countries of the European Community." *Eurostat,* Population and Social Conditions, Theme 3. Studies and Analyses Series D. Luxembourg.

SEXTON, J. J. 1992. "Assessing Employment Prospects in the Context of Changing Population Structure", FÁS Labour Market Review, Vol. 2, No. 2, Dublin.

SEXTON J. J. and P. O'CONNELL 1993. "Evaluation of Operational Programme to Combat Long-Term Unemployment Among Adults in Ireland: Objective 3 of the Community Support Framework", Dublin: The Economic and Social Research Institute.

WALSH, B. M. 1987. "Why is Unemployment so High"? in *Perspectives on Economic Policy,* Centre for Economic Research, University College, Dublin.

WALSH, B.M. 1993. "Labour Force Participation and the Growth of Women's Employment, Ireland 1971-1991", *The Economic and Social Review,* Vol. 24, No. 4, Dublin.

WHELAN, B. J., R. BREEN, T. CALLAN, B. NOLAN, (forthcoming). "A Study of the Employment Possibilities of the Long-Term Unemployed", Dublin: The Economic and Social Research Institute.

Appendix

Table A2.1: The Labour Force and the Non-Active Population aged 15 years or over, 1971-93

Year	Labour Force	Education	Home Duties	Others	Population 15+	Labour Force Part. Rate
			(000)			(%)
			Males			
1971	823.5	66.5	3.5	124.7	1020.0	80.7
1977	867.0	89.7	1.9	171.3	1129.9	76.7
1979	891.5	89.9	1.3	183.6	1166.3	76.4
1981	912.5	97.3	1.0	183.1	1193.9	76.4
1982	917.6	100.4	2.5	186.0	1206.5	76.1
1983	917.7	110.3	4.0	189.7	1221.7	75.1
1984	922.0	116.7	4.6	190.2	1233.5	74.7
1985	919.3	116.7	6.7	197.9	1240.6	74.1
1986	915.1	123.2	6.0	199.7	1244.0	73.6
1987	911.5	131.0	5.0	202.5	1250.0	72.9
1988	906.0	134.0	3.4	205.6	1249.0	72.5
1989	886.0	136.0	7.0	216.0	1245.0	71.2
1990	888.0	141.0	7.0	217.0	1253.0	70.9
1991	903.0	146.0	7.0	215.0	1271.0	71.0
1992	906.0	154.0	8.0	219.0	1287.0	70.4
1993	906.0	161.0	10.0	223.0	1300.0	69.7
			Females			
1971	286.6	66.5	635.0	38.9	1027.1	27.9
1977	320.7	89.0	638.9	87.4	1136.0	28.2
1979	341.9	92.3	639.5	98.3	1172.0	29.2
1981	359.1	103.0	661.5	82.1	1205.7	29.8
1982	375.5	107.0	655.0	82.2	1219.7	30.8
1983	389.6	112.9	651.9	85.7	1240.1	31.4
1984	384.9	116.8	674.7	78.8	1255.2	30.7
1985	385.3	114.9	688.4	76.9	1265.5	30.4
1986	393.3	125.0	678.7	74.9	1271.9	30.9
1987	411.0	130.0	671.0	70.0	1282.0	32.1
1988	402.0	137.0	679.0	70.0	1288.0	31.2
1989	403.0	136.0	678.0	74.0	1291.0	31.2
1990	421.0	141.0	661.0	75.0	1298.0	32.4
1991	439.0	146.0	646.0	84.0	1315.0	33.4
1992	455.0	153.0	646.0	77.0	1331.0	34.2
1993	469.0	157.0	626.0	93.0	1345.0	34.9
			Persons			
1971	1110.1	134.8	638.5	163.7	2047.1	54.2
1977	1187.7	178.7	640.8	258.7	2265.9	52.4
1979	1233.4	182.2	640.8	281.9	2338.3	52.7
1981	1271.6	200.3	662.5	265.2	2399.6	53.0
1982	1293.1	207.4	657.5	268.2	2426.2	53.3
1983	1307.3	223.2	655.9	275.4	2461.8	53.1
1984	1306.9	233.5	679.3	269.0	2488.7	52.5
1985	1304.6	231.6	695.1	274.8	2506.1	52.1
1986	1308.4	248.2	684.7	274.6	2515.9	52.0
1987	1322.5	261.0	676.0	272.5	2532.0	52.2
1988	1308.0	271.0	682.4	275.6	2537.0	51.6
1989	1289.0	272.0	685.0	290.0	2536.0	50.8
1990	1309.0	282.0	668.0	292.0	2551.0	51.3
1991	1342.0	292.0	653.0	299.0	2586.0	51.9
1992	1361.0	307.0	654.0	296.0	2618.0	52.0
1993	1375.0	318.0	636.0	316.0	2645.0	52.0

Source: Censuses of Population, Labour Force Surveys, Annual Labour Force Estimates.

Table A2.2: Trends in the numbers at work, unemployed and in net migration, 1971-1993.

Year	At Work	Unemployed	Labour Force	Unemployment Rate	Net Migration
	(000)			(%)	(000)
			Persons		
1971	1,049.4	60.7	1,110.1	5.5	-5
1972	1,052.0	69.0	1,121.0	6.2	11
1973	1,067.0	64.5	1,131.5	5.7	13
1974	1,082.0	61.6	1,143.6	5.4	16
1975	1,072.9	84.6	1,157.5	7.3	20
1976	1,063.8	105.0	1,168.8	9.0	16
1977	1,083.2	104.5	1,187.7	8.8	10
1978	1,109.9	99.0	1,208.9	8.2	7
1979	1,145.3	88.1	1,233.4	7.1	16
1980	1,156.4	91.0	1,247.4	7.3	-8
1981	1,145.9	125.7	1,271.6	9.9	2
1982	1,146.0	147.1	1,293.1	11.4	-1
1983	1,124.0	183.3	1,307.3	14.0	-14
1984	1,103.4	203.5	1,306.9	15.6	-9
1985	1,078.5	226.0	1,304.6	17.3	-20
1986	1,080.9	227.5	1,308.4	17.4	-28
1987	1,090.0	233.0	1,323.0	17.6	-23
1988	1,090.0	218.0	1,308.0	16.7	-42
1989	1,088.0	201.0	1,289.0	15.6	-44
1990	1,134.0	176.0	1,310.0	13.4	-23
1991	1,134.0	208.0	1,342.0	15.5	-2
1992	1,139.0	221.0	1,360.0	16.3	2
1993	1,146.0	229.0	1,375.0	16.7	-6
			Males		
1971	773.9	49.6	823.5	6.0	-1
1972	771.8	55.5	827.3	6.7	5
1973	779.2	52.0	831.2	6.3	9
1974	786.4	49.3	835.7	5.9	10
1975	774.9	66.9	841.8	7.9	11
1976	768.7	84.0	852.7	9.9	9
1977	784.5	82.5	867.0	9.5	5
1978	801.0	77.0	878.0	8.8	3
1979	824.1	67.4	891.5	7.6	9
1980	829.6	70.0	899.6	7.8	-2
1981	809.2	103.3	912.5	11.3	0
1982	801.5	116.1	917.6	12.7	-2
1983	777.6	140.1	917.7	15.3	-8
1984	765.6	156.4	922.0	17.0	-6
1985	746.5	172.8	919.3	18.8	-12
1986	741.4	173.7	915.1	19.0	-15
1987	736.0	176.0	912.0	19.3	-14
1988	738.0	168.0	906.0	18.5	-24
1989	729.0	157.0	886.0	17.7	-26
1990	753.0	135.0	888.0	15.2	-11
1991	747.0	156.0	903.0	17.3	-1
1992	740.0	166.0	906.0	18.3	2
1993	735.0	171.0	906.0	18.9	-4
			Females		
1971	275.5	11.1	286.6	3.9	-4
1972	280.2	13.5	293.7	4.6	6
1973	287.8	12.5	300.3	4.2	4
1974	295.6	12.3	307.9	4.0	6
1975	298.0	17.7	315.7	5.6	9
1976	295.1	21.0	316.1	6.6	7
1977	298.7	22.0	320.7	6.9	5
1978	308.9	22.0	330.9	6.6	4
1979	321.2	20.7	341.9	6.1	7
1980	326.8	21.0	347.8	6.0	-6
1981	336.7	22.4	359.1	6.2	2
1982	344.5	31.0	375.5	8.3	1
1983	346.4	43.2	389.6	11.1	-6
1984	337.8	47.1	384.9	12.2	-3
1985	332.0	53.2	385.3	13.8	-8
1986	339.5	53.8	393.3	13.7	-13
1987	354.0	57.0	411.0	13.9	-9
1988	352.0	50.0	402.0	12.4	-18
1989	359.0	44.0	403.0	10.9	-18
1990	381.0	41.0	422.0	9.7	-12
1991	387.0	52.0	439.0	11.8	-1
1992	399.0	55.0	454.0	12.1	0
1993	411.0	58.0	469.0	12.4	-2

Sources: Censuses of Population, Labour Force Surveys, Annual Labour Force Estimates.

Table A2.3: Employment by Sector 1971-1991

SECTOR	1971	1977	1979	1981	1986	1989	1990	1991
				(000)				
AGRICTULTURE	271.7	227.2	221.8	188.6	166.9	162.0	170.0	155.0
FOOD	45.0	48.4	48.6	46.0	39.1	37.3	36.1	36.0
HIGH-TECH	54.1	64.1	72.8	74.2	73.4	78.4	84.5	80.9
Metals	14.9	17.8	19.1	20.0	17.8	17.9	20.1	19.3
Machinery (incl. Electrical)	16.7	22.9	28.6	30.6	36.8	41.3	44.1	41.8
Vehicles, Transport Equipment	12.3	10.4	10.6	11.4	6.2	6.1	6.3	6.5
Chemicals	10.2	13.0	14.5	12.2	12.7	13.0	14.0	13.4
TRADITIONAL MANUFACTURING	128.7	124.4	134.6	129.1	111.1	111.3	112.4	115.1
Drink & Tobacco	10.8	11.0	11.8	11.0	9.1	8.7	7.0	7.2
Clothing & Textiles	54.1	45.4	42.0	38.3	30.7	27.7	25.7	25.7
Rubber & Plastic products	5.0	6.9	8.6	7.5	7.5	7.9	7.8	9.2
Wood & Paper products	16.5	17.9	18.3	19.8	19.0	21.3	21.6	22.0
Printing	12.8	11.4	12.6	13.5	12.9	14.6	16.1	13.9
Clay products	11.5	13.3	17.0	16.1	13.2	11.8	14.5	15.2
Other Manufacturing	7.6	10.4	12.1	11.8	10.5	11.4	11.7	14.8
Mining etc.	10.4	8.2	12.2	11.1	8.4	8.0	8.0	7.0
UTILITIES	14.1	12.5	14.0	14.4	14.7	13.0	12.0	13.0
BUILDING	84.1	88.4	101.1	102.2	75.9	67.0	76.0	78.0
Public Construction	17.1	19.5	18.5	22.5	22.1	15.9	15.2	15.9
Other Construction	67.0	68.8	82.6	79.6	53.8	51.1	60.9	62.1
DISTRIBUTION	142.6	159.3	161.2	166.1	164.1	168.6	172.0	173.8
Wholesaling	36.7	37.7	38.0	49.0	44.7	42.8	44.9	40.8
Retailing of Food	31.3	34.1	33.3	34.6	39.2	38.5	38.9	42.3
Other Retailing (incl. vehicles)	62.7	72.5	74.2	67.6	64.6	70.3	71.7	72.6
Public House	12.0	15.1	15.7	14.9	15.6	17.0	16.6	18.1
TRANSPORT	59.8	67.1	68.4	69.3	66.8	67.0	67.7	66.0
Transport	40.2	41.1	44.9	41.7	40.3	41.3	42.7	42.0
Communications	19.7	25.9	23.5	27.6	26.5	25.7	25.0	24.0
OTHER MARKET SERVICES	120.0	120.9	142.5	154.3	168.2	178.6	189.9	202.9
Financial, Professional & Business Servic	37.9	50.2	61.8	70.7	77.3	84.9	92.5	96.2
Hotels, Restaurants etc.	23.3	22.8	26.3	27.1	29.0	30.4	31.0	36.5
Other Market Services	43.1	34.3	42.4	43.7	46.6	48.2	51.3	54.6
Religion, Welfare	15.8	13.6	12.0	12.8	15.3	15.1	15.0	15.6
NON-MARKET SERVICES	129.3	171.9	186.6	193.7	210.8	203.8	213.2	213.3
Health	39.4	56.0	60.7	63.4	68.8	67.5	74.8	73.7
Education	39.2	51.6	53.3	57.9	65.8	66.8	70.3	66.6
Other Non- Market Services	50.7	64.3	72.5	72.4	76.2	69.5	68.1	73.0
TOTAL	1,049.4	1,084.1	1,151.7	1,137.8	1,091.2	1,087.0	1,133.8	1,134.0

Sources: Censuses of Population, Labour Force Surveys, Annual Labour Force Estimates.

Notes: (1) Estimates have been made by the Authors for some of the more detailed sectoral catogeries for recent years.

(2) It should be noted that the figures in this table have been taken directly from Censuses of Population and Labour Force Surveys. As a result, the figures for total employment for some years are different from those given in other tables in the chapter (e.g., Appendix Table A2.2) as the latter have been adjusted by the CSO in order to provide a more consistent indicator of trends.

Table A2.4: Numbers of Males and Females at Work by Broad Sector, 1971-1993.

Year	Agriculture	Manufacturing	Building	Services	Total	Non Agricultural Employment
			(000)			
			Males			
1971	246.6	170.0	82.3	273.6	772.5	525.9
1977	208.4	184.5	85.9	305.7	784.5	576.1
1979	200.9	195.5	97.9	329.8	824.1	623.2
1981	175.8	198.1	99.1	336.2	809.2	633.4
1982	173.0	197.5	93.0	338.0	801.5	628.5
1983	167.7	185.6	82.6	341.7	777.6	609.9
1984	162.6	177.5	79.9	345.6	765.6	603.0
1985	153.0	171.5	72.9	349.1	746.5	593.5
1986	153.0	171.0	70.2	347.2	741.4	588.4
1987	152.0	163.0	69.0	352.0	736.0	584.0
1988	153.0	166.0	68.0	351.0	738.0	585.0
1989	150.0	173.0	64.0	342.0	729.0	579.0
1990	156.0	176.0	74.0	347.0	753.0	597.0
1991	142.0	178.0	74.0	353.0	747.0	605.0
1992	142.0	173.0	71.0	354.0	740.0	598.0
1993	133.0	173.0	67.0	362.0	735.0	602.0
			Females			
1971	25.5	66.4	1.7	183.4	277.0	251.5
1977	18.8	64.7	2.5	212.8	298.8	280.0
1979	20.3	68.7	3.2	229.0	321.2	300.9
1981	20.2	63.9	2.0	251.3	337.4	317.2
1982	20.0	61.5	3.0	260.0	344.5	324.5
1983	21.9	59.1	3.2	262.0	346.2	324.3
1984	19.0	59.5	3.1	256.2	337.8	318.8
1985	18.0	58.3	2.8	252.9	332.0	314.0
1986	14.5	63.9	2.2	258.9	339.5	325.0
1987	12.0	66.0	3.0	274.0	355.0	343.0
1988	12.0	64.0	2.0	275.0	353.0	341.0
1989	12.0	68.0	2.0	276.0	358.0	346.0
1990	14.0	70.0	1.0	296.0	381.0	367.0
1991	12.0	69.0	2.0	303.0	386.0	374.0
1992	12.0	71.0	2.0	314.0	399.0	387.0
1993	11.0	69.0	2.0	328.0	410.0	399.0
			Persons			
1971	272.1	236.4	84.0	457.0	1,049.5	777.4
1977	227.2	249.2	88.4	518.5	1,083.3	856.1
1979	221.2	264.2	101.1	558.8	1,145.3	924.1
1981	196.0	262.0	101.1	587.5	1,146.6	950.6
1982	193.0	259.0	96.0	598.0	1,146.0	953.0
1983	189.6	244.7	85.8	603.7	1,123.8	934.2
1984	181.6	237.0	83.0	601.8	1,103.4	921.8
1985	171.0	229.8	75.7	602.0	1,078.5	907.5
1986	167.5	234.9	72.4	606.1	1,080.9	913.4
1987	164.0	229.0	72.0	626.0	1,091.0	927.0
1988	165.0	230.0	70.0	626.0	1,091.0	926.0
1989	162.0	241.0	66.0	618.0	1,087.0	925.0
1990	170.0	246.0	75.0	643.0	1,134.0	964.0
1991	154.0	247.0	76.0	656.0	1,133.0	979.0
1992	154.0	244.0	73.0	668.0	1,139.0	985.0
1993	144.0	242.0	69.0	690.0	1,145.0	1,001.0

Sources: Censuses of Population, Labour Force Surveys, Annual Labour Force Estimates.

Table A2.5: The Labour Force by Sex and Age, 1971-1993.

Year	Ages 15-24					Age 25+				
	At Work	Unemployed (000)	Labour Force	Population	Participation Rate %	At Work	Unemployed (000)	Labour Force	Population	Participation Rate %
					MALES					
1971	160.0	11.6	171.6	246.8	69.5	613.9	38.0	651.9	773.2	84.3
1977	162.2	29.2	191.4	284.7	67.2	622.3	53.2	675.5	844.9	80.0
1979	185.1	20.6	205.7	298.6	68.9	642.7	43.6	686.3	865.8	79.3
1981	172.4	35.3	207.7	307.1	67.6	636.3	68.5	704.8	886.8	79.5
1982	168.5	36.5	205.0	309.4	66.3	633.0	79.6	712.6	897.1	79.4
1983	154.3	45.8	200.1	311.6	64.2	624.8	94.8	719.6	909.5	79.1
1984	147.3	51.7	199.0	313.8	63.4	623.4	95.7	719.1	922.8	77.9
1985	145.3	52.1	197.4	314.4	62.8	597.6	120.6	718.2	926.2	77.5
1986	133.2	55.7	188.9	314.0	60.2	608.2	118.0	726.2	930.0	78.1
1987	126.7	53.5	180.2	313.0	57.6	608.9	122.9	731.8	936.7	78.1
1988	125.5	48.3	173.8	309.0	56.2	612.2	120.4	732.5	940.1	77.9
1989	123.2	40.1	163.3	303.2	53.9	606.2	116.2	722.3	941.4	76.7
1990	127.5	32.1	159.6	303.1	52.7	625.6	103.2	728.7	949.9	76.7
1991	118.9	41.8	160.6	307.9	52.2	628.4	114.1	742.6	962.7	77.1
1992	114.4	42.6	157.0	311.2	50.3	625.5	123.1	748.5	975.2	76.8
1993	107.1	45.2	152.4	313.5	48.6	628.3	125.3	753.6	987.0	76.4
					FEMALES					
1971	123.0	7.4	130.4	236.3	55.2	152.2	4.0	156.2	790.8	19.8
1977	129.0	15.0	144.0	273.2	52.7	169.8	7.0	176.8	864.0	20.5
1979	142.6	12.6	155.2	286.5	54.2	179.9	8.1	188.0	887.5	21.2
1981	139.1	18.4	157.5	295.4	53.3	190.1	11.0	201.1	910.3	22.1
1982	135.8	22.8	158.6	297.0	53.4	208.7	8.2	216.9	922.7	23.5
1983	132.2	26.1	158.3	300.6	52.7	214.0	16.9	230.9	933.0	24.7
1984	131.5	29.0	160.5	302.8	53.0	207.6	17.8	225.4	946.6	23.8
1985	124.9	33.3	158.2	303.6	52.1	206.1	19.4	225.5	961.9	23.4
1986	121.6	31.6	153.2	303.7	50.4	217.9	22.2	240.1	968.2	24.8
1987	117.8	33.3	151.2	302.8	49.9	237.1	22.3	259.4	979.5	26.5
1988	111.2	29.2	140.4	299.8	46.8	241.4	20.1	261.5	987.9	26.5
1989	110.1	26.0	136.1	294.4	46.2	248.1	19.1	267.2	997.1	26.8
1990	111.1	21.9	133.0	291.0	45.7	269.8	18.5	288.3	1,007.2	28.6
1991	102.9	27.9	130.8	293.7	44.5	283.4	24.9	308.3	1,020.9	30.2
1992	98.0	28.5	126.5	296.2	42.7	301.5	26.8	328.3	1,034.8	31.7
1993	94.3	31.2	125.5	297.4	42.2	315.8	28.2	344.0	1,047.9	32.8
					PERSONS					
1971	283.0	19.0	302.0	483.1	62.5	766.1	42.0	808.1	1,564.0	51.7
1977	291.2	44.2	335.4	557.9	60.1	792.1	60.2	852.3	1,708.9	49.9
1979	327.7	33.2	360.9	585.1	61.7	822.6	51.7	874.3	1,753.3	49.9
1981	311.5	53.7	365.2	602.5	60.6	826.4	79.5	905.9	1,797.1	50.4
1982	304.3	59.3	363.6	606.4	60.0	841.7	87.8	929.5	1,819.8	51.1
1983	286.5	71.9	358.4	612.2	58.5	838.8	111.7	950.5	1,842.5	51.6
1984	278.8	80.7	359.5	616.6	58.3	831.0	113.5	944.5	1,869.4	50.5
1985	270.2	85.4	355.6	618.0	57.5	803.7	140.0	943.7	1,888.1	50.0
1986	254.8	87.3	342.1	617.7	55.4	826.1	140.2	966.3	1,898.2	50.9
1987	244.5	86.8	331.4	615.8	53.8	846.0	145.2	991.2	1,916.2	51.7
1988	236.7	77.5	314.2	608.8	51.6	853.6	140.5	994.0	1,928.0	51.6
1989	233.3	66.1	299.4	597.6	50.1	854.3	135.3	989.5	1,938.5	51.0
1990	238.6	54.0	292.6	594.1	49.3	895.4	121.7	1,017.0	1,957.1	52.0
1991	221.8	69.7	291.4	601.6	48.4	911.8	139.0	1,050.9	1,983.6	53.0
1992	212.4	71.1	283.5	607.4	46.7	927.0	149.9	1,076.8	2,010.0	53.6
1993	201.4	76.4	277.9	610.9	45.5	944.1	153.5	1,097.6	2,034.9	53.9

Sources: Censuses of Population, Labour Force Surveys, Annual Labour Estimates.

Table A2.6: Employment by Broad Occupational Group, 1971 and 1990

Occupational Group	1971		1990	
	000	*%*	*000*	*%*
Agricultural	276.8	26.2	168.5	15.0
Managerial, Professional	169.8	16.1	296.6	26.3
Clerical	117.8	11.2	151.2	13.4
Services Occupation	142.6	13.5	181.8	16.1
Manual[1]	347.9	33.0	328.3	29.1
Total	1,054.9	100.0	1,126.2	100.0

Source: *Corcoran, Sexton, O'Donoghue, 1992). A Review of the Trends in the Occupational Pattern of Employment in Ireland, 1971-90.* FÁS/ESRI Manpower Forecasting Studies, Report No. 2.
Notes: (1) Includes Transport and Communications occupations.
(2) The 1971 employment total relates to the 1971 Census of Population. It differs from that given in earlier table which forms part of a consistent labour force trends series.

Table A2.7: Situation of Second Level School Leavers According to Occupation One Year After Leaving Full-Time Education in 1981 and 1991

Occupation, Status	*1981*	*1991*
	No.	
Professional, Managerial, etc.	4,000	1,900
Clerical	12,900	5,900
Service	7,100	6,700
Agricultural	2,000	1,200
Manual (skilled, unskilled)	13,100	8,900
Total at Work	39,100	24,500
Unemployed	8,200	11,600
In Labour Force	47,100	36,100
In Education	16,600	25,400
Emigrated	800	5,400
Total	64,700	67,000

Source: Department of Enterprise and Employment Annual Surveys of Second Level School Leavers.
Note: The category "in education" includes those classified as "not available for work".

CHAPTER 3

Implications of the GATT Uruguay Round Agreement for the Irish Economy[1]

Alan Matthews
Trinity College, Dublin

1. Introduction

GATT, the General Agreement on Tariffs and Trade, was established in the immediate post-war period with the objective of reducing barriers to trade and eliminating discriminatory treatment in international commerce. The procedure adopted by GATT was to engage in rounds of trade negotiations in which tariff reductions are agreed and bound.[2] The Uruguay Round of GATT trade negotiations was launched in September 1986 and a draft agreement was finally reached in Geneva in December 1993. It was the eighth round of negotiations on trade barrier reductions under GATT auspices in the post-war period, and by far the most ambitious in its scope and coverage. This chapter explores the implications of the agreement reached in December 1993 for the Irish economy.

The main issues covered by the Uruguay Round negotiations are first briefly described and the decisions reached are summarised. Estimates of the likely output and employment effects of these decisions for the main sectors of manufacturing industry, agriculture and (very summarily) services are then provided. The chapter tries to give an overview of the ways in which the Uruguay Round Agreement will impact on the Irish economy and some broad estimates of the order of magnitude of these effects. There will be, in addition, features of the Agreement which will have particular importance for specific sectors but no attempt is made in this chapter to provide a comprehensive listing of these industry-specific effects.

Ireland no longer has an autonomous trade policy and participated in the Uruguay Round negotiations as a member of the European Union. The Irish government position was to seek a successful conclusion to the negotiations while paying particular attention to the potential adverse effects of more liberal trade for the agriculture, clothing and textile sectors. There was also broad support for a successful outcome from Irish business (though a number of industry sectors, such as the plastics, food and clothing sectors, voiced concern) and the trade union movement, while the farming organisations were opposed.

Those supporting the Agreement tended to take it as self-evident that, as a country with a major dependence on exports, Ireland must benefit from more liberal trade. The conclusions of this study suggest that the balance sheet is more complex than that. The Uruguay Round Agreement will erode some of the gains arising from the beneficial way in which Irish membership of the European Union results in trade diversion in our favour, as well as possibly leading to lower agricultural export receipts. Against these costs of the Agreement to the Irish economy must be set the positive benefits of improved access to the markets of North America and South-East Asia, in particular, as well as any anticipated upturn in world trade due to its overall impact. This study suggests that the balance of these effects will be positive although there is room to discuss the parameter values used.

Comparing the costs and benefits enumerated above assumes that, if there had been failure to

1 The findings reported in this chapter are based on a study prepared by Fitzpatrick Associates, Economic Consultants and the author for the Department of Tourism and Trade (Fitzpatrick Associates, 1993).

2 A tariff is *bound* - fixed — under GATT when it is part of a schedule of tariffs notified to GATT as part of a concession made in trade negotiations. Once a tariff has been bound, it may be raised again only after a complex negotiating procedure and the offer of compensation to trading partners.

reach an agreement, then the world would have continued to evolve according to present trends. Such an assumption must be doubted, for at least three reasons. First, it is highly likely that there would have been greater willingness to give in to pressures for protectionism in the event of a GATT breakdown and that some of the trade disputes simmering under the surface but kept in check during the long negotiations on the Uruguay Round would have broken into full-scale trade wars. Second, a failure to discipline agricultural support would have implied continued depressed world market prices for agricultural products and would have raised the cost to the EU of financing export subsidies for its agricultural exports. It is unlikely that the EU could have afforded to finance both these higher levels of export subsidies and the compensation payments agreed under CAP reform within its budget guidelines. Thus further cuts in CAP support, going beyond those agreed in the negotiations on the MacSharry reform of the CAP in June 1992 and possibly even going beyond what might be implied in the Uruguay Round Agreement (see below) would have been inevitable in a GATT breakdown situation. Third, confidence in the already fragile global economic recovery at this point in time would have been damaged, with the likelihood that business would have delayed investment decisions in the climate of greater uncertainty. For all three reasons export receipts under a GATT breakdown scenario would have been lower than might be envisaged if the status quo was maintained.

Evaluation of the consequences of the Uruguay Round Agreement for the Irish economy must compare, therefore, the outcome of the Agreement not just with the status quo but with the likely economic scenario had the GATT negotiations broken down. Although a comparison with the status quo is also given for reference purposes below, the status quo was not a feasible option. The relevant comparison is between the world with the Uruguay Round Agreement and the world which would have been ushered in by a breakdown of the GATT talks, characterised by greater protectionism, further cuts in agricultural support and faltering world trade growth. While the extent of this damage must remain speculative, this study demonstrates that, if any weight at all is given to the damage likely to have followed the failure of the Uruguay Round, there are very significant benefits to Ireland from the successful outcome of the negotiations.

2 The Uruguay Round Agreement

The Uruguay Round was much more ambitious and more complex than its predecessors. It involved 115 contracting parties negotiating across 15 different topics. Some of these topics involved trade issues which previous Rounds proved unable to resolve, some were aimed at strengthening the GATT structure, and many were new additions to the GATT process.

The issues in the Uruguay Round can be grouped under four broad headings: trade barriers, sectors, new issues and the GATT system. This breakdown, and the topics within it, are shown in Table 3.1.

2.1 Trade Barriers

Previous GATT negotiations have been quite successful in reducing tariffs — average tariffs on manufactured goods in industrialised countries fell from 40 per cent in the 1940s to 6 per cent by the early 1980s. However, low average rates still mask much higher tariffs in individual sectors. Tariff levels also remain high and unbound in many developing countries.

In the Uruguay Round Agreement all industrialised countries, and many developing countries, agreed to reduce duties by at least 33 per cent, and in many cases by substantially more. The EU's final offer will lead to an average reduction in its Common External Tariff for industrial products of 37-38 per cent; because of differences in trade composition the average reduction on imports from the US and Canada will be over 50 per cent, but only 30 per cent for Japan. The weighted average of US duties on imports from the EU will fall by almost a half, as against 37 per cent for the rest of the world. Japan will reduce its tariffs by a weighted average of 60 per cent and will emerge from the Round with the world's lowest customs tariff. Canada's average reduction is around 50 per cent, while Australia's and New Zealand's exceeds 40 per cent.

Table 3.1: GATT Uruguay Round Negotiating Topics

Topic	Negotiating Group
Trade Barriers	Tariffs
	Non-Tariff Measures
Sectors	Textiles and Clothing
	Natural Resource-based Products
	Tropical Products
	Agriculture
New Issues	Trade-related Intellectual Property Rights (TRIPS)
	Trade-related Investment Measures (TRIMS)
	Services
GATT System	Safeguards
	Subsidies and Countervailing Measures
	GATT Articles
	MTN Agreements and Arrangements
	Functioning of the GATT System
	Dispute Settlement

Source: Greenaway (1991).

Tariffs will be eliminated in a number of industrial markets, including construction, medical and agricultural equipment, steel, beer and spirits, pharmaceuticals, paper, toys and furniture, while the high tariffs maintained on imports of chemicals by the US will be substantially reduced. Developing countries have also made significant offers. The scope of tariff bindings has been considerably increased, to 90 per cent in most Latin American countries and to 60 per cent or more in the more advanced Asian developing countries. Top tariffs in Latin America have been reduced to between 25 and 35 per cent while tariffs in many Asian markets will be reduced from around 100 per cent to top rates of 50 per cent or even less. South Korea will cut its customs duties by 40 per cent and apply tariffs of no more than 10 per cent to the Union's exports. Tariff reductions will be implemented over a period of 5-10 years, beginning on 1 July 1995.

The importance of controlling non-tariff barriers (NTBs) as an element of trade liberalisation strategy has become increasingly evident during the last two decades. Growing reliance on non-tariff barriers has threatened to by-pass and undermine the GATT system. The Negotiating Group on non-tariff barriers was charged with establishing ways to constrain use of NTBs and to bring them under the jurisdiction of the GATT. The outcome has been a strengthening of agreements on technical standards of goods, anti-dumping, subsidies and countervailing duties, preshipment inspection, rules of origin and other areas. The new safeguards agreement will prohibit, and require the phasing out of, so-called "grey area" measures such as voluntary export restraints. Many of these agreements were formed during the Tokyo Round (1973-79) but not all GATT contracting parties became signatories. The "single undertaking" agreement incorporated in the establishment of the new World Trade Organisation (see below) commits all members to respect not just GATT rules but also these agreements.

2.2 Sectors

The key decision of the Uruguay Round Agreement with respect to textiles and clothing is to reintegrate trade in these products into the normal GATT rules after three decades of "managed trade" regulated by the Multi-Fibre Arrangement (MFA) and its predecessors. Under the MFA the import of textiles and clothing from

many low-cost exporters was controlled by a system of bilateral quotas. The Agreement provides for a transition period of 10 years from 1 January 1995 during which textiles and clothing products will be integrated into the GATT in four steps. At the beginning of the first step, each participating importer will remove products equal to 16 per cent of its 1990 import volume from the MFA and place them under GATT rules; in the second step, after 3 years, a further 17 per cent of imports; in the third step, after 7 years, a further 18 per cent, and in the final step (at the end of 10 years), the remaining 49 per cent. In addition, for those products which remain under MFA quota restriction, somewhat higher growth rates for the quota amounts during the transition period have been agreed.

The Negotiating Group on Natural Resources examined market access barriers in three areas — fishing, forestry and non-ferrous metals. The Tropical Products Group's objective was further trade liberalisation in products such as coffee, cocoa and bananas.

The Negotiating Group on Agriculture was of particular significance to Ireland. The objective of the negotiations was set out in the Punta del Este Declaration in September 1986 as the achievement of greater liberalisation of trade in agriculture and the bringing of all measures affecting import access and export competition under strengthened GATT rules and disciplines. Following years of difficult negotiations a breakthrough was achieved in the bilateral US-EU Blair House Agreement in November 1992 covering access to the EU market, internal support, commitments on exports, rebalancing and a peace clause. Further modifications were made to the Blair House Agreement in Brussels in December 1993 and the revised proposals were accepted as the basis for the Uruguay Round Agreement by the other participants.

The main elements of the agricultural agreement are summarised below.

(a) Export subsidies where used are to be reduced by 36 over 6 years from the average outlay in the base period 1986-1990. This will be done on a product-by-product basis and will be implemented over the period 1995-2000. The volume of subsidised exports is to be reduced by 21 per cent over these 6 years. Late negotiations permitted countries to opt for a later base period where this was more favourable in order to address the "front-loading" problem[3] and to facilitate the export of intervention stocks. A negative aspect from the Irish viewpoint is that the "Andriessen assurance" that the EU will not provide subsidies for beef exports to fast-growing South-east Asian markets has been confirmed.

(b) Border protection measures, including quotas, are to be changed into customs tariffs, which will be reduced by 36 per cent over 6 years. Each tariff must be reduced by a minimum of 15 per cent and bound. This has particular significance for the EU's system of variable levies which protects the Union's domestic market against lower-cost imports. These levies will be converted into tariffs and subsequently reduced. What was a variable system of protection will be turned into a fixed system, and in the longer run this will mean that internal EU prices will become more responsive to fluctuations in world prices. A second element of the import access commitment relates to minimum access for specific imports. A tariff quota with a reduced tariff (32 per cent of the basic tariff) will be established allowing for imports of a quantity equal to 3 per cent of base period domestic consumption in 1995, rising to 5 per cent by 2000. Current import access or, if more favourable, access levels based on 1986-88 imports, must be maintained. The EU succeeded in enshrining its interpretation of the new import arrangements in the final agree-

[3] In the original Blair House agreement the permitted volume of exports was to have been the 1986-90 base less a cumulative 3.5 per cent each year. Because exports had increased in 1991 through 1994, to restrict the permitted volume of exports in 1995 to the 1986-90 base less 3.5 per cent would have meant a dramatic reduction in exports in that year. This was referred to as "front-loading" the reduction. The draft Final Act maintains the same target ceiling for subsidised exports in the year 2000 but eases the path towards this ceiling, thus permitted the export of significant extra quantities of subsidised exports over the next 6 years.

ment, under which products (e.g., beef, sheepmeat, pork) are aggregated into product categories (e.g., meat) for the purposes of calculating this obligation. This allows a country to credit imports of a product where such imports are currently greater than the 5 per cent minimum against the import obligation of another product in the same product group and thus minimises the degree of market-opening required.

(c) Internal support is to be reduced by 20 per cent in equal phases over 6 years. This will be expressed as a cut in the total Aggregate Measure of Support (AMS) with credit allowed for reductions already made since 1986. Some categories of direct payments are exempt from reduction provided they meet a number of criteria. They must be based on a fixed area, yield or number of animals and must not increase support for commodities above those levels applying in 1992.

(d) The Community wished to obtain the right to raise the import duty on certain cereal substitutes and oilseeds (which had been bound in the GATT Kennedy Round in the mid-1960s) provided that the overall reduction in tariff levels was maintained. The Blair House agreement provides that if EU imports of non-grain feed ingredients increase, in comparison with the level of imports 1986-1990 to a level, which undermines the implementation of CAP reform, the parties agree to consult with a view to finding a mutually acceptable solution.

(e) The EU won agreement from the US on a peace clause, the effect of which will be to ensure that both internal and export subsidies which respect the provisions of the relevant commitments will not be challenged. At the final moment the duration of the peace clause was extended by 3 years to 9 years, thus ensuring that the EU would not enter the next round of GATT agricultural negotiations with the threat of challenges to its agricultural support policies hanging over its head.

2.3 New Issues

All industrialised countries have evolved systems to ensure protection of intellectual property. Patents, copyrights and trademarks are elements of such systems. However, enforcing intellectual property rights internationally has proved difficult. Many developing countries have refused to implement protection systems, enabling a growing trade in counterfeit products. The Agreement provides for much stronger protection of trade marks, geographical indications, industrial designs and clear principles for the enforcement of intellectual property rights.

Trade-related Investment Measures (TRIMS) refer to performance requirements, such as the requirement to purchase a certain proportion of components locally, which may be imposed on multinational firms engaged in direct foreign investment. TRIMS may have a trade-distorting impact. The Agreement strengthens the GATT rules in this area which prohibit certain TRIMS (although others, such as export performance requirements, are not disciplined) and provides for transitional periods for the phasing out of existing measures which will henceforth be illegal.

Services or "invisibles" feature increasingly strongly in international trade and currently account for an estimated 20-25 per cent of its global value. Hitherto, GATT Articles applied only to trade in merchandise goods. Traded services such as insurance, banking, telecommunications and transport were excluded. The Uruguay Round Agreement incorporates a new General Agreement on Trade in Services (GATS) which sets out the general principles governing trade liberalisation in this sector, includes national schedules of commitments and lists of exemptions from Most Favoured Nation status, and establishes a future work programme.

The key provisions of GATS cover transparency, a definition of national treatment and a most favoured nation clause as well as recognising the existence of economic integration agreements, monopolies and exclusive service providers and the need for exceptions to the general rules on grounds such as public order, taxation, health considerations, etc. It is as yet unclear what degree of liberalisation is included in the

schedules of commitments, many of which were submitted at the very last minute in the negotiations. The commitments cover financial services, maritime transport, telecommunications, professional services and other business services although the degree of liberalisation varies very much; no agreement was reached in the area of audio-visual services. The important outcome is that there is, for the first time, a multilateral agreement aiming at liberalisation of trade in services and a sufficient package of liberalisation commitments to get the exercise started.

2.4 The GATT System

A substantial outcome under this heading is the decision to establish a new international body, the World Trade Organisation. It should be recalled that GATT has no permanent legal character and functions under a provisional protocol. The new Organisation will provide a more solid institutional basis to monitor the implementation of the Uruguay Round Agreement and to administer the dispute settlement and trade policy surveillance activities of GATT. In addition, the dispute settlement mechanism has been updated and a new trade policy review mechanism has been instituted.

3 Evaluating the Consequences for the Irish Economy

In this section the method used to quantify the impact of the Uruguay Round agreement on the Irish economy is briefly described. In evaluating this impact, account must be taken of the EU's existing trade policy regime. The EU already permits duty-free access of industrial imports from EFTA countries[4] and from most developing countries (under the provisions of the Generalised System of Preferences, the Mediterranean Agreements and the Lome Convention, although with significant exceptions)[5], and plans to extend duty-free access to industrial imports from the countries of Central Europe under the so-called "Europe Agreements". Imports from other industrialised countries enter with Most-Favoured Nation (MFN) status under the EU's Common External Tariff (CET) schedule. EU exporters already have duty-free access for industrial exports to the EFTA countries, partial duty-free access to countries with Association Agreements with the Union, and will have growing duty-free to Central European countries which have signed Europe Agreements with the Union.

Against this background, there are at least six main ways in which the Agreement will have an effect.

- reduced EU trade barriers will lead to increased import penetration on the Irish market by supplies from MFN countries.[6] The displacement of output and jobs by these imports is referred to as the "import penetration" effect.

The reduction in the EU's CET as a result of the Uruguay Round will improve the competitiveness of imports on the Irish market. The fall in import prices will encourage Irish consumers to switch expenditure from domestic Irish production to cheaper imports. The output displaced by greater import penetration on the Irish market is calculated using information on the existing level of imports from all sources, the size of tariff reduction agreed in the Uruguay Round (an average cut of one-third across sectors is assumed) and estimates of the Irish price elasticity of import demand.

The calculation of import increases is based on the existing level of imports from all sources, and not just imports from MFN countries, on the assumption that competition will ensure that all

4 The European Economic Area came into force on 1 January 1994 incorporating the EU and six EFTA countries. Switzerland decided not to join. The EEA extends the provisions of the EU's single market to the entire area and thus ensures the elimination of non-tariff barriers to trade between the participants, including trade in services, as well as tariff barriers.

5 A brief description of the provisions of these agreements can be found in Matthews (1991).

6 Countries which face MFN tariffs in the EU market are those countries not party to either the European Economic Area, the Generalised System of Preferences (GSP), the Lome Convention or which do not have a trade or association agreement with the EU. The most important countries in this category are the United States, Canada, Japan, Australia and New Zealand although some "sensitive" products from GSP beneficiaries must also enter at the MFN rate. See Matthews (1991).

import prices will be reduced by the size of the tariff reduction. This is a strong assumption and implies that the level of output and job losses attributed to greater import penetration in the following tables is at the upper end of the likely spectrum. Because of the absence of information on the protective effect of non-tariff barriers the impact of any lowering of such barriers due to the Uruguay Round Agreement has not been included; such NTBs could be important for specific industries. The one exception is in the important case of textiles and clothing where account is taken of the elimination of voluntary export restraints imposed under the Multi-Fibre Arrangement.

- reduced EU and EFTA trade barriers will also mean that Irish exporters will face additional competition on these export markets to which they currently have unrestricted access (the "export competition" effect).

This negative export competition effect on EEA markets (defined to include other EU and EFTA countries) is calculated by estimating the total amount of EEA production which would be displaced by MFN imports and estimating the Irish share of these imports.[7] There is an implicit assumption here that the competitiveness of Irish industry is at least equal to the EEA average. If Irish industry is assumed to be more competitive (and the growing market share of Irish exports would suggest this may be the case, at least in some sectors), then Irish output would be hit disproportionately less by any increase in MFN imports.

- the disciplines introduced on agricultural support will lead to reduced agricultural export earnings in so far as these disciplines imply greater cuts in EU agricultural support than would occur in the absence of the Agreement (the "agricultural support" effect).

The implications of the Uruguay Round Agreement for agriculture are assessed by first defining the likely scenario for Irish agricultural output and incomes in the light of the MacSharry CAP reforms. The likely impact of the GATT agreement over and above this scenario is then estimated based on a sector-by-sector evaluation of its effects. This approach emphasises the national perspective; lower consumer food prices due to reduced agricultural support would lead to a further internal transfer from Irish farmers in favour of Irish consumers.

- reduced trade barriers in the main Irish export markets outside the EEA will lead to improved export market opportunities for Irish exporters to those markets (the "export market access" effect).

This positive export market access effect is calculated as the base level of Irish exports to these tariff-restricted markets multiplied by their price elasticity of import demand multiplied by the change in the domestic price in these markets brought about the Uruguay Round Agreement to lower tariffs. Data on tariff levels in these countries were obtained from GATT Trade Policy Reviews and an average tariff reduction of one-third was assumed. Again, effects due to lower non-tariff barriers are ignored for lack of data.

- reduced trade barriers may influence the relative attractiveness of Ireland as an investment location and thus the flow of net foreign investment to this country (the "investment" effect).

Some attempt is made to assess the qualitative direction of this effect but it has not been quantified in this study.

- the move towards further trade liberalisation in the global economy will have a positive impact on global economic growth and the growth of world trade and there will be an indirect spin-off benefit for the Irish economy in terms of increased buoyancy of demand in its main export markets (the "world trade growth" effect).

[7] The amount of displaced production inside the EEA was calculated assuming that the price level of EEA domestic production will remain unchanged and that the lower price of MFN imports will encourage the substitution of MFN imports for EEA production. Thus the key parameter is the elasticity of substitution between EEA and MFN supplies. The approach used is a modification of that found in Cline *et al.* (1978).

Account was taken of this likely buoyancy effect by assuming that it will lead to a cumulative additional 1 percentage point increase in the volume of world trade in each of the 6 transition years to its full implementation, over and above the level of world trade in the status quo scenario. This implies that world trade will be 6 per cent higher in the year 2000 than would otherwise be the case. It is not necessary to estimate the likely evolution of world trade under the status quo scenario — it is only the difference made by the Uruguay Round Agreement which is relevant to this exercise. The 6 per cent figure is chosen from the range of estimates produced by other studies.[8] It is a matter of arithmetic to investigate the impact of making alternative assumptions about the size of this buoyancy effect in the tables below.

In translating the assumed increase in the value of world trade into increased demand for Irish exports, it is assumed that the elasticity of Irish exports with respect to the growth in world trade is unity across all sectors. It is likely that any increase in world economic growth and trade will lead to differential growth in the export demand for various sectors (for example, food exports might expect less of a lift than exports of the office machinery sector). Thus the results for individual sectors in the tables below should be treated as orders of magnitude arrived at on the basis of specified assumptions which may need to be adjusted in the light of more industry-specific knowledge.

For each of the six effects the impact of both the GATT agreement and of a possible GATT breakdown are assessed with respect to the status quo. The differences between the three scenarios are as follows.

- For industrial and services trade, the status quo scenario means no change in market access arrangements and a baseline growth in world trade which is left undefined. In the case of agriculture, the status quo incorporates the implementation of the MacSharry CAP reforms but no further cut in support (either of prices or quotas).
- In the GATT agreement scenario market access and agricultural support changes in the ways described above and world trade is expected to grow more rapidly such that, by the end of the transition period, it settles at a level 6 per cent above the baseline level.
- In the GATT breakdown scenario, market access arrangements are assumed unchanged from the status quo scenario (apart from a nominal increase in barriers on Irish food exports to the US to symbolise a possible trade war). However, a breakdown would have a negative effect on the growth of world trade, compared to the baseline scenario. It is assumed that a breakdown would have led to slower world trade growth amounting to 1 percentage point a year or a cumulative reduction of 6 per cent by the end of the transition period. The main rationale for the choice of the 6 per cent figure is that it is symmetric with that assumed for trade expansion in the GATT agreement scenario. Unfortunately, while the choice of 6 per cent trade expansion can be defended on the basis of previous studies, no studies seem to have explicitly modelled the consequences of a GATT breakdown. We return to the choice of the 6 per cent figures in the discussion of the study results at the end.

As mentioned, no attempt has been made to simulate the path of world trade to the end of the decade under the three scenarios. Instead, the question is asked, how would output and employment in the Irish economy compare in 1990 (1992

8 Surprisingly few estimates of the likely impact of the Uruguay Round Agreement are available. A report for the Office of the US Trade Representative estimated that, by the year 2005, the GDP of the G7 countries could be 4.5 per cent higher than it would otherwise have been (DRI/McGraw Hill, 1993). The OECD estimated that the final outcomes on agricultural and industrial products will provide a boost to the global economy of up to $US274 billion by 2002, or by just over 1 per cent (Goldin *et al.*, 1993). Both of these studies refer to the potential increase in real income; experience shows that world trade growth has outpaced world income growth consistently in recent decades. An analysis by the Brookings Institute suggests that the GATT agreement will be worth $US650 million of additional trade, or about 7 per cent of the value of world trade at the end of the 1980s (Hufbauer, 1993). The GATT Secretariat's own estimate is that world merchandise trade would be about $US745 billion or 8 per cent higher by 2005 than if trade continued at pre-Uruguay Round levels. Thus, 6 per cent world trade growth is the figure used in the simulations reported in this chapter.

Table 3.2: Evaluating the Impact of the Uruguay Round: A Conceptual Framework

Scenario	Characteristics	Measurement of Impact
GATT agreement	Improved market access to both home and export markets Lower agricultural support due to new GATT disciplines Increased world trade volume	Output and employment in this scenario
Status quo	Existing (1990) level of industry and services output Existing (1992) level of agricultural output modified by the expected impact of CAP reform	less
GATT breakdown	More restricted market access due to trade disputes Lower agricultural support caused by depressed world prices putting pressure on EU agricultural budget Lower world trade volume	Output and employment in this scenario

in the case of agriculture) if the full Uruguay Round Agreement had been phased in by that date in comparison to actual levels of output and employment in that year? (In the case of agriculture, the 1992 baseline is further modified to simulate the full impact of the MacSharry CAP reforms in that year — see below). The difference between 1990 output and employment levels with and without the Uruguay Round is the measure of the impact of the Uruguay Round on the Irish economy adopted in this chapter.

The phrase "with and without the Uruguay Round" needs clarification. Failure to reach a Uruguay Round Agreement could mean the maintenance of the status quo. This chapter argues that this was improbable and that a failure to agree would have resulted in a deterioration of the world trading environment as compared to the status quo. Thus the phrase "with and without the Uruguay Round" should be interpreted as the difference between the GATT agreement and GATT breakdown scenarios, and not the difference between the GATT agreement scenario and the status quo. The relationship between these concepts is shown in Table 3.2.

Finally, once the output effects have been derived, they are translated into employment effects using data on the average level of labour productivity by sector in 1990. The use of average labour productivity warrants further discussion. It implies that the percentage increase in output and employment within a sector will be the same (although differences can emerge at the aggregate level due to different labour intensities and different percentage changes in output across sectors). It might be argued that this biases the employment effects upwards in that firms may be able to produce additional output without a commensurate increase in employment. On the other hand, empirical work on Irish manufacturing suggests the existence of constant returns to scale which would justify use of the average productivity assumption. Furthermore, as will become clear later, many of the employment gains attributable to the Uruguay Round Agreement represent jobs saved due to the avoidance of a slow-down in world trade. Such jobs are more likely to be of below-average productivity and this feature suggests that the method here may bias the employment consequences downwards. The employment effects

are discussed further in the concluding section of the study.

4 Impact on Manufacturing

The projected output and trade gains and losses in each Irish manufacturing sector as a result of the Uruguay Round Agreement as compared to the status quo is shown in Table 3.3. The source of these gains and losses according to the various channels of impact identified in the previous section is shown in Table 3.4. The likely impact on industrial output of a breakdown of the GATT negotiations is subsequently calculated.

4.1 The Uruguay Round Agreement Scenario

The output changes for the food, textile and clothing industries require a more complex derivation than for the other industrial sectors. In the case of the food industry, account must be taken of the fact that the main determinant of output in the primary processing sector is the availability of raw material. This availability will be affected by the outcome of the GATT negotiations for the agricultural sector. For value added activities in the food industry, however, the GATT agreement will have its effect through the changes in market access and world trade buoyancy noted in the previous section. The output changes expected in the food industry shown in Tables 3.3 and 3.4 take account of both of these effects.

Two separate issues are taken into account in calculating the likely changes in output in the textiles and clothing industry as a result of the GATT agreement. First, the impact of eliminating the protection provided by the MFA has been incorporated by using estimates of the tariff equivalent of the quotas enforced under the MFA. Based on studies which have attempted to calculate the size of this tariff equivalent, it is assumed that the quotas are equivalent to an additional 10 per cent tariff on textiles and a 15

Table 3.3: Manufacturing Output and Trade Effects of a Uruguay Round Agreement in Comparison to the Status Quo

INDUSTRY	Base output level £m	New output level £m	Change output level £m	Per cent change output %	Trade balance change £m
Leather	57	58	1	2	1
Wood and furniture	379	383	4	1	4
Paper	814	816	2	0	−1
Textiles	495	497	2	0	2
Clothing	324	310	−14	−4	−14
Mineral products	1,416	1,431	14	1	14
Ores and metals	852	864	12	1	3
Chemicals	2,425	2,553	128	5	114
Mechanical	494	522	28	6	25
Office and data processing	2,076	2,218	142	7	137
Electrical	1,912	1,996	85	4	80
Vehicles	376	381	5	1	−9
Instruments	545	564	19	3	18
Footwear	23	22	−1	−5	−1
Miscellaneous	980	1,041	61	6	57
Food	6,412	6,430	18	0	18
Drink and tobacco	900	918	18	2	18
TOTAL	20,480	21,003	524	3	467

Source: Study estimates.

per cent tariff on textiles at the EU level (Trela and Whalley, 1989). Second, in the past, Ireland has obtained additional protection, especially for clothing, in that the EU's MFA quotas have been regionalised and Ireland has had a disproportionately low quota for clothing products. Imports in the 1990 base year were thus artificially depressed. Because the regionalisation of the MFA quota within the EU has now been eliminated (this is due to the EU's Single Market programme, not the GATT), an attempt was made to adjust the figure for 1990 clothing imports to take account of this effect.

The overall output effect for manufacturing industry shown in Table 3.3 is positive. The Uruguay Round Agreement, when fully in force, will increase Irish manufacturing output by around 3 per cent compared to the status quo. Two sectors will suffer a net loss in output, namely clothing and footwear. In clothing, removal of the high levels of protection provided by the MFA outweighs any positive trade expansion effects; the very lengthy transition period before MFA liberalisation takes full effect should be borne in mind in interpreting this figure. Footwear has a relatively low proportion of exports compared to imports and the export gains fail to compensate for the projected further increase in import penetration. In the case of the vehicles and paper sectors, the trade balance deteriorates despite unchanged output because a proportion of imports are assumed non-competitive.

The manufacturing sectors which show most benefits in percentage terms are mechanical engineering, electrical engineering, office and data processing equipment, chemicals and

Table 3.4 : Source of Manufacturing Output Changes in the GATT Agreement Scenario

INDUSTRY	Output lost to imports £m	Market access gains £m	Export competition losses £m	Trade buoyance gains %	Net output change £m
Leather	−0.1	0.1	−0.2	1.3	1.2
Wood and furniture	−0.6	0.1	−1.9	6.9	4.5
Paper	−2.5	0.1	−5.9	10.1	1.8
Textiles	−4.9	0.0	−14.7	21.8	2.3
Clothing	−11.9	0.0	−11.9	9.5	−14.4
Mineral products	−3.9	0.6	−2.6	20.4	14.5
Ores and metals	−9.6	0.8	−4.7	25.9	12.3
Chemicals	−13.5	10.3	−10.1	141.0	127.7
Mechanical	−2.8	1.5	−4.2	33.6	28.1
Office and data processing	−4.7	3.0	−4.8	148.3	141.8
Electrical	−4.9	3.6	−9.9	95.9	84.8
Vehicles	−4.7	0.3	−2.8	12.0	4.8
Instruments	−1.1	2.0	−1.4	19.6	19.1
Footwear	−1.8	0.6	−1.7	1.8	−1.1
Miscellaneous	−12.7	5.7	−11.8	79.6	60.8
Food(*)	−15.3	0.0	−130.9	164.3	18.1
Drink and tobacco	−3.2	2.0	−1.0	19.9	17.7
TOTAL	−98.1	30.8	−220.6	811.9	523.9

Note: *£119m of the losses in the food industry attributed to the export market competition effect are due to lower throughput brought about by reduced levels of raw material availability and are included in this column for convenience.
Source: Study estimates.

miscellaneous. It should be reiterated that these sectoral results represent the output projections based on the overall assumptions described in the earlier section. They do not constitute full individual sectoral studies and do not take full account of sector-specific subtleties in the results of the Uruguay Round.

The make-up of these output changes by the different types of trade policy effects is shown in Table 3.4. In overall terms, the estimated output displaced by the "import penetration effect" on the Irish market (£98m) and by the "export market competition" effect on affected export markets (£221m, of which £119m are the estimated losses in the food industry due to reduced raw material availability) are more than counterbalanced by gains from improved "export market access" on currently restricted markets (£33m) and by large output gains from the "world trade growth" effect (£812m).

The relatively small (positive and negative) export market effects are no surprise. Average tariff levels in both the EU and its major trading partners are now at relatively low levels, and the direct impact of a further cut of one-third as is assumed here will not make that much difference. The "world trade growth" effect is very significant; it is the likely trade expansion and confidence effects from a successful Uruguay Round which largely determine the net impact on Irish industry. Recall that the assumption underlying the latter figure is that there would be a cumulative 1 percentage point improvement in world trade growth over the 6 year transition period, so that world trade would be 6 per cent higher in the medium term as a result of the Uruguay Round Agreement than under the status quo.

The employment effects in Irish manufacturing of a successful GATT outcome are shown in Table 3.5. Overall, total manufacturing employment could be boosted by up to 4,500 persons or by about 2 per cent over its 1990 level. The only sectors to suffer a net loss of jobs would be clothing and footwear. In aggregate terms, around 1,450 jobs would be displaced by import penetration and a further 2,240 jobs would be lost through more intensive competition on Ireland's duty-free markets (this includes an estimated 600 jobs lost in primary processing in the food industry due to reduced raw material availability). However, these would be offset by additional jobs created through improved access to currently restricted markets and a substantial 8,000 jobs created through the general lift to world trade.

4.2 The GATT Breakdown Scenario

If the Uruguay Round negotiations had not succeeded, there would have been a strong probability that this would have led to an increase in trade hostilities and an acceleration of the growth in creeping protectionism witnessed in recent years. In calculating the impact of a GATT breakdown on Irish industry, the main differences with the GATT agreement scenario already examined are:

(a) gains from improved export market access would fail to materialise and some further restriction in access to the US market, particularly for food exports, would have been expected. The slowdown in world trade (relative not just to the GATT agreement scenario but also to the status quo) would also lead to a deterioration in export market conditions;[9]

(b) losses due to increased import penetration and export competition on duty-free markets would be avoided.

The output effects are shown in Table 3.6. Overall, manufacturing output would fall by around 5 per cent as compared to the status quo scenario. This is based on assuming a cumulative negative world trade growth effect of −6 per cent over a 6 year period. The largest losses, in both absolute and percentage terms, would be borne by those sectors most heavily committed to export markets. Significantly, however, neither clothing nor footwear would be able to avoid output losses in this scenario either.

---

9 If EU protection increased as a result of a tit-for-tat trade war with the US some offsetting short-run increase in output and employment would be expected.

Table 3.5: Employment Effects in Manufacturing of the GATT Agreement in Comparison to the Status Quo

INDUSTRY	Base level employ-ment	Import pene-tration loss	Export market access	Export market comptn	World trade growth	Net change
		(loss)	(gain)	(loss)	(gain)	
Leather	499	−1	1	−1	12	11
Wood and furniture	7,580	−12	2	−38	143	95
Paper	14,449	−45	2	−105	183	35
Textiles	10,627	−105	0	−315	491	71
Clothing	12,166	−448	0	-448	379	−518
Mineral products	19,346	−53	8	−36	292	211
Ores and metals	14,356	−162	13	−80	454	225
Chemicals	13,587	−76	58	−57	849	774
Mechanical	8,465	−47	26	−73	606	513
Office and data processing	7,423	−17	11	−17	581	558
Electrical	22,081	−56	42	−115	1,196	1,067
Vehicles	6,354	−79	4	−47	210	88
Instruments	7,903	−16	29	−21	297	290
Footwear	736	−59	20	−55	59	−35
Miscellaneous	12,832	−166	74	−154	1,083	837
Food(*)	36,881	−88	0	−671	965	206
Drink and tobacco	6,060	−21	14	−7	137	122
TOTAL	201,345	-1,451	304	-2,238	7,935	4,550

Note: (*)An estimated 600 of the 671 jobs projected to be lost in the export market competition column in the food industry would result from lower raw material availability.
Source: Study estimates.

Table 3.6: Manufacturing Output Effects in a GATT Breakdown Scenario as Compared to the Status Quo Scenario

INDUSTRY	Base output level	New output level	Per cent change output	Trade balance change
	£m	£m	%	£m
Leather	57	56	−2.4	−1
Wood and furniture	379	372	−1.9	−7
Paper	814	804	−1.3	−10
Textiles	495	472	−4.6	−23
Clothing	324	314	−3.1	−10
Mineral products	1,416	1,395	−1.5	−21
Ores and metals	852	825	−3.2	−27
Chemicals	2,425	2,274	−6.2	−151
Mechanical	494	459	−7.2	−35
Office and data processing	2,076	1,913	−7.8	−163
Electrical	1,912	1,808	−5.4	−104
Vehicles	376	364	−3.3	−12
Instruments	545	524	−3.8	−20
Footwear	23	21	−8.0	−2
Miscellaneous	980	897	−8.4	−83
Food	6,412	6,073	−5.3	−339
Drink and tobacco	900	880	−2.3	−20
TOTAL	20,480	19,450	−5.0	−1,029

Source: Study estimates.

Table 3.7: Manufacturing Employment Effects in a GATT Breakdown Scenario as Compared to the Status Quo

INDUSTRY	Base employment level	Jobs lost by imports	Market access gains	Export competn losses	Trade buoyancy losses	Net jobs gained/ lost
Leather	499	0	0	0	−12	−12
Wood and furniture	7,580	0	0	0	−143	−143
Paper	14,449	0	0	0	−183	−183
Textiles	10,627	0	0	0	−491	−491
Clothing	12,166	0	0	0	−379	−379
Mineral products	14,346	0	0	0	−292	−292
Ores and metals	14,356	0	0	0	−454	−454
Chemicals	13,587	0	0	0	−849	−849
Mechanical	8,465	0	0	0	−606	−606
Office and data processing	7,423	0	0	0	−581	−581
Electrical	22,081	0	0	0	−1,196	−1,196
Vehicles	6,354	0	0	0	−210	−210
Instruments	7,903	0	0	0	−297	−297
Footwear	736	0	0	0	−59	−59
Miscellaneous	12,832	0	0	0	−1,083	−1,083
Food(*)	36,881	0	−15	−612	−965	−1,592
Drink and tobacco	6,060	0	0	0	−137	−137
TOTAL	201,345	0	−15	−612	−7,935	−8,562

Note: (*)The estimated 612 lost jobs shown in the export market competition column would be the result of lower raw material availability in this scenario.
Source: Study estimates.

The employment effects of the GATT breakdown scenario are shown in Table 3.7. It is estimated that overall manufacturing employment would be around 6 per cent less than the status quo outcome. Again, no industrial sector would be able to avoid job losses under this scenario.

4.3 The Uruguay Round Agreement and Direct Foreign Investment

An important feature of the Irish manufacturing sector is the prominent role of inward direct foreign investment. According to IDA estimates, 45 per cent of manufacturing and traded services employment in 1991 was in foreign-owned firms. Three separate aspects of the issue can be identified. First, what is the implication of the Uruguay Round Agreement for the stock of foreign-owned firms already located in Ireland? Second, how might the Agreement affect the flow of new inward investment? Third, will the Agreement affect the flow of outward investment from Ireland?

With regard to the first issue, the effects are embodied in the sectoral results in previous tables. These tables have dealt with sectors as a whole, irrespective of ownership. However, foreign-owned firms are more prominent in the newer export-oriented sectors. Within sectors, they are also less dependent than average on domestic markets. Therefore, foreign-owned firms have potentially more to gain on average from the Uruguay Round Agreement and had more to lose from a failure to reach an agreement.

With regard to the flow of new inward investment, early concerns that Irish industrial grants might be adversely affected by a Uruguay Round agreement were not realised. More generally, it might be argued that GATT-induced lower EU trade barriers and the disappearance of any

lingering fears of a "fortress Europe" would reduce the motivation of US and Japanese firms to invest directly in EU locations, including Ireland. For example, Japanese investment in the European car industry might not have been as significant in the absence of quantitative restrictions on Japanese car imports over the past decade and this would have slowed the growth of the Irish car components industry. However, this view has two main limitations. First, the desire to get in under trade barriers is only one reason why non-EU firms invest within the Union. Other important reasons include proximity to markets, labour and transport costs, and taxation incentives. Second, while there may be some short-term trade-offs, international trade and investment tend to be correlated positively in the medium- to long-term. It would be difficult to argue that trade protectionism is good for foreign investment. A slightly different issue is how the GATT Agreement might affect the relative attractiveness of Ireland as a location for this mobile foreign investment. Will it lead to increased competition from alaternative non-EU investment locations if exports to the Community from third countries become easier? Probably not; the most likely alternative locations (North Africa, Central Europe) already enjoy more favourable access than that granted by the Uruguay Round so additional competition is unlikely.

There is also a growing trend in Irish industry towards outward investment. The greater security of access of low labour-cost countries to the EU market might enhance the attractiveness of these locations to Irish firms considering investment abroad. While a very short-run view might see such investment as competing with job-creating investment at home, in practice such investment often contributes to securing Irish employment by enhancing the economic strength and stability of Irish firms. However, the trade regimes most likely to affect such investment decisions are the Europe Agreements and other association agreements between the Central European countries and the EU which grant import concessions more favourable than those envisaged under the Uruguay Round Agreement. Hence, the Agreement will have limited effects on foreign investment flows in Irish industry.

5 Implications for the Services Sector

Data comparable to those for manufacturing are not available for Ireland's internationally-traded services sector. As a result, the impact of the two GATT scenarios on the sector cannot be estimated using the same formal methodology as for manufacturing industry. There are no data on exports of internationally-traded services to different markets which would allow calculation of the effects through the different channels identified in the study, and the extent of market-opening envisaged under the new GATS still remains unclear.

The assumption is made that the import penetration, export market access and export market competition effects will be broadly neutral in their combined impact on Irish internationally-traded services. However, in addition, internationally-traded services will be affected by the projected changes in the growth of world trade. Service exports such as freight and transportation, tourism, financial services, software and other internationally-traded services should all benefit from the increased buoyancy in world economic activity the GATT agreement will promote, and would all lose from the slower world trade growth projected in the GATT breakdown scenario. If, as in the case of industry, these changes in services exports are assumed to lead to corresponding changes in the output and employment of the sector then output and employment gains of £121m and 6,300 persons respectively would be achieved in the GATT agreement scenario (relative to the status quo) and losses of the same size in the case of the GATT breakdown scenario (relative to the status quo).

6 Impact on Agricultural Output and Incomes

The first step in calculating the impact of the Uruguay Round Agreement on Irish agriculture is to establish the status quo scenario. This is assumed to take account of the impact of the MacSharry reforms in the period 1993 through 1995 but to maintain the real level of agricultural support thereafter. Table 3.8 shows how the value of Irish agricultural output in 1992 might

Table 3.8: Estimated Value of Irish Agricultural Output with and without CAP Reform, 1992

Sector	1992	CAP Reform Impact		Post CAP
	Value of Output	Volume	Price	Reform value of output
	£m	%	%	£m
Beef	1,265	−2	−17	1,029
Dairy	1,079	−1	−2.5	1,042
Sheepmeat	153	−4	−15	125
Pigmeat	218	5	−10	206
Poultry	106	5	−10	100
Cereals	186	−8	−29	121
Sugar	57	0	0	57
Other output	298	0	0	298
Gross output	3,363	−1.2	−10.4	2,978
Feed	−539	0	−17.4	−445
Other inputs	−838	−1.8	0	−823
Gross input	−1,377			−1,268
GAP at market prices	1.987			1,710
Subsidies less levies	361		+£393m	754
GAP at factor cost	2,347			2,464

Source: Study estimates.

have looked if the current CAP reform proposals had been fully implemented in that year. The main feature of the table is a net increase in Gross Agricultural Product (GAP) at factor cost of £117m. The reduction in the value of gross output due to CAP reform is more than compensated for by savings in input costs plus the increase in compensation payments.

6.1 Impact of the Uruguay Round Agreement

In the GATT agreement scenario, beef prices are predicted to fall by a further 5 per cent over and above the 17 per cent reduction under the CAP reform benchmark. In addition, a further 5 per cent drop in beef production over and above the 2 per cent CAP benchmark has been included. It is projected that the volumes and prices of other meats will fall as will the volume of cereals output. Dairy output and prices are also expected to fall. The estimated impact on Irish agricultural output and income is shown in Table 3.9. The bottom line is that gross agricultural output would fall by just over £200m and GAP at factor cost would fall by £173m.

The employment consequences of this fall in the value of agricultural output due to GATT are assessed by applying a labour coefficient based on the average product per worker in the industry in 1992. This approach overestimates the likely fall in employment in practice because lower incomes may lead simply to greater under-employment due to the inability of older farmers to find alternative off-farm employment. However, this approach has been adopted in order to provide a set of employment effects for agriculture which is consistent with that used for manufacturing industry and services. The likely impact of a GATT agreement is estimated to reduce agricultural employment by 10,500 workers. To put this figure in context, in the 10 years 1971 to 1981, agricultural employment (including forestry and fishing) fell from 272,000 to 196,000 or by 7,600 per year. In the 10 years 1981 to 1991, the rate of decline slowed from 196,000 to 155,000 or 4,100 per year. Thus, over the 6 years of implementing a GATT agreement the likely impact scenario would add a further 1,750 out-migrants annually to the underlying trend as compared to the status quo scenario based on CAP reform.

Table 3.9: Impact of a GATT Agreement for Irish Agricultural Output (Additional Effect Above CAP Reform)

Sector	Volume	Price	Total impact
	%	%	£m
Beef	−5	−5	−100
Dairy	−1.5	−5	−67
Sheepmeat	−2	−5	−9
Pigmeat	−2	−5	−14
Poultry	−3.5	−5	−8
Cereals	−5	0	−6
Sugar	−2.6	−5	−4
Other output	0	0	0
Gross output	−2.8	−4.3	−209
Feed	−3	0	13
Other inputs	−4.3	0	35
Gross input			48
GAP at market prices			−160
Subsidies less levies		−13	−13
GAP at factor cost			−173

Source: Study estimates.

6.2 Impact on Agriculture of a GATT Breakdown

The previous section evaluated the Uruguay Round impact on Irish agriculture against the benchmark of CAP reform. It was assumed that if the Uruguay Round negotiations broke down, the restrictions which a successful GATT agreement places on Irish agriculture would not have materialised and the EU could continue to restrict market access and subsidise its export surpluses on third markets without hindrance. Specifically, it assumed that support prices and quota levels at the 1992 level as modified by the CAP reform package (Table 3.8) could have been maintained over a six year period. The likelihood of such an outcome can be questioned on two, related, grounds.

First, whether EU budget resources would be adequate to maintain the price support and compensation commitments underlying Table 3.8 in the absence of a GATT agreement can be queried. Paradoxically, a GATT agreement will make it easier to finance CAP reform by helping to lift world prices (because of the reduction in the volume of subsidised exports and the increase in minimum import access by all GATT participants). In the absence of a GATT agreement, and even assuming no trade retaliation by third countries, world prices would remain in a depressed state. According to the Commission, almost half of FEOGA Guarantee expenditure is directly linked to the level of world prices and the dollar exchange rate (Commission, 1992). Hence the capacity of the EU budget to finance the CAP reform commitments is very sensitive to the level of world market prices.

Second, in view of the recent history of US-EU agricultural trade relations, if the US had failed to discipline EU export competition through the GATT process, there must be a strong probability it would have used other trade instruments to achieve the same objective. It might have threatened to increase tariffs on EU exports to the US or to increase budgetary resources for the Export Enhancement Programme and other US export subsidy measures. The outcome in either case would be lower prices for EU exports on world markets and greater pressure on the EU budget to finance a given level of price support and compensation commitments.

In the case of manufacturing, the main difference between the GATT agreement and the GATT

breakdown scenarios related to the growth of world trade (the "world trade growth" effect). Given the supply-driven nature of EU agricultural exports under the CAP, the key issue for the agricultural sector is not the volume of world trade but expected prices on world agricultural markets. A GATT agreement will raise world prices and lower the cost to the EU of its farm policy. On the other hand, in the GATT breakdown scenario, world prices would remain depressed because of the failure to discipline the level of agricultural support on a global basis and could be further pushed down by deliberate US policy. This would raise the cost of the CAP to the EU and could force further domestic policy changes to keep agricultural expenditure within the financial ceilings agreed at the Edinburgh Summit.[10]

A rigorous examination of the adequacy of the EU budget to finance the post-CAP reform price support and compensation payment guarantees would require detailed information on supply and demand trends by commodity and forecasts of world price and exchange rate movements and is beyond the scope of this study. For the purpose of the simulations in this chapter, the assumption is made that the EU budget will be adequate provided world prices are positively affected by a GATT agreement. This implies that, in the absence of a GATT agreement, the current financial framework would not make sufficient funds available at the level of world prices which would prevail in the status quo scenario. In addition, in the GATT breakdown scenario world prices would be pushed further below this level because of aggressive trade policy actions by the US authorities, thus aggravating the EC budgetary situation.

Specifically, the assumption is made that world prices on average would be 10 per cent lower than in the GATT agreement scenario.[11] This is assumed to translate into an overall 5 per cent cut in support compared to the post-CAP reform scenario. Applying this to the Irish 1992 level of agricultural output, and taking account of input savings, results in the output and GAP effects shown in Table 3.10. The value of Irish agricultural output would be reduced by about £125m, and the numbers employed in agriculture by 7,575. These effects are projected to occur if there was failure to reach a GATT agreement. In other words, the negative effect of a GATT agreement for agriculture must be *reduced* by these amounts if the assumptions underlying the GATT breakdown scenario represented the most likely alternative to an unsuccessful Uruguay Round in order to calculate its net impact on Irish agriculture.

Table 3.10: Implications of a GATT Breakdown Scenario for Irish Agriculture

	1992 value of output	Change under GATT breakdown	
	£m	%	£m
Gross output	3,363	−5	−168
Inputs	−1,377	−3	41
GAP at market prices	1,987		−128
Subsidies	361		0
GAP at factor cost	2,347		−127
Employment (nos)			−7,687

Source: Study estimates.

10 The EU financial perspective agreed at the Edinburgh Summit embodies two separate restrictions relevant to agricultural expenditure. First, there is an absolute ceiling placed on total payment appropriations of 1.27 per cent of EU GNP in 1999. Second, the agricultural guideline limits the annual increase in agricultural expenditure to 74 per cent of the EU's annual GNP growth.

11 The comparison here is with the GATT agreement scenario and not with the status quo scenario. The reason is that it is differences in world prices from those prevailing under a GATT agreement scenario which will push the EU agricultural budget into deficit. A large number of studies have tried to estimate the impact on world prices of disciplining agricultural support (Goldin and Knudsen, 1990). Generally, these studies find larger price effects for livestock and dairy products which are the exports of most interest to Ireland. The 10 per cent assumption reflects a consensus of these studies and in addition makes some allowance for an aggressive US agricultural policy.

7 Overall Effects of the Uruguay Round

Table 3.11 aggregates the estimated effects of the Uruguay Round Agreement on output in the agricultural, manufacturing and services sectors. The data in the table refer to gross output (i.e., turnover) of the industries in question, and not to value added. The figures in the first column show the current situation of each sector as a basis for comparison. The second and third columns show the estimates as against the "GATT breakdown" and "status quo" scenarios, respectively. The figures should be interpreted as the annual changes to which the GATT agreement will give rise in any particular year after the full effects of the Agreement have worked themselves through. The Uruguay Round Agreement will lead to a £1.6 billion output gain for the Irish economy, of which £0.4 billion will be new output compared to the status quo, under the assumptions specified.

Table 3.12 brings together the data on the projected employment changes that would arise in a year in which the full impact of the GATT on the economy was being felt. The data are the employment equivalents of Table 3.11, calculated by converting the output data into employment data using average employment coefficients for each sector. The employment gains from the Uruguay Round compared to the status quo are positive but modest. However, if the more appropriate comparison is made with the economic scenario which would have followed a breakdown of the Round, the employment benefits become more marked and up to 23,000 jobs either saved or created might be attributed to the successful outcome.

Table 3.11: Summary of the Annual Output Effects for Ireland of the Uruguay Round Agreement

		Impact of Uruguay Round Agreement compared to:	
	Current output	GATT breakdown scenario	Status quo scenario
	£m	£m	£m
Agriculture	3,311	−40	−209
Industry	20,480	1,385	524
Services(*)	11,010	242	121
TOTAL	34,801	1,586	436

Note (*): Private services only.
Source: Study estimates.

Table 3.12: Summary of the Direct Employment Effects for Ireland of the Uruguay Round Agreement

		Impact of Uruguay Round Agreement compared to:	
	Current employment	GATT breakdown scenario	Status quo scenario
	Nos.	Nos.	Nos.
Agriculture	149,000	−2,813	−10,500
Industry	201,000	13,112	4,550
Services(*)	575,000	12,604	6,302
TOTAL	925,000	22,903	352

Note (*): Private services only.
Source: Study estimates.

The estimates above capture the potential output and employment effects of the Uruguay Round Agreement. There will be, in addition, benefits to Irish consumers from price reductions induced by the Agreement. While lower import prices are modelled as causing a "loss" to Irish producers, they are of course a benefit to consumers.

8 Discussion

These estimates of the output and employment effects of the Uruguay Round are based on a particular methodology and the results are influenced by the various assumptions and parameter values adopted. Among the more important assumptions and caveats are the following:

- while data on the likely extent of tariff reductions in manufacturing are reasonably firm, the study was not able to take account of the elimination of non-tariff barriers (with the important exceptions of agriculture and clothing). The liberalisation of trade in services was also treated in a very summary way, again for want of good data on this trade.
- the responses of consumers to the lower prices, and of Irish firms to the increased market opportunities, brought about by improved market access and higher levels of world trade were captured in the calculations by means of elasticity parameters. Much of the export gain was concentrated in industrial sectors dominated by the subsidiaries of multinational firms. It might be queried whether the sort of market supply response assumed by such elasticity parameters would materialise, given the extent of intra-firm sales governed by non-market considerations in these sectors. The procedure can be defended by arguing that any increase in the demand for end-products stimulated by the Uruguay Round will also filter back into increased demand for intermediate inputs and that Irish subsidiaries would expect to benefit from this increased activity on a *pro rata* basis.
- the most critical of the parameter values used in arriving at the above results was the assumption that the successful conclusion of the negotiations will result in a level of world trade by the end of this decade 6 per cent above what would have occurred under a status quo scenario and 12 per cent above what would have occurred if the GATT talks had broken down. The 6 per cent boost to trade is well within the findings of international studies (see footnote 8) but the assumption that trade levels would be 6 per cent below the status quo level if the negotiations failed is more speculative. Use of a lower figure would reduce the putative output and employment gains shown in the previous section. In the case of agriculture, where nearly all of the gross job losses from the Uruguay Round Agreement are projected to occur, these trade buoyancy parameters play no role. Instead, the key variable is the level of the world prices and the way in which these world prices determine the amount of EU expenditure on export subsidies and thus the pressure on the EU budget. The tables in the previous section show that as the benefits to Ireland of a successful agreement grow, the more weight is placed on the risks that a GATT failure would have facilitated a resurgence of protectionism, a fall in international business confidence or an over-run of the EU's budget for agricultural support.
- the methodology behind the calculations is a partial one and looks only at the direct effects of changes in market access and trade buoyancy. A fuller accounting would also try to take into account second-round, or general equilibrium, effects. Where gains and losses are unevenly distributed across countries, exchange rate changes will come about which will moderate the initial employment impacts. Given the different proportions of household income spent on food and differences in initial levels of agricultural support across countries, the central role given to reductions in this support in the Uruguay Round means there will be differences in the future evolution of inflation rates across countries and thus changes in international competitiveness which may add to or subtract from the direct employment effects. Changes in traded sector output and employment measured in this paper will also have knock-on

(multiplier) effects on employment in the non-traded sector. These will be in the same direction as the direct employment effects but taking account of these multiplier effects would amplify the total impact.

- attention has already been drawn to the procedure whereby employment effects have been calculated from the output effects assuming labour coefficients based on average labour productivity in each sector. This procedure is probably not realistic in the case of agriculture where lower returns are more likely to lead to lower farm incomes than to higher out-migration, but is used in order to have a measure of the Uruguay Round impact on agriculture commensurate with that used in other sectors. In the case of industry, it might be argued that some of the projected gain in output could be met from increased productivity and thus that the net addition to employment would be less than assumed above. The use of average labour productivity coefficients is justified because of the empirical evidence that Irish industry is characterised by constant returns to scale and because much of the overall employment effect of the GATT represents jobs saved through averting growing protectionism and a loss of business confidence. These jobs are more likely to be among the lower-productivity jobs in each sector.

9 Conclusions

Bearing these qualifications in mind, the main conclusions arising from the study are:

(1) The Irish manufacturing and traded services sectors will gain substantially in terms of output and employment from an increasingly liberalised international trading system arising from the Uruguay Round Agreement. Even for the clothing sector which is expected to lose from the Round, 50 per cent of the liberalisation does not take place until after the year 2005, which gives a long transition period for adjustment.

(2) The main source of these benefits will be the general world trade buoyancy brought about by the Agreement, rather than direct improvements in Irish market access on export markets. This conclusion arises because of the predominance of EU and EFTA markets in Irish exports, to which access is not directly improved by the GATT Agreement. Indeed, there will be losses here due to the unravelling of the trade diversion gains of joining a customs union and the common funding of EU agricultural policy.

(3) The agricultural sector is expected to lose from the Uruguay Round Agreement in so far as its disciplines on agricultural support go beyond the MacSharry CAP reforms. The magnitude of these losses is greatly reduced, however, if a more realistic view of the alternative to the Agreement is adopted.

(4) More generally, the magnitude of the benefits arising from the Uruguay Round depends on the assumption taken about the likely economic scenario which would have followed a breakdown of the negotiations. If the alternative is taken to be an increase in trade disputes and protectionism, then the net impact of a successful Round is considerably larger than in a scenario where without an agreement international trade continues on a no-change basis.

References

CLINE, WILLIAM, NOBORU KAWANABE, T. KRONSJO, and THOMAS WILLIAMS, 1978. *Trade Negotiations in the Tokyo Round: A Quantitative Assessment*, Washington, D.C.: The Brookings Institution.

COMMISSION OF THE EUROPEAN COMMUNITIES, 1992. *The Community's Finances between Now and 1997*, COM(92)2001, Brussels.

DRI/MCGRAW-HILL, 1993. *Impacts of Trade Liberalisation under the Uruguay Round*, A study prepared for the Office of the US Trade Representative, Washington, D.C.

FITZPATRICK ASSOCIATES, 1993. *The Impact of the Uruguay Round on the Irish Economy*, Report prepared for the Department of Tourism and Trade, Dublin.

GOLDIN, IAN, ODIN KNUDSEN, and DOMINIQUE VAN DER MENSBRUGGHE, 1993. *Trade Liberalisation: Global Economic Implications*, Paris: OECD and World Bank.

GOLDIN, IAN and ODIN, ODINKNUDSEN, 1990. *Agricultural Trade Liberalisation: Implications for Developing Countries*, Paris: OECD.

GREENAWAY, DAVID, 1991. "The Uruguay Round of Multilateral Trade Negotiations: Last Chance for GATT?", *Journal of Agricultural Economics,* Vol. 42, No. 3, pp. 365-379.

HUFBAUER, G., 1993, "President Clinton and the World Trading System", *International Economic Insights*, Vol. 4, No. 1, pp. 5-7.

MATTHEWS, ALAN, 1991. *EC and the Third World: An Irish Perspective*, Dublin: Gill and Macmillan.

TRELA, IRENE and JOHN WHALLEY, 1989, *Unravelling the Threads of the MFA*, Seminar Paper No. 448, Institute for International Economic Studies, University of Stockholm.

Glossary of Acronyms

AMS	Aggregate Measure of Support
CAP	Common Agricultural Policy
CET	Common External Tariff
EEA	European Economic Area
EFTA	European Free Trade Area
EU	European Union
FEOGA	European Agricultural Guarantee and Guidance Fund
GAP	Gross Agricultural Product
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariffs and Trade
GSP	Generalised System of Preferences
MFA	Multi-Fibre Arrangement
MFN	Most Favoured Nation
NTB	Non-tariff Barrier
TRIMs	Trade-related Investment Measures
TRIPs	Trade-related Intellectual Property Rights

CHAPTER 4

The National Development Plan in the Context of Irish Economic Problems

Patrick Honohan and Philip J. O'Connell
The Economic and Social Research Institute, Dublin

1. The Overall Policy Framework

The Irish National Development Plan outlines a large spending programme, funded by EU structural funds, Government resources, public bodies and the private sector, and covering the period up to 1999. Total spending in the years 1994-99 is given as £17.5 billion, of which £10.7 billion will be financed by structural funds or by the Government. The planned structural fund component is equivalent to £6.9 billion,[1] though a rather smaller figure will be set for EU in the support framework that is currently being negotiated. It is most relevant to focus on the EU aid and Government components, and for the most part, we neglect the remainder here.[2]

The plan document has been presented to the EU in support of a request for assistance from the structural funds. From the EU's point of view, the plan should be designed to stop Ireland lagging behind in per capita output. The fact that output per head of population in Ireland still falls below 75 per cent of the EU average is intimately related to the problem of unemployment and low employment. After all, output per employed person in Ireland is now close to the European average: the gap between GNP per capita in Ireland and the rest is primarily attributable to the lower share of the employed in the total population. This in turn reflects a higher level of unemployment, lower labour force participation rates among women (partly attributable to discouraged worker effects) and age-structure differences.

The main features of the plan continue a policy strategy that has been in place for several years. Table 4.1 shows the overall breakdown of structural fund and Government spending in the plan. Broadly comparable figures for the previous planning period 1989-93 are also shown. This shows that human resources (HR) spending still takes the largest single share, followed by the hard infrastructure (especially transport and environmental services) and by industry and agriculture.[3]

Of course, the plan does not set out to provide an overall blueprint of Government economic development policy. Indeed it is no more than a statement of the Government's overall intentions regarding certain components of spending, notably on public investment and public support to private investment, and on training for the period 1994-99. It is thus, by definition, only one element of overall economic strategy.

It seems useful to to consider the policy measures in the plan against the background of the wider policy issues and problems facing the economy. Indeed, an appraisal of the plan's likely performance requires such a perspective.[4] The present Chapter attempts such a review. It is organised as follows. We begin (Section 2) by presenting an analysis of Ireland's economic weaknesses. Section 3 proceeds with an interpretation of the underlying philosophy of the measures proposed in the plan itself. Section 4 asks whether the broad spending balance is right, and offers some suggestions as to how it might be improved. Section 5 discusses issues of implementation, and Section 6 provides concluding remarks.

---

1 The widely discussed figure of £8 billion refers to the longer period 1993-99.

2 This remainder includes spending by public bodies such as the ESB and Telecom Éireann. But note that significant parts of the education, health and other infrastructures are not included in the plan to the extent that they are not being co-financed by the structural funds. The same is true of much of private sector capital formation.

3 The big increase in Local Development reflects the fact that the Social Employment Scheme was included for only a part of the previous period.

4 The present paper draws on a report prepared by the authors in conjunction with Colm McCarthy and Gerry Boyle to assist the European Commission in carrying out an appraisal of the plan.

Table 4.1: Spending under the CSF, 1989-93 and Proposed in the Plan for 1994-99

	1989-1993			1994-99		
£ million						
	EC Aid	State	EC+State	EU Aid	State	EU+State
Industry	502	309	811	772	616	1388
Natural Resources						
Agriculture	438	253	691	844	192	1036
Forestry	44	62	106	59	26	85
Fisheries*	17	5	22	64	14	78
Tourism	134	47	181	311	41	352
Local Development	65	134	199	306	789	1095
Human Resources	1221	701	1922	1867	1205	3072
Transport	560	299	859	1505	617	2122
Energy	0	0	0	69	5	74
Communications	0	0	0	32		32
Environmental Services	111	119	230	486	147	633
Hospital Infrastructure	0	0	0	70	43	113
Community Initiatives	275	297	572	516	110	626
Technical Assistance	0	0	0	6	2	8
Total	3367	2226	5593	6907	3807	10714
%						
Industry	14.9	13.9	14.5	11.2	16.2	13.0
Natural Resources						
Agriculture	13.0	11.4	12.4	12.2	5.0	9.7
Forestry	1.3	2.8	1.9	0.9	0.7	0.8
Fisheries	0.5	0.2	0.4	0.9	0.4	0.7
Tourism	4.0	2.1	3.2	4.5	1.1	3.3
Local Development	1.9	6.0	3.6	4.4	20.7	10.2
Human Resources	36.3	31.5	34.4	27.0	31.7	28.7
Transport	16.6	13.4	15.4	21.8	16.2	19.8
Energy	0.0	0.0	0.0	1.0	0.1	0.7
Communications	0.0	0.0	0.0	0.5	0.0	0.3
Environmental Services	3.3	5.3	4.1	7.0	3.9	5.9
Hospital Infrastructure	0.0	0.0	0.0	1.0	1.1	1.1
Community Initiatives	8.2	13.3	10.2	7.5	2.9	5.8
Technical Assistance	0.0	0.0	0.0	0.1	0.1	0.1
Total	100	100	100.0	100	100	100.0

Notes:
Based on data provided by Department of Finance in December 1993; some of the total shown for 1989-93 did not actually arrive until 1994.
HR is shown separately and Food is moved to Industry.
"Community initiatives" included ERDF element of Star, Valoren, VTIOP, Textile and border areas, but not Interreg.
"Local Development" includes SES, OPRD and Global grant for local development.
*Fisheries in 1989-93 does not include sums provided outside the Structural Funds.

2. A Model of Ireland's Economic Weaknesses

Since the plan does not delve into the deeper causes of Ireland's economic weaknesses, it may be helpful if we set out here a brief and rather holistic interpretation of these large questions.

The most important symptoms of Ireland's economic weakness in a medium-term context are the level of unemployment, the slow rates of employment growth and of productive investment and the weakness of the indigenous enterprise structure. Commentators do not all agree on the fundamental causes of this weakness and any particular description is inevitably partial and disputable. Some of the factors are potentially quantifiable: a macroeconometric model, such as that which underlies the projections made in this *Economic Perspectives for the Medium Term,* quantifies national economic relationships. In contrast, the stylised description presented here tries to look beyond what is quantifiable and to include most of what a majority of policy analysts have in their minds as the most important causal connections in the pattern of medium-term economic weakness. Indeed, a model of this sort

has implicitly underlain much of the national economic policy debate over the past decade.[5]

First are the four basic symptoms (mentioned above and shown in the centre of Chart 4.1), each interrelated and affecting intermediate causes. Second (and shown in rectangular boxes in the chart) are underlying factors, nine in number. Third are five intermediate factors, which both contribute to the basic symptoms and are affected by the underlying factors.

Basic symptoms

Unemployment: Second highest in the EU, and combined with low labour market participation.

Slow employment growth: Not bad if just compared with most other EU countries but hopelessly inadequate given the flow of new entrants to the labour market and scale of outflow from agriculture.

Slow private investment: The strong recovery in the macroeconomic situation since 1986 has not resulted in the hoped-for recovery in productive investment. The huge growth in private sector profits has been channelled into financial saving or investment abroad. This is a critical weakness as many international studies point to the scale of investment, especially in plant and equipment, as being the key to economic strength. Also, without capital formation, job growth is unlikely.

Weak indigenous firms: From the Telesis report of 1982 to the Culliton report of 1992, all studies of Irish industry point to the weakness of indigenous firms. Structural weaknesses in farming form part of the same syndrome. In manufacturing, almost one-half of employment is provided by the dynamic foreign-owned sector — by far the highest proportion of any country in the EU or in the OECD.

Underlying factors

Educational drop-out: The relatively high proportion of children who leave school with no qualifications, or low qualifications, reveals a structural weakness in the educational system at initial (primary and secondary) level. These school-leavers end-up with poor labour market skills, and weak attachment, or *marginalisation* with respect, to the labour market. Even if they obtain a job, once they become unemployed they tend to become discouraged and quickly slip into long-term unemployment with little prospect of escape. While there is a constant flow into and out of employment, it remains the case that, when there is a surge in unemployment (as in the early 1980s and again since 1990) it leads to a disproportionate growth in semi-permanent unemployment among those with low labour market skills. Fully three-quarters of the long-term unemployed come from those who have left school with at best poor qualifications (a group which itself forms one-fifth of every school-leaving cohort). The *hysteresis*[6] of Irish unemployment is related to this factor. If this group were better equipped to compete, they would more quickly find jobs during up-turns, at home or abroad. A more radical analysis would point also to underlying patterns of social deprivation contributing in this (and other) areas also.

Inherited shocks: The fiscal contraction of the 1980s, the surges of unemployment in the UK, and in world real interest rates, the size of the farm population and the large flow of potential new entrants into the labour market are among the factors which have resulted in a high inherited level of unemployment now, because of hysteresis.

Heavy public debt: Though much less acute than it was in the mid-1980s, the still-too-high level of public debt has contributed to the difficulty of rationalising and reducing the burden of the tax system. It has also contributed to a paralysing *generalised uncertainty*.

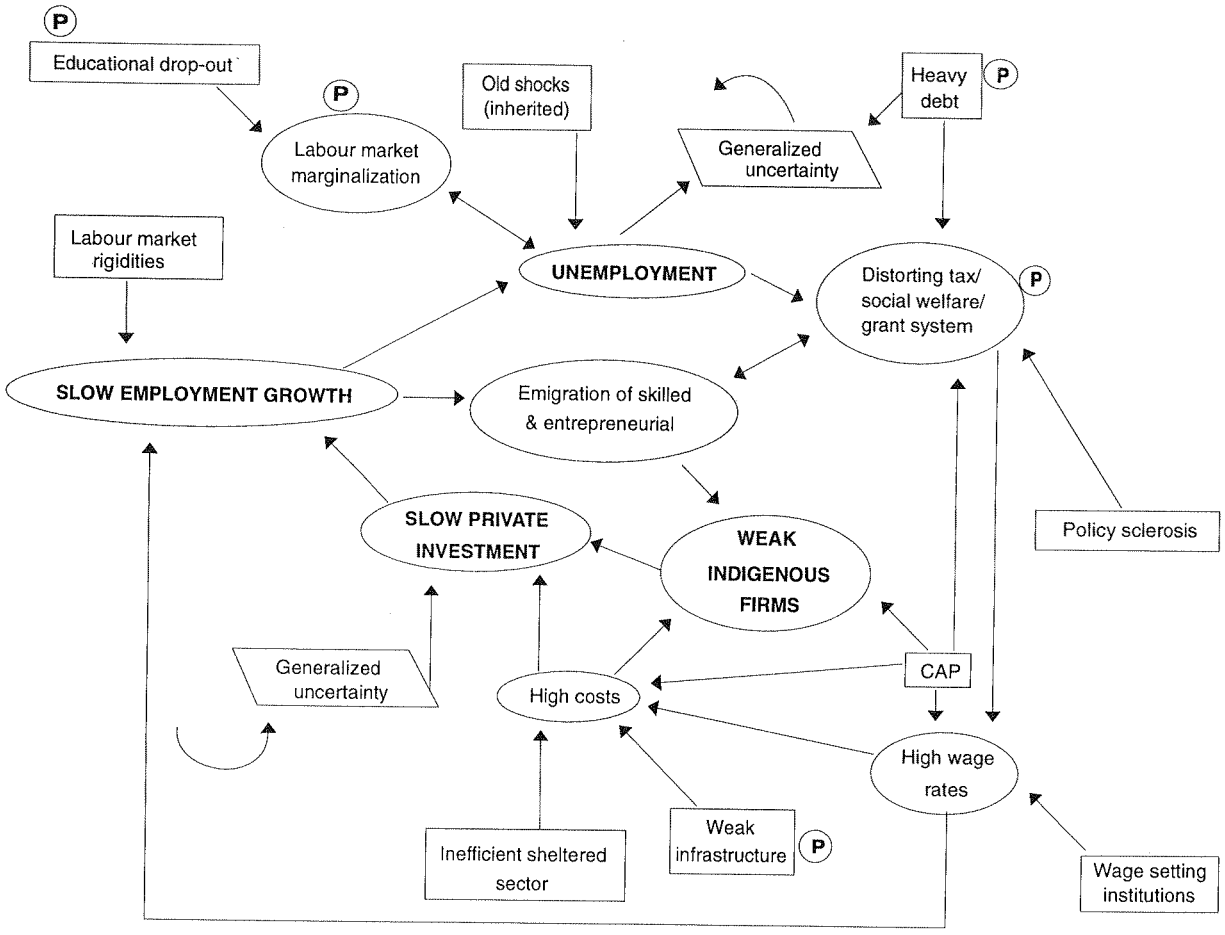
Policy sclerosis: The political difficulties involved in dealing with the losers in any radical overhaul of Government policy has long inhibited many desirable changes. This is clearly evident in the question of reforming the structure of taxation, social welfare benefits and the other panoply of subsidies and grants.

Wage setting institutions: These have driven Irish wage rates up to a level close to, or in some cases

5 For instance, Industrial Policy Review Group (1992), National Economic and Social Council, (1993).

6 That is the systematic failure of increases in unemployment to be reversed over time.

Chart 4.1: Sources of medium-term weakness in the Irish Economy



above, those in the UK. Affordable for many multinationals, such wage levels certainly inhibit overall job creation. Although the national agreements since 1987 have brought industrial peace and cannot be said to have had the same adverse effects as those of the 1960s and 1970s, wage determination remains problematic.

Weak infrastructure: Its damaging effect is most compactly captured as an addition to costs in the exposed productive sector.

Inefficient sheltered sector: Cartelisation and other restrictive practices combine with raw inefficiency to add to the costs of the exposed productive sector.

Labour market rigidities, perceived and actual, including those caused by trade union short-sightedness and Government regulation, have the effect of dampening the demand for labour and thereby slowing employment growth.

Structural defects of the Common Agricultural Policy: Despite the very large cash transfers it has provided to Ireland over the years, it is important to recognise also the damaging structural effects of the CAP. Because of the size of the farm sector these are quite pervasive. Among other things it adds to the distortion of taxation, welfare and grants; it inhibits the development of strong agricultural enterprises (through output quotas, etc.), it adds to wage rates and directly increases input costs for industry especially the food processing sector.

Intermediate factors

Lack of qualifications and skills of many participants adds to unemployment, and (as mentioned) to the ratchet effect, whereby each employment downturns condemns a large fraction of each cohort to long-term unemployment and, for many, leads to further *marginalisation* and exclusion from the labour force.

High wage rates compromise the competitiveness of labour directly (encouraging the adoption of labour saving technologies) and of the productive sector generally including the extra cost of public services and taxation.

High costs overall (despite some specific improvements in recent years) produce an environment in which indigenous firms cannot easily get established, and also reduce the flow of inward investment.

Though not as acute as it was some years ago, *generalised uncertainty,* which is increased by unemployment and by the overhang of public debt, has inhibited investment decisions because it adds to perceptions of risk, and because it increases domestic interest rates. Through higher interest rates (also influenced by exchange rate turbulence) it has also fed back onto the Government debt problem.

The distorting taxation, social welfare and grant system embraces a complex of well-intentioned Government measures designed both to raise revenue, redistribute income and provide incentives for what are seen as socially desirable activities. But the actual structure has repeatedly been criticised for its distorting side-effects. It adds to wage rates, weakens indigenous enterprise, and encourages emigration of the skilled and more entrepreneurial young people as well as directly adding to unemployment (from which an important direct feed-back also occurs). Reform in this area has so far been tentative.

Emigration of skilled and entrepreneurial: Slow employment growth and adverse taxation are among the factors which have tended to drive many young people in this category out of the country, thereby reducing the pool of entrepreneurial initiative that might generate a stronger indigenous enterprise base, as well as depleting the skills pool but in a way that removes those who could most effectively identify and correct skill deficiencies. The high mobility of Irish workers is a central characteristic of the Irish situation not commonly found in other countries.

What can a spending plan do to break in to the vicious circles?

So in answering the question: "What's wrong with the Irish economy" we are drawn into a web of factors of which only a handful are susceptible to a spending plan co-financed by the structural funds. There are five main points at which such intervention either does or should take place in the plan. They are marked in Chart 4.1 by the letter *P.*

The first three of these relate to improving three of the *basic factors* outlined above.

(i) The role of the structural funds in improving infrastructure is clear, so far as the hard infrastructure is concerned. The contribution of the funds to elements of the soft infrastructure (e.g., technical education and R&D) is also considerable.

(ii) While the availability of structural funds undoubtedly increases the overall level of Government spending, it does not do so pound for pound and therefore the aid contributes indirectly to lower Government borrowing.

(iii) Structural funds could also be (but are not) used to prevent educational drop-out.

(iv) Action in the human resources area also contributes to improving human capital and decreasing labour market marginalisation, an intermediate factor.

(v) The fifth point in the flow chart where important structural fund interventions take place is in influencing the structure of the grant system, part of the intermediate factor we have described as the "distorting tax and social welfare/grant system". Whether the intervention here is positive (subsidise investment to offset other contribution to high cost) or negative (perpetuate grant-mentality thereby weakening indigenous firms; damage environment as a side-effect of income maintenance in agriculture) is a moot point: both effects are present; the Culliton group took the view that the damaging effect was more important.

It follows from consideration of the model that neither plan expenditures nor an adjustment in the overall fiscal stance are likely to be enough to solve the whole problem. A range of other types of policies are also required. Policymakers should not allow availability of the structural funds to distract them from non-plan related policy reforms.

Demand-side effects and the demographic trends are far from being the only sources of the problem. While severe adverse demand shocks can have lasting effects (as in the early 1980s) main-

tenance of adequate demand is not normally the crucial constraint for a small open economy like Ireland. Likewise, we have also consigned the demographic factors (rapid natural increase) to the "inherited shocks" box, because a well-functioning system should have been able to absorb much of this with rapid employment growth.

3. Philosophy of the Plan

Compensation vs. correction

Of the weaknesses in the economy which result in Ireland's economic development still falling behind other EU countries, some, like climate, may be taken as more or less permananent and irremediable; susceptible only to compensatory measures ("Type I" deficiencies), whereas others, like physical infrastructure, can be corrected by appropriate action ("Type II" deficiencies).

The plan emphasises Type I weaknesses,[7] for example, the peripheral location, small domestic market, low population density, widely dispersed pattern of settlement, rapid natural increase in the labour force and the inevitable decline in the capacity of agriculture to provide employment. In regard to these factors, the plan effectively proposes to take action to part-finance the costs they impose on the economy (in such matters as access transport and construction of internal networks), thereby implicitly adopting an approach of compensation. Such an approach does nothing to make the economy more competitive, and indeed may damage competitiveness (for instance by encouraging persistence of dispersed settlement).

More constructive is the approach that can be adopted to Type II weaknesses, namely those which could be corrected. Of these, the main items identified at the overall level in the plan are poorly developed infrastructure,[8] low qualifications of the unemployed, deficiencies in the education and training system and the size of the public debt. From the developmental point of view, action to correct Type II deficiencies is clearly to be preferred.

The spending proposals of the plan appear to be driven by three basic perceptions relating to productive investment, human resources and infrastructure respectively.

On *Productive Investment,* the scale of grant assistance in industry, natural resources and tourism betrays an anxiety that the private sector will not generate enough investment without significant cash inducements to do so. An obvious comment on this approach is: "what market failure is such grant aid meeting?", and it is not easy to find a convincing answer.

> If it is held that the market failures relate to gaps in the private financial infrastructure in Ireland, the nature of the grant assistance effectively stifles any incentive for private initiative to close those gaps.
>
> Information gaps, leading to inadequate strategic planning or under-investment in technology or marketing on the part of enterprises, could be a reason for intervention. But, while an ancillary objective of grant assistance in some cases is to leverage-in best practice, in most cases this does not seem to be the central objective.
>
> Externalities in marketing and some R&D spending could also be held to justify Government intervention, but should normally be on a cost-recovery basis to a much greater extent than is proposed in the plan.

A more decisive reason is that grants are needed to compete with those offered to internationally mobile investment by other member states and regions. But, for less mobile projects, such a degree of reliance on grant support to private investment sits uneasily with a generally pro-market stated policy. While the Government's apparent unwillingness to reduce the scale of grant support is partly related to a perception that high taxation reduces the profitability of productive investment in the exposed sectors, the optimal policy response would involve tax reform rather than patching the situation with grant aid. That would seem likely to remove the "grant mentality" and result in a more self-reliant and enterprising private sector.

7 Most of the items in the list provided (p.24 of the plan) of overall structural weaknesses fall into Type I.

8 A caveat should be noted here in that not all infrastructural spending actually does address Type II deficiencies.

In cost-benefit terms, the overall social rate of return on grant assistance to private investment in cases where no market failure exists could be relatively low in view of the opportunity cost of public funds. The presumption must therefore be that, unless a specific market failure is being addressed, grant programmes for relatively immobile projects should be closely scrutinised and should probably be accorded a lower priority. Indeed, stated Government policy already amounts to agreeing with the proposition that the enterprise sector needs to be weaned off grants, but the philosophy of the plan reveals no evidence of an intention to implement this policy.

On *human resources and local development* a major driving force behind most of the costliest interventions is a perception that unemployed, displaced or low-skill workers have neither the resources nor the information to acquire training for themselves. The same applies to those preparing to enter the labour market. When combined with well-established theoretical results regarding the risk of under-investment in training in a market economy, this perception is surely justified.

Much of the *infrastructural* spending in the plan appears to be driven by two types of consideration: (i) the perceived need to meet the requirements of EU Directives, (ii) the perceived continued need to upgrade transport infrastructure and close evident gaps between Irish and EU standards in this regard. Important though compliance with Directives is, we would argue that assigning undue priority to these, and to the designated European transportation network, could lead to sub-optimal social rates of return on the investment. Lowest cost solutions to compliance with Directives should always be sought, especially in instances where the Directives point to investments which would otherwise be of low domestic importance, as may be the case for some environmental aspects.

For the most part, the allocation of the financing of this spending between public authorities and public enterprises appears to depend on "ability to pay", with most of Telecom and Electricity Supply Board investment being financed by these monopolies, but railway and Bord na Mona investment being paid for from public funds. Once again, an approach which was driven by an assessment of market failures or externalities might yield a better structure for the financing as for the spending.

Issues of household *income maintenance* and income redistribution are relevant to some areas of the plan expenditure, and the use of structural funds to finance income maintenance indirectly appears to be part of the Government's strategic approach in the plan. Thus, for example, the agricultural headage payments are explicitly described in this way. Furthermore, parts of the human resources and Local Development expenditure might be seen as indirectly substituting for social welfare payments. Finally, such schemes as the proposed turf-fired power station probably have regional income maintenance as a ancillary, implicit objective.

We see no objection of economic principle to the use of structural funds to help achieve income maintenance objectives as a side-effect, and to taking this side-effect into account in evaluating projects and policies for Structural Fund support. The alternative would be an increase in taxation to fund the income maintenance, and that would have damaging effects of competitiveness and employment. Nevertheless, the merits of the projects or policies must be considered as a whole, and they should not be supported if their non-income maintenance aspects are of little value, as appears to be the case in certain instances.

4. Is the Broad Spending Balance Right?

If it is necessary to envisage cutting back on some of the proposed spending plans, an important question is where the reductions should fall: whether uniformly or more heavily on some programmes rather than others. There are two ways of approaching this question. One is to look at the details, project-by-project; the other is to consider the broad areas at a more abstract level, and with the implicit assumption that spending within each area is optimised. It is the latter approach that we were asked to pursue. Nevertheless, the project-by-project approach will ultimately have to be applied. Fine-tuning within all of the programmes is needed if the best results are to be obtained.

The most conspicuous feature of the allocations in the plan as it stands is the very substantial share going to human resources and local development. While such a share could be justified in view of the central problem of long-term unemployment, and in view of the potential for such types of measure to make some inroads in this field, there would have to be a restructuring of these programmes to improve their efficiency. As mentioned below, this would include improved focusing of training programmes, and a substantially recast approach to local development. Provided that could be done, then it would not be unreasonable to maintain the combined share of HR and local development spending; however, without such reforms their share should be reduced.

As explained below, there would be scope for a considerable reduction in the share of support for productive investment (in line with stated policy) if other economic policy reforms (notably on taxation) were put in place rapidly.

We would not target infrastructure for a reduction in share, but a number of the high profile projects proposed for the infrastructure area would probably fail to pass rigorous appraisal procedures. Accordingly the need for an overall reduction in proposed spending may be accommodated by deleting inferior projects.

Industry and Tourism

Looking then at the individual programmes, we consider first the industry programme. As already mentioned, the most striking feature of the proposed spending programme in industry is that it does not appear to reflect the stated intention of the Government to pursue the recommendations of the Culliton group that there should be a decisive shift away from grant aid for indigenous industry.

The underlying logic of the Culliton position is that the availability of grants has diverted entrepreneurial activities into rent-seeking, instead of directly addressing market failures in the provision of finance for industry. Such availability of grant aid adds a further distortion to the market for industrial finance, inhibiting the spontaneous development of commercial support for grant-aided firms. Of course, Culliton accepted the continuing necessity of grant aid for inward investment or more generally for internationally mobile industry, and we are not questioning the Budget in that respect.[9] This may seem unfair to local entrepreneurs, but it merely reflects the international competitive situation in bidding for such projects and the fact that a continued flow of such projects remains essential. More to the point, a cold-turkey approach to the scaling-down of industrial grants might be too risky in the absence of far-reaching tax reforms. Nevertheless, the large increase in the Budget for grants to indigenous industry seems surprising.

Culliton recommended that an expanded provision of venture capital could fill any financing gaps that might result from the withdrawal of grant aid. But such venture capital would be much less concessional in that it would primarily be bridging a market failure in the provision of industrial finance for small risky ventures. It is clear that — even ignoring the revolving fund character of venture capital — the sums required for venture capital would be very much smaller.[10]

The same reasoning applies to much of tourism also. This is an area where particular care must be taken to ensure that project selection is carried out on an objective and rigorous basis.

Natural Resources

Agriculture absorbs the lion's share of the natural resources programme. Agriculture is still at the centre of a large part of the Irish economy, not only providing the backbone of rural society but generating the raw material for a large food processing sector. Nevertheless, the sector is hampered by the constraints of the Common Agricultural Policy and the potential for substantial investment is more limited than it would otherwise be. Furthermore, the role of

9 Much more needs to be done at the European level to limit international competition between member states and regions for mobile investment. Until such action is successful, grant aid for mobile industry will be essential.

10 Note, however, that the distortions generated by subsidised and guaranteed loan schemes are likely to be considerably worse than those related to the types of grant at present in effect.

Table 4.2: Human Resources Spending by Purpose and Agency, 1993

Percentage of Total	Dept. of Education	FAS	CERT	Other	Total
Initial Education & Training	**36.1**	**5.0**			**41.1**
Third level	18.6				18.6
Second level	12.5				12.5
Apprenticeship	2.7	5.0			7.7
Vocational Training Opportunity Scheme	2.3				2.3
Continuing Education & Training	**4.3**	**20.1**	**1.7**	**12.9**	**39.0**
Specific Skills Training		7.9			7.9
Alternance		1.0			1.0
Early School Leavers & Skills Foundation	2.3	6.1			8.4
Small & Medium Enterprises	0.6	2.9			3.5
Tourism	1.3		1.5		2.7
Natural Resources [1]				2.9	2.9
Women's Non-traditional Training		0.6			0.6
Disabled [2]				8.4	8.4
Training Grants [3]		1.5		1.5	2.9
Training of Trainers	0.1	0.1	0.2	0.2	0.6
Employment Schemes		**16.9**		**2.9**	**19.8**
Recruitment Incentives		3.3		2.9	6.3
Social Employment Scheme		13.6			13.6
Total	**40.4**	**42.1**	**1.7**	**15.9**	**100**

Notes: [1] Teagasc, Bord Iascaigh Mhara & Coillte
[2] National Rehabilitation Board
[3] Other: IDA, SFADCo & Udarás na Gaeltachta

Government developmental expenditure in a sector which is already heavily subsidised through price supports is open to question. What are the objectives of such intervention? The plan speaks of ensuring that farmers remain competitive in the years ahead and of the need to meet environmental standards; to a large extent these are objectives that coincide with those of individual farmers: the allocation of such a large quantum of scarce Government resources to subsidise private spending in these areas seems to require more justification than provided in the plan.

We do acknowledge that new farm hygiene requirements impose an extra burden on farmers, that the "polluter pays principle" is not yet widely implemented in Ireland, and that farm pollution control is an important priority.[11] Still, the argument supporting grant aid here is more of an equity or distributional type than one of development or efficiency.

In addition, concern has to be expressed about the headage payments programme, including some doubts about its effectiveness as an income maintenance measure, i.e., to what extent it is actually going to low-income households. At the very least a systematic research effort to evaluate this large scheme is long overdue.

Human Resources and Local Development

The human resources programmes is very large by comparison with that in other peripheral regions of Europe. Nevertheless, as follows from our model of Ireland's economic difficulties, a major human resources effort is a crucial component of any reasonable strategy to achieve the objectives of the plan and to restore Ireland's

[11] Prevention of water pollution through source reduction at farm level is likely in many cases to be far more cost-effective than treatment downstream.

economic well-being. The scale of the proposed spending is partly driven by the magnitude of the employment/unemployment problem.

Furthermore, it should be borne in mind that much of the programme involves spending of a type which is not readily questioned. For instance (Table 4.2) more than two-fifths of HR spending under the previous programme in 1993 was on initial education (including vocational education, apprenticeships and the regional technical colleges). Employment schemes accounted for less than one-fifth in 1993. Only a half of the remaining two-fifths going for continuing training was administered by FÁS.

Taking a standard human capital approach, it is clear that improved employment experience of beneficiaries of well-designed schemes can have extremely high rates of return. Nevertheless, that by no means exempts HR spending from scrutiny in regard to quality and effectiveness of the interventions. There is certainly a need for changes and improvements, including a more thorough reform of existing procedures than is evident from the plan document. In particular there is a need for better targeting and selectivity, especially to improve responsiveness of programmes to experience and performance of schemes and courses to date.

(i) Is the change from SES to CEDP enough?
In particular, we have concerns as to whether CEDP, the new employment-with-training programme for the long-term unemployed, represents a sufficient improvement over the Social Employment Scheme (SES). It does contain an explicit training programme, but we are concerned that the amount and quality of training may not be enough to counter the accumulated disadvantages of the marginalised.

There has been a suggestion that a greater transfer of resources to local development and urban renewal could allow an expansion of "real" jobs which would make more of an impact on the long-term unemployment problem. Such a suggestion must be treated with care. Expansions in, for example, construction work typically attract returned emigrants and the impact on the numbers unemployed is much smaller. We also know that if such spending programmes are not constrained to hire persons who are long-term unemployed they will not do so. Our conclusion is that structural funds should continue to support sheltered employment, but in a continually evolving and experimental mode. The CEDP needs to be strengthened[12] and it may need to be supplemented by further resources made available for local development and urban renewal, but only if these latter are constrained to take a substantial proportion of their labour requirements from the long-term unemployed.

(ii) Still too many unsuccessful FÁS programmes
There are still too many unsuccessful FÁS programmes. This particular problem must be kept in perspective, because the majority of such programmes are very successful, with high placement rates. But FÁS has not responded quickly enough to adapt and modify unsuccessful programmes, and has thereby come in for noisy criticism which has tended to conceal its successes. There should be better targeting, and this will offer some savings due to the elimination of unsuccessful courses.

One line of argument which is sometimes made in support of the assertion that training expenditure should be greatly reduced is that there is little point in training people for jobs that "aren't there". While such an argument can validly be made against specific training focused on narrow skills it cannot be applied to the broad accumulation of human capital. Indeed to do so would be a serious and pernicious error: without a strong educational background and general skills there is no way out for the job-seeker. In fact, even if the job-growth projections realistically suggest that not enough job opportunities will emerge at home even to meet the natural growth in the labour force, it is to be expected that, as has happened in the past, many will find work in England and elsewhere. This is not the optimum outcome, but it is better than a long-term future as unemployed which, with high probability, is the lot of the unskilled or uneducated. In particular a certain degree of displacement can be acceptable in the context of measures to improve the employment prospects of the long-term unemployed.

(iii) Targeted action in initial education to prevent early failure

Furthermore, an important missing element in the HR programme is a focus on targeted action in initial education to prevent early failure and drop-out. In the long-run this could be the most

12 The Government has recently announced the folding of all such schemes into the framework of a "Community Employment Programme", details of which remain to be published.

productive type of spending in the whole of the plan, and we feel that an opportunity has been missed to include this. Traditional neglect of such areas in Structural Fund support is no longer justified as is evident from our model of the sources of Irish economic weakness.

Infrastructure

Although we do not single out the infrastructure programme for possible cut backs we are concerned about the mix of spending involved. It would be unwise to rely on what are inevitably somewhat impressionistic judgements on specific projects, but that re-emphasises our view that independent appraisal procedures should be used for the final project selection.

The share of road programmes in the total of infrastructure should probably be increased. In this connection it is a matter of concern that the indications from the 1994 Public Capital Programme are that the road programme may bear the brunt of cut backs. It is essential that the rank ordering of road projects in the operational programme should be designed to achieve the optimal result in terms of reduced congestion and improved travel times. Here it is not a question of there being too much spent on roads (these have been cut back in relative terms), but on the choice and ordering of schemes. Moreover, the design standards of roads need to be selected in the light of prospective traffic volumes, particularly in view of the likely cutback in funding.

In the case of rail improvements, it is clear that a decision-point has been reached in terms of the least-used and most costly mainlines. Earlier formal analyses of some of these lines suggested a low benefit to cost ratio for the upgrading work that now seems to be proposed. We question whether the improvements can really now be justified as desirable or least-cost.

We agree with the importance of traffic management in achieving improvements in the transportation situation in Dublin. However we have some concerns about the effectiveness of the Dublin transportation proposals sketched in the plan and whether the sums budgeted will be sufficient to deliver the hoped-for benefits.

In the case of the proposed new turf-fired power station, we again feel a need for an independent (not promoter-financed) cost-benefit evaluation. The decision as to whether this scheme should be grant-aided will likely hinge on perceptions of the value of such intangibles as the working of indigenous fuel sources.

On the large environmental spending, we fear that the Government's response to addressing the demanding requirements of the Urban Waste Water Directive and other EU legislation may push Ireland into what would otherwise be an unnecessarily high level of water treatment. However, there is some flexibility in the manner in which the Directive may be implemented and careful analysis of the least-cost options here could yield substantial savings.[13] Evaluations made up to now do not appear to get to the core of the issue.

5. Other Global Concerns

Incentives and the structural funds

With the annual flow of structural funds now projected at around 3½ per cent of GNP per annum, an important aspect of the plan within which these funds must be spent is the degree to which economic incentives may be distorted by the spending. In our view not enough attention has been given to this matter. It certainly does not appear as an explicit consideration in the plan document as presented.

Three conspicuous and relevant areas in which the role of incentives is clear may be mentioned, namely, grants for productive investment (already discussed above), sewerage and water treatment, and telecoms.

In the case of sewerage and water treatment, there is a serious risk that, starting from a position where there are little or no charges for water treatment, the estimates made of the capacity requirement of water treatment schemes could be seriously exaggerated when measured against the need that would emerge if socially efficient water treatment charges were to be introduced on the "polluter pays" principle. The capital requirements envisaged in the plan under this

[13] Solutions that simply shift the cost to the private sector will not suffice.

heading may, to that extent, be overstated, and indeed the availability of EU co-financing may result in a perverse incentive not to introduce "polluter pays" charges.

For telecoms, there is an arguable case for substantial network investment over the coming years, and it has been suggested that the plan may be deficient in not arranging for EU co-financing of such investment. However, in this case, the plan's tactics may result in better incentives. After all, Telecom Eireann is the highest-cost telecoms company in the Union (and probably in all of the OECD). There is a lot of overstaffing and the company will not be able to compete in the more open telecoms environment now on the horizon if it does not aggressively manage its cost base. Providing a large capital subsidy to support new investment to an inefficient protected monopoly would be likely to postpone the efficiency improvements that are so badly needed. Accordingly, requiring Telecom Eireann to finance its capital programme largely internally and without the benefit of EU co-financing could well be the best decision in this area.

Independent project appraisal and a central evaluation capacity

We have a general concern that the procedures for choosing projects and evaluating alternative uses of resources between programmes may not be adequate. The most pressing development needs were obvious enough at the time of the previous CSF and the choice of projects was substantially driven by well-established and agreed priorities. Now that the most pressing projects are under way or are completed, the use of independent formal project appraisal procedures becomes more important. Promoter-financed project appraisals have (in many cases) become so discredited as to be now an empty formality. We believe that a strengthening of central project appraisal capacity is needed in the Department of Finance, to enable that Department to adjudicate and maintain consistency between appraisals.

The question of policy appraisal is not just one of juggling with a spreadsheet to generate internal rates of return. The definition of what the key elements in the appraisal ought to be, the collection of the necessary basic information about the likely impact of the proposed project on these key elements, consideration of alternative solutions to the problems being addressed and a dose of common sense are also needed. None of these is likely to be present if the project appraisal exercise is initiated by the project advocates when they have already committed themselves to securing approval for it. Obvious words, perhaps, but applicable all too often to appraisals carried out over the years. Without institutional structures to generate change here, the position will not improve.

Implementation issues

It is crucially important to have the right institutional structure for delivery of the plan's policies. We make two points about implementation arrangements. The first is that there looks like being a wasteful and destructive proliferation of grant-giving bodies in the local development arena. The second is that there is inadequate competition for grant finance among providers of training and other expert services to the economy.[14]

The emerging institutional arrangements at the local level for delivery of various development measures appear to display a worrying degree of overlap, duplication and confusion of roles. LEADER, the County Enterprise Boards and the Disadvantaged Area-Based Partnership Companies have overlapping remits — a situation which could seriously compromise the coherence and effectiveness of the plan. And this list does not exhaust the list of potential players. In this respect the future situation seems to have the potential to be less satisfactory than in the previous CSF. To a large extent, the ideal solution to this problem could be a more systematic devolution of powers to local level, but while far-reaching changes along these lines may be desirable they go well beyond our remit. At the very least, though, urgent attention needs to be given to the local delivery arrangements.

[14] The two points may superficially appear somewhat contradictory. Of course the contradiction is only apparent: the provision of services is amenable to a market solution, whereas competition between providers of grants will tend to erode the public benefit being sought through the grants.

While the various established institutions for delivering development services to the economy (such as FÁS, An Bord Tráchtála, EOLAS, Teagasc and so on) represent a strength of the Irish institutional arrangements, it is clearly past time that a greater degree of competition was introduced into the provision of such services. Granting a monopoly of the spending of substantial parts of the structural funds to such bodies is not calculated to result in the most effective delivery of services. At the level of operational programmes, the provision of funds should be separated from the choice of delivery agencies. It should be possible to arrange that, in general, services being provided under the programmes could be deliverable by whatever competent private and public sector providers are available.

6. Concluding Remarks

The Irish National Development Plan forms the basis for negotiations with the European Commission with the objective of securing Structural Fund support. The amount of support involved will be substantial — of the order of one-half as much again as in the 1989-93 period (though not much more than was provided during 1992-93). These sums, averaging on the order of 4 per cent of GNP per annum need to be spent wisely. After 1999, the flow of resources from this source may be very much curtailed. Our review of the issues suggests some possible improvements. Even more, it stresses the fact that complementary policies need to be pushed forward to ensure that the economy will be able to progress without such support into the next century.

References

INDUSTRIAL POLICY REVIEW GROUP, 1992. *A Time for Change* ("Culliton Report") Dublin: Government Publications.

NATIONAL ECONOMIC AND SOCIAL COUNCIL, 1993. *A Strategy for Competitiveness, Growth and Employment,* Dublin: Government Publications.

CHAPTER 5

European Action on Unemployment

Kieran A. Kennedy
The Economic and Social Research Institute, Dublin

1. Introduction

Unemployment in the European Union now stands at 17 million, or 11 per cent of the labour force, and is set to rise further this year. The European Commission (1993a) White Paper, *Growth Competitiveness, Employment*, published at the end of last year, addresses this major problem with a view to encouraging debate and assisting decision-making at local, national and Community levels. This chapter assesses the key features of that document. Section 2 considers the Commissionas perspective, Section 3 the policies proposed, and Section 4 the implications for Ireland.

Any assessment of the White Paper will be coloured by the prior expectations with which it is approached. For instance, the Irish Government in its submission called for

> a White Paper which will give a clear statement to workers and entrepreneurs that the Community knows what policy action needs to be taken to improve economic growth, competitiveness and employment; that it has decided to take that action and that it demonstrates its commitment to implementing this strategy through an appropriate institutional framework.

It can be said at once that the White Paper falls short of that objective, but this stems largely from two fundamental constraints on the authors of the White Paper.

The first constraint is the limited role of the Community in many areas of economic and social policy. The Community institutions do not constitute a federal Government, and most of the key powers to influence unemployment remain with member states. This is true of many aspects of national economic policy. But it is true also of economic and monetary relations with the rest of the world, with the exception of international trade, the only major area where the Community institutions have a clear-cut competence to speak and act for the Community as a whole.

The second constraint is the absence of a political consensus among the member states on appropriate policies, and indeed the lack of conviction that there is any set of generally acceptable policies capable of restoring full employment. Substantial divisions of opinion exist among some of the larger member states, and the reversals experienced in relation to the Community's last major initiative, EMU, lessened the possibility of reconciling these divisions in the short space of time available for producing the White Paper. Understandably, the Commission had to be sensitive to these divisions so as not to provoke fruitless dissension, with the result that some issues have been fudged or glossed over.

It is essential that these two underlying constraints be kept in mind continuously in appraising the White Paper.

2. The Commission's Perspective

The White Paper insists that an understanding of the Community's unemployment situation requires a long-term perspective. The rise in EU unemployment dates from the early 1970s, and the White Paper examines the experience before and since the first oil crisis in 1973 in regard to the growth of output, employment and productivity. Relevant data are given in Table 5.1.

Table 5.1: Growth Rates of Output, Employment and Productivity in EU (12) since 1960 (% pa)

	GDP	Employment	Productivity	Labour Force
1960-73	4.7	0.3	4.4	0.3
1973-85	2.0	0.0	2.0	0.7
1985-93	2.3	0.4	1.9	0.5
1995-2000 (Target)	3.4	1.9	1.5	0.7

	1960	1973	1985	1993	2000 (Target)
Unemployment rate (%)	2.5	2.6	10.8	10.6	5.5

As may be seen from this table, the EU was an area of very low employment growth even before the first oil crisis. Despite a rapid output growth of 4.7 per cent per annum from 1960 to 1973, employment rose by only 0.3 per cent per annum. The low employment growth, however, was not then a problem for most of the EU (Ireland being a notable exception), since it matched the slow growth of the labour force and unemployment remained stable at about 2½ per cent. Most of the growth in output took the form of increased labour productivity, which enabled European wages and salaries to rise rapidly and converge towards US levels.

The most striking feature of the post-1973 experience was the decline in output growth. Although this decline was shared in varying degree by all other OECD countries, the White Paper does not attempt any analysis of the global dimensions of the problem. Contrary to the views implicit in such concepts as "jobless growth" or "technological unemployment", the brunt of the fall in output growth in the Community was borne by reduced productivity growth rather than lower employment growth. Productivity growth has more than halved, compared with the pre-1973 situation, and has remained broadly unchanged in the region of 2 per cent over the last 20 years — with the implication that variations in output growth since then have been almost fully reflected in employment. Thus, in the second half of the 1980s, when output growth rose to over 3 per cent per annum, employment grew at the remarkably high rate — for Europe — of 1.3 per cent per annum. Equally, the sharp dip in growth in the three years 1991-93 was reflected in a significant employment decline.

Although the employment intensity of output growth rose after 1973, it was not enough to prevent a substantial rise in unemployment — given the size of the decline in output growth, and an increase in labour force growth due to demographic factors. The extent and timing of the rise in unemployment has varied considerably among the different member states, but the White Paper concentrates on the Community-wide jobs malaise, concluding that it "is to a very large extent the result of poor macroeconomic policies" (p. 42). While recognising also the impact of structural and external factors, nevertheless "the main explanation for the poor unemployment performance of the Community over the past two decades is to be found in the constraints that unresolved distributional conflicts and insufficient structural adjustment placed on macroeconomic policies" (*ibid.*). This explanation leaves many important questions unanswered: why, for instance, did these distributional conflicts become less manageable than before? Why did the Community's capacity for structural adjustment diminish?

The White Paper goes on to cite as a key consequence the decline in investment, which in turn is claimed to have reduced the *potential* rate of growth of the Community (i.e., the rate that can be sustained without overheating) from 4½ per cent to 2 per cent. This decline in the potential growth rate is seen as a central factor in the current recession: over-expansionary policy measures in the late 1980s pushed the actual

growth rate well above the potential growth rate, resulting in inflationary pressures. These pressures inevitably called for restrictive policies, and the problem was compounded further by a distorted policy mix resulting from the fiscal impulse involved in German unification, which put all of the burden on monetary policy.

In other parts of the White Paper, however, a broader set of reasons for the unemployment malaise is canvassed. The Summary chapter at the beginning identifies three distinct components in the current unemployment situation: cyclical, structural and technological. The first is essentially short term, associated with the slackening of output growth at a time when the Communityas labour force is growing by 0.5 per cent a year. Structural unemployment is said to be established by the fact that at the end of the 1980s, despite several years of reasonably strong growth (averaging over 3 per cent per annum from 1985 to 1990), unemployment still stood at 12 million. Four main explanatory factors are cited:

(i) Failure to adapt to the new international division of labour by switching from the traditional to the high-growth sectors;

(ii) The negative impact on services employment of the relatively high cost of unskilled labour;

(iii) Labour market rigidities associated with inflexible employment practices, inadequate education and training systems, and social protection; and

(iv) Competition from new low cost competitors in developing countries.

As regards technological unemployment, the White Paper admits that the potential for such unemployment has always existed and has not been peculiar to the past 20 years. It also recognises that the firms which have adapted to new technologies have generally done better on the employment front than those which did not, and that technological progress offers new opportunities for growth and employment. Nevertheless, the White Paper suggests that the current phase is one in which the speed of technical progress is out-pacing the capacity "to think up new individual or collective needs which would provide new job opportunities" (p. 11). If so, it is doubtful if technology alone is the culprit: if it were, then one would expect it to have shown up in an acceleration of productivity growth relative to employment growth, whereas the opposite has in fact been the case — as demonstrated above. There is evidence, however, to which we shall revert in Section 3 below, that technology has been the major factor in displacing low-skilled male workers in manufacturing, who could not be re-employed easily in other activities.

Finally, in the closing chapter of the White Paper, the explanation for Europe's underlying malaise focuses almost exclusively on the microeconomic perspective — the under-use of labour resources and the over-use of natural and environmental resources. At the heart of this problem lies an inappropriate set of relative prices due to the distorting impact of such factors as taxes, subsidies, and failure of market prices to internalise external costs.

The Future Perspective

The White Paper believes that unemployment can and should be reduced substantially. It recommends that the Community set itself the objective, once the current recession is overcome, of creating an additional 15 million net new jobs by the year 2000, or a growth rate in employment of nearly 2 per cent per annum from 1995-2000. Of this figure, about 5 million would be needed to cater for the growth in the labour force, and the other 10 million jobs to halve the current unemployment rate by the year 2000.

The White Paper then considers whether this target could be achieved solely by increased employment intensity with continued modest growth in output (i.e. about 2 per cent per annum), or calls for higher output growth. (The discussion of these options is rather similar to that in Kennedy, 1993). The former would involve Europe in trying to emulate the American model, but the White Paper gives cogent reasons for doubting whether this would be "actually possible in the European economic and social context" (p.45). It would imply no growth in productivity, and therefore no scope for any general increase in real wages. Furthermore, it would almost certainly require a downward widening in the wage distribution and reductions in unemployment compensation and social protection.

The result would be a substantial fall in the lowest wages, with the risk of creating a sizeable class of "working poor". Compensatory measures in the spirit of the European social model to alleviate this situation would have significant budgetary costs, which would indirectly put pressure on labour costs.

Instead, the White Paper opts for a combination of somewhat stronger output growth and somewhat higher labour intensity (see target growth rates 1995-2000 in Table 5.1). Some scepticism must be expressed, however, as to whether the Community could attain an employment growth rate of nearly 2 per cent per annum with an output growth rate of only 3.4 per cent per annum. It would imply a fall in the rate of growth of labour productivity to 1½ per cent per annum — a low rate by European standards, especially at a time when the White Paper suggests that the rate of technological progress is high. Elsewhere, the White Paper states that labour productivity in Community manufacturing still lags well behind that of the US and Japan, and needs to be increased (p.59); and, furthermore, it stresses the need to improve productivity in services (p. 74).

To be fair, the White Paper is not oblivious to the potential conflict involved, but it sees "no contradiction between calls for increased productivity growth in all sectors open to international competition and at the same time calling for measures which increase the weight of sectors where productivity increases are low" (p. 43). Essentially, then, the proposed model is one in which productivity growth in the exposed sectors may even have to accelerate, but a greater share of the increased resources than in the past would be channelled, in one way or another, towards the production of labour-intensive products (mainly services), with the increased weight of the latter giving rise overall to a lower rate of growth of productivity. There is indeed no necessary theoretical contradiction in such a model. Whether or not it would be practically attainable, however, depends in great part on the effectiveness of the policy instruments designed to bring it about — the issue to which we now turn.

3. The Commission's Policy Recommendations

To begin with, the White Paper gives reasons for rejecting each of the following approaches to the problem: protectionism, inflationary monetary or fiscal policy, generalised reductions in working hours or job-sharing, and drastic cuts in wages. Instead it proposes that the achievement of the target growth path for output and employment should be sought through a strategy comprising three inter-linked elements: (i) the creation and maintenance of an appropriate macroeconomic strategy (including the progression of incomes), (ii) the improvement of European competitiveness, and (iii) structural changes in the labour market. Much of the document is taken up with spelling out these elements in greater detail — with the general objective of raising the potential growth rate, and increasing its employment intensity. Though, of necessity, each of these elements must be discussed separately, the White Paper rightly emphasises the interaction between them, and the need for a coherent combination of macroeconomic and structural policies.

(i) *The Macroeconomic Framework*

The White Paper recognises that the achievement of faster growth depends in part on the state of the world economy, which is outside the direct control of policy makers in the Community. The Community accounts for about one-third of world trade, so that it exerts a major impact on the rest of the world. Moreover, unlike a smaller country, it may not be able to overcome limitations on internal demand by increasing its export competitiveness if the rest of the world economy is depressed. The White Paper stresses the importance of GATT and the need to extend the rules to deal with international competition and environmental problems. It notes that "each of the major bursts of growth in the European economies started with a qualitative leap in international trade" (p.12), instancing in particular the multilateral trading system resulting from the Bretton Woods agreement after the Second World War. It should be pointed out, however, that the latter took place in the context of a global consensus to maintain a high level of aggregate demand, and that no such consensus now exists. This issue is not adequately addressed in the White Paper, probably because of the constraints

referred to above in Section 1. The need for multilateral action on exchange rates and the co-ordination of macroeconomic and structural policies is indeed mentioned in Chapter 6, but nothing more is said than that "the Community can encourage this by building on its own internal policy co-ordination of economic policy through regular surveillance" (p.113).

The thrust of what the White Paper has to say on macroeconomic policy is confined largely to the Community itself, and is devoted more to supply side issues than to the adequacy of aggregate demand. The medium-term objective must be to raise not just the actual rate of growth, but also the potential rate of growth. Despite the belief that the current potential rate of growth is only about 2 per cent per annum, it would still be possible in the short term to achieve actual growth rates of 3 per cent or more without inflationary pressures — because of the slack that has developed during the recession of the last few years. But once this slack has been taken up, a growth rate of 3½ per cent or so could only be sustained in the medium term if the potential growth rate were also raised.

The White Paper argues that in order to secure this increase in growth potential, the investment share of GDP must rise over a number of years from the current level of 19 per cent to about 23-24 per cent. This must be supported by increased saving, which it is proposed should be achieved primarily through reduced Government deficits. Moreover, in order to attract the necessary investment, policies must sustain business confidence and enhance investment profitability.

The macroeconomic implications for monetary, fiscal, incomes and exchange rate policy, as outlined in the White Paper, are as follows. The first medium-term objective at the macroeconomic level is to maintain a stable monetary policy consistent with an inflation target of 2-3 per cent. Once budgetary policy and wage behaviour are harmonised with this approach, it is believed that short-term interest rates can fall substantially, and this is regarded as a powerful means of lifting the recession through its influence on confidence, competitiveness and the profitability of investment.

The initial task of fiscal policy is to reduce the current unbalanced burden placed on monetary policy, by moving towards the Maastricht criteria for general Government deficits (less than 3 per cent of GDP). In the longer term, budgetary policy will need to adjust to the higher required level of national saving, implying zero budgetary deficit or even a small surplus.

As regards incomes policy, the adjustment of the general level of wages to the growth of national productivity must take account of the need to increase the profitability of investment. For this purpose, it is suggested as a rule of thumb that, in the medium term, average real wages should increase by 1 percentage point less than the growth rate of productivity. In the short term it is believed that the increase should be even less — on the grounds that the current increase in productivity in the context of stagnant or declining GDP arises from the shedding of labour and does not give rise to any distributable increase in national income. The immediate guideline for nominal incomes increases, therefore, would be for not more than 2-3 per cent, the same as the target rate of inflation. But even in the medium term the envisaged increase would not be much greater, since the target productivity growth rate is only 1½ per cent, and 1 per cent of this is designated to increasing investment profitability.

Finally, the White Paper emphasises the importance of making co-ordination of member state policies more effective and of maintaining exchange rate stability and the EMU perspective. It is argued that these would reinforce the stability of the proposed macroeconomic framework; while in turn macroeconomic stability, together with the other elements of the growth oriented strategy, would add credibility to exchange-rate stability.

Whatever about the merits of this macroeconomic framework — and it has much to recommend it — its implementation must be in some doubt. As pointed out above in the Introduction, the Commission can only recommend and attempt to co-ordinate, because policy making on most of these aspects lies with the member states. Moreover, while the White Paper acknowledges the fact that different member states differ significantly in their macroeconomic situation, it abstains from examining the implications of these differences — even in the case of the largest members which obviously exert the

greatest Community-wide impact. Furthermore, even the member state Governments themselves do not have the power to implement some of the recommendations, such as those on incomes policy which depend also on the agreement of the other social partners. With this in mind, the White Paper strongly emphasises the need to develop a re-invigorated model of social solidarity — between those with and without jobs, between men and women, between generations, between regions, and between rich and poor. To some, this will no doubt sound like pie-in-the-sky: yet without a greater sense of social *and regional* solidarity, it is difficult to see how the recommendations would be capable of implementation. The White Paper stresses the importance of engaging "the active participation of the widest possible range of economic and social actors at all levels" (p.123) with a view to re-orienting existing collective solidarity mechanisms towards giving greater weight to the "real costs of unemployment for both societies and economies" (*ibid.*).

(ii) *European Competitiveness*

A central focus of the White Paper is the need to improve the competitiveness of European industry (including market services). It is stated that during the 1980s the EU has lost market share, not only to the newly-industrialising countries (NICs), but also to the US and Japan. In particular, EU performance has fallen behind in new growth markets with high value added.

A multi-dimensional strategy, involving co-operation between Government and business, is proposed in order to enhance the competitiveness of European industry in global markets. Particular stress is laid on the knowledge-based industries and the "first mover" advantages to be gained from development of environmentally-friendly products. Government intervention in industry should be re-focused on growth markets where Europe has a strong development potential, such as health, the environment, bio-technologies, multi-media activities and culture. Top priority should be given to non-physical knowledge-based investment, including training. The tax burden should be redistributed to lighten the load on labour and increase that on natural resources (the favoured instrument for the latter being a carbon tax on energy). Stress is laid on improving the organisational capacity of firms, on clustered development and on partnerships between large firms and sub-suppliers. Much of what is said on industrial competitiveness echoes the Culliton Report (1992).

To provide the infrastructural underpinning for these initiatives, the White Paper proposes a commitment to developing trans-European networks in telecommunication, transport, energy, and the environment. In total, these would involve investment of close to ECU 600 billion between now and the year 2000. The major part of the finances would be raised by public or private enterprise at the level of member states. About one-fifth, however, or ECU 120 billion, would be funded at Community level, and of this somewhat more than half would come from existing sources — through the Community budget or in the form of EIB loans. The balance of ECU 50 billion would be raised through new financial instruments. This latter proposal has not been endorsed by the Heads of State: not only do some members see it as a back-door method of by-passing the Maastricht criteria on fiscal restraint, but some also have even more fundamental constitutional objections to allowing the Commission to assume wider fiscal powers.

Some caution is also in order about the White Paper's approach to incentives at member state level to stimulate the requisite private sector response. For example, noting that the constraints on member state budgets preclude higher direct support for Research and Development, the White Paper favours resort to indirect instruments, such as tax credits, low-interest repayable loans, etc. (pp. 90-91). But of course these instruments also have budgetary implications, which may prove just as costly, while the fact that they are less explicit often makes it harder to assess their efficiency.

(iii) *The Labour Market*

The main, though not exclusive, thrust of this section of the White Paper is how to translate into jobs the higher growth expected from the measures already discussed. Three themes are highlighted: (a) education and training, (b) labour market practices, and (c) statutory charges on labour. Many of the recommended actions would arise at member state level, but the Community would have an important supporting role in developing strategies for concerted action and

in underpinning national measures with financial support and advice. Less attention than might be expected is given to the common labour market and the steps needed to facilitate labour mobility within the Community — a subject which figured prominently in the earlier Green Paper on *European Social Policy* (European Commission, 1993b) and in the 1993 issue of *Employment in Europe* (European Commission, 1993c).

(a) **Education and Training:** The White Paper accepts that education and training alone cannot provide a solution to Europe's unemployment problem, but argues that, nevertheless, they can contribute in two important ways. First they can help to boost growth by improving competitiveness. Second, they can ensure a greater take up of potential jobs through better matching of supply and demand, and by equipping particularly deprived groups — such as the young, the long-term unemployed and the technologically redundant — to compete effectively in the labour market.

The White Paper draws attention to weaknesses in European education and training compared to its major competitors, the US and Japan. To overcome these weaknesses, it stresses the need to develop systematic lifelong learning and continuing training. The remedy lies not so much in extra public funding, but rather in reorganising educational resources in association with the employment services. The latter would involve, *inter alia*, re-allocating a significant proportion of unemployment compensation to training measures, especially for the long-term unemployed and unskilled young people. The difficulties of implementing this approach are recognised in the recommendation that "Experiments in this area ... should be multiplied, assessed and, where appropriate, generalised" (p.121). It is also recommended that incentives to private sector training include lower social contributions for businesses engaged in training. Among the other instruments proposed is the idea of establishing a system of training vouchers which young persons could use flexibly during their working lives to update their skills.

(b) **Labour Market Practices:** The White Paper accepts that inflexible employment practices and social protection have raised labour costs and deterred employment creation. It does not accept, however, that reliance on the free market can provide a satisfactory solution. This could lead to increased poverty among those already vulnerable, it could jeopardise industrial peace, and it could reduce the incentives for firms and individuals to invest in training and re-training. The White Paper, therefore, rejects wholesale deregulation, and instead opts for "a remodelled, rational and simplified system of regulation and incentives" (p.123) geared to increasing employment in a way that does not put the burden mainly on weaker groups in the labour market. This approach focuses on the dynamics of the legal, fiscal and administrative incentives affecting the whole of the labour market — rather than just a static concentration on the lower end of it, as is so often the focus of proponents of deregulation. Ultimately it aims to accelerate the development of new employment-intensive activities, to raise the stock of human capital, to provide equal opportunities for deprived groups and to achieve a wider distribution of jobs and income.

Several specific actions are proposed. *First*, in order to move away from the situation where the gains from economic growth are absorbed by those already in employment, it will be necessary for average hourly real wages to rise by less than the growth of productivity. *Second*, while ruling out a mandatory top-down approach to work sharing, policy should facilitate voluntary choices for a shorter working week, career breaks, etc., by removing artificial disincentives, such as loss of social protection or poorer conditions of service. *Third*, a range of measures is proposed in order to remove disincentives to hiring less-skilled workers: employers' PRSI costs should be made neutral or progressive and the relative cost of non-labour inputs (capital and energy) raised by taxes; income in low-paid jobs might be topped up by developing integrated tax and income support systems; and the concept of work might be widened to integrate all forms of paid or partly-paid work into a common framework. *Fourth*, job creation in small-medium enterprises (SMEs) and in new economic, environmental and social activities could be accelerated through public-private partnerships, local community development, etc. *Fifth*, a supporting set of measures is proposed to raise the stock of human capital through adaptation of the education and training systems. *Finally*, specific disadvantaged groups

should be targeted to provide them with clearer stepping stones into the formal labour market.

(c) **Statutory Charges on Labour:** The White Paper is concerned about the extent and structure of statutory charges (i.e., the total of taxes and social security contributions). In the past 20 years these have risen from 34 to 40 per cent of Community GDP. In the US over the same time span, they have remained stable at just below 30 per cent, and in Japan, while they have risen rapidly in the 1980s, they still amount to only 31 per cent. It may be noted, however, that both the level and the rate of increase in these charges vary among Community countries in a way that bears no obvious relationship to the differential employment and unemployment experience of the member states. Moreover, the White Paper recognises that the rise in the charges is, at least in part, a consequence — as opposed to a cause — of the slowdown in growth.

The White Paper believes, however, that the structure of the charges may exacerbate their impact on employment creation. Charges directly imposed on labour amount, on average, to 23½ per cent of Community GDP — or over 40 per cent of total labour costs compared with 30 per cent in the US and 20 per cent in Japan. The White Paper argues that, in order to boost jobs without having to cut wages, the level of statutory charges on labour must be reduced, especially for the less-skilled, lower-paid, workers. It recommends that member states adopt a target of reducing non-wage labour costs by an amount equal to between 1 and 2 per cent of GDP, which would have to be compensated by increases in other taxes, given the need to maintain low budget deficits.

The White Paper claims that a reduction equal to 1 per cent of GDP in labour taxes could cut the unemployment rate by up to 2½ percentage points over 4 years. The maximum result would be achieved by targeting the cut on social security contributions in low wage jobs, and by restoring the tax loss through a carbon tax on energy rather than increased VAT. This result, which is based on an application of the Quest econometric model to the EU as a whole, looks improbably large. An earlier application by Fitz Gerald and McCoy (1992) of the HERMES model to simulate the effects in Ireland of a *unilateral* CO_2 tax matched by a *general* cut in social insurance contributions, yielded an employment elasticity of under 0.4. A *targeted* cut would undoubtedly yield more, but on the other hand, in a *multilateral* application of the policy, Ireland's wage competitiveness would not improve relative to other EU countries. While implementation of the Commission's proposal would undoubtedly have a significant positive effect on employment, scepticism must attach to the size of the effect that is claimed in the White Paper.

It is also relevant to revert here to the issue mentioned in Section 2 above about the role of technology in the collapse of demand for low-skilled manual labour in manufacturing. This decline has taken place in most western countries since the 1970s. Even in the UK and the US, where the relative wages of unskilled labour fell substantially — in fact there was a significant fall in the *absolute* real wages of unskilled workers in the US — the share of white collar or non-production employment in manufacturing still rose substantially. The US evidence shows that this happened in nearly all branches of manufacturing (Lawrence and Slaughter, 1993). Of the overall fall in the share of unskilled workers in US manufacturing, it has been estimated that about one-third was due to the emergence of new high-tech industries, and about two-thirds took place in existing industries as firms upgraded their technology (Berman *et al.*, 1993). The fact that the downward widening of the wage distribution in these countries was insufficient to offset the decline in unskilled labour suggests that technological change was more powerful than relative wages in determining the demand for unskilled labour in manufacturing.

The decline in the relative wages of unskilled workers in the US and UK was more effective in raising the demand for labour in services in these countries. However, the workers displaced in manufacturing, who were predominantly male and had enjoyed comparatively good wages previously, were generally unwilling to fill these jobs, which were less well paid and sometimes part-time. The demand was met mainly by new female workers, resulting in a large rise in the female labour force participation rate, but with a continued high rate of unemployment or withdrawal from the labour force among prime-age males. (Balls, 1994).

The evidence cited in the preceding two paragraphs gives further grounds for caution about the extent of the reduction in unemployment to be expected from cutting labour cost in low-wage jobs — even where, as in the case of the Commission's proposal, this would be done by cutting social security contributions rather than take-home pay. It also points to retraining and upgrading of skills as the more satisfactory long-term basis for absorbing the unemployed.

A New Development Model

In the final chapter of the White Paper, the Commission sets out its thoughts on the possible future long-term economic model for the Community. Here the emphasis is on reversing the conditions which have given rise to underuse of labour and overuse of natural and environmental resources. This situation is claimed to have come about from the distorting effect on relative prices of public policies, restrictive practices and market failures. The cost of labour has been bid up by taxes and trade union pressures, while the market prices of natural and environmental resources do not reflect sufficiently their limited availability.

An interesting implication is that, to the extent that the prices of natural and environmental resources do not adequately internalise the external costs of their overuse, past measured rates of growth of output and productivity have been overstated. For the future, while a conservationist approach might reduce the growth rate of conventional goods and services, the "true" growth rate might still be maintained or increased. The mix would be very different, however, and society would have to be willing to accept a lower volume of conventional goods and services in exchange for a higher quality of life. The key to inducing this change would be to get the pricing signals right, which would call for a strategic microeconomic policy, backed up by technological, sectoral and macroeconomic policies.

This chapter is the most visionary one in the White Paper. The practicability of the vision, however, is another matter. While there is evidence of growing concern about degradation of the environment and the quality of life, it is not at all clear that European consumers would be prepared to accept the sacrifices needed to implement the recommended policies. Moreover, many elements of conservation have global implications, and even if Europe were willing to go this route, its success would be problematic unless it could persuade the rest of the world to follow.

Significance of White Paper

It is difficult at this stage to evaluate the practical significance of the White Paper, since implementation mainly arises at member state level. It is true that at the European Council in Brussels on 10-11 December 1993, the Heads of Government of the member states concluded that the White Paper "contains a lucid analysis of the present economic and social situation of the Union and constitutes a reference point for future work". On past experience, however, this is no guarantee that the recommendations will actually be implemented, and this scepticism is reinforced by the nature of the "action plan" adopted by the Council. The plan consists of three parts: (i) a general framework for policies by member states, (ii) accompanying measures at Community level, and (iii) a monitoring procedure. The member states, however, are merely advised to "draw on suggestions from the Commission White Paper" while there is little in the measures at Community level additional to what is already in train.

Perhaps the most significant thing about the White Paper is that it gives expression at the highest level of the Community to a renewed concern about unemployment — a concern which is likely to increase rather than diminish, given the probably protracted nature of current unemployment levels. The document is also significant in indicating the Commission's thinking about the problem as a whole. It is understood that the document reflects in particular President Delors's own pragmatic socialism. For that reason its recommendations on matters like pay restraint, tax reform and adaptation of social protection systems cannot be written off simply as ideological outpourings of the far right. The proposals deserve to be fairly considered by anyone genuinely concerned about the unemployment problem.

4. The Implications for Ireland

It is salutary to consider first what employment growth would be required in Ireland if it were to play its part in achieving the White Paper target of reducing the EU unemployment rate by half over the period 1995-2000. This target would imply far greater employment growth here for two reasons: *first* the Irish unemployment rate is much higher, and *second* the natural increase in the labour force is much greater. If, in fact, the Irish unemployment rate were to be halved over this period in a situation of no net emigration, then employment would have to grow by nearly 45,000 per annum on average over the five years 1995-2000, or about 3½ per cent per annum — compared with the Community requirement of 2 per cent per annum. About half of the increase would be needed to cater for the growth in the labour force and the other half to reduce unemployment.

It is implausible that such a rate of employment growth could be achieved. But neither is it plausible to assume that, if employment were growing in the rest of the Community at 2 per cent per annum, net emigration in Ireland would be zero. In such a situation, it is very likely that significant net emigration would resume. If we assume arbitrarily that net emigration in the five years 1995-2000 would reduce labour force growth by an average 15,000 a year (the average annual level of emigration over the last ten years was 20,000 a year), then the required Irish employment growth rate would fall to about 2½ per cent per annum — still well above that required for the Community as a whole. Furthermore, it must be recalled that, since Ireland starts with such a high unemployment rate, halving that rate would still leave us in the year 2000 with a rate not much below the *current* average for the Community.

These calculations, while purely illustrative, suffice to show that the unemployment challenge in Ireland is on an altogether higher relative scale than in the Community as a whole. The corollary is that tackling it effectively would call for an even greater effort than in the rest of the Community. An encouraging feature of this otherwise daunting prospect, however, is that if in fact the sustainable rate of economic growth in the Community can be raised to 3½ per cent per annum, this would greatly improve the future environment for the growth of output and employment in Ireland. For several years now, Ireland has outpaced the Community economic growth rate by an average of almost 2 percentage points per annum: over the period 1986-1993, the growth of Community real GDP averaged 2.3 per cent per annum, whereas Ireland achieved a growth rate of real GNP of 4.2 per cent per annum. If this relative performance could be sustained in a more buoyant Community, then it would transform the situation to the extent that it would be reasonable to expect a significant reduction in Irish unemployment by the end of the decade — even if the reduction might not suffice to meet the White Paper target.

The fiscal, monetary and exchange rate policies advocated in the White Paper are much the same as those to which the Irish Government is already committed. As regards incomes policy, however, the pay guideline of keeping average real wage increases 1 percentage point below the growth rate of productivity would be far too lax in Irish circumstances — for the following reason. Given the likelihood that productivity (even measured with GNP rather than GDP) will continue to grow much faster here, the guideline would be compatible with a substantially faster growth of real wage rates in Ireland than in Europe. The resulting impact on employment overall would be unfavourable because the pace of productivity growth in Ireland is dominated by new or recently-established multinational enterprises with levels and growth rates of productivity so high that the indigenous employment-intensive firms, which account for the bulk of total employment, could not hope to match them. For this reason, as well as the greater scale of the employment challenge facing Ireland, a more restrictive pay target would be needed here to achieve the effect on unemployment expected in other EU countries from the adoption of the Commissionas guideline.

The structural and labour market policies are not new either, and conform broadly to those advocated by a number of domestic advisory bodies, such as the Culliton Report (1992) and the recent reports of the National Economic and Social Council (1993) and the National Economic and Social Forum (1993). What has been missing up to now is the willingness to implement such

measures in a decisive way, though the 1994 Budget has taken some tentative steps in that direction.

Finally, the Commission's long-term model for the Community would strengthen the hands of Ireland and other peripheral areas in pressing for more broad-based regional policies. A clear implication of this model is the need to discourage environmentally damaging concentrations of economic activity and to encourage dispersal of industrial location. Indeed the White Paper recognises that "the internal relocation of economic activities will contribute to the most efficient exploitation of environmental resources inside the Community as well as to a reduction of the far too-high environmental pressure in some areas" (p. 149). The White Paper seems to think that "the dynamics of the internal market" will favour this process. In fact, if allowed to operate unchecked, it could exacerbate the position — particularly if the present structure of national industrial subsidies is not rationalised.

The point was well made some years ago by Doyle (1988) as follows:

> Let us not forget that the corollary of a policy for the less-favoured regions is a policy for the more advanced regions. The other side of the coin of a policy that encourages growth where it now lags is a conscious discouragement of growth where it is not merely unnecessary, but brings great social and economic costs in terms of congestion, pollution, social problems and even destruction of the environment. If transfers of much-needed resources to the peripheral areas are acknowledged as necessary for the cohesion of European integration, then it is surely beyond argument that the case for subsidies to industries operating in the richest and most polluted areas in Europe is open to serious question. A subsidy given to industry to locate in developed Europe has an inevitable and negative effect on undeveloped Europe. Indeed, the external costs imposed on society by locating an industry in an already overcrowded and polluted environment would justify the imposition of a tax rather than the granting of a subsidy. It is not only the peripheral regions that need to justify subventions for their development (p. 50).

It would be naive to expect that appropriate regional policies will emerge simply because the case for them is more broadly based. Nevertheless the new model can be used to strengthen that case, and has the advantage that it elevates the perception of the issue from a mendicant plea for hand-outs to an integral part of progressive policy for the entire Community.

References

BALLS, E., 1994. "Right Solution, Wrong Problem", *Employment International*, January.

BERMAN, E., I. BOUND AND Z. GRILLICHES, 1993. *Changes in the Demand for Skilled Labour within US Manufacturing Industries*, NBER Working Paper No. 4255.

CULLITON, J., 1992. (Chairman) *A Time for Change: Industrial Policy in the 1990s*, Report of the Industrial Policy Review Group, Dublin: Stationery Office.

DOYLE, M. F., 1988. "Economic and Monetary Union: The Regional Dimension", *Central Bank of Ireland Quarterly Bulletin*, Dublin: Central Bank of Ireland, Winter.

EUROPEAN COMMISSION, 1993a. *Growth, Competitiveness, Employment: The Challenges and Ways Forward into the 21st Century — White Paper*, Luxembourg: Office of Official Publications of the European Communities.

EUROPEAN COMMISSION, 1993b. *European Social Policy: Options for the Union — Green Paper*, Luxembourg: Office of Official Publications of the European Communities.

EUROPEAN COMMISSION, 1993c. *Employment in Europe 1993*, Luxembourg: Office of Official Publications of the European Communities.

FITZ GERALD, J. D. AND D. McCOY, 1992. "The Macroeconomic Implications for Ireland" in Fitz Gerald and McCoy (eds) *The Economic Effects of Carbon Taxes*, Policy Research Series No. 14, Dublin: ESRI.

KENNEDY, K. A., 1993. *Facing the Unemployment Crisis in Ireland*, Undercurrents Series, Cork: University Press.

LAWRENCE, R. Z. AND M. J. SLAUGHTER, 1993. "International Trade and American Wages in the 1980s: Giant Sucking Sound or Small Hiccup?" *Brookings Papers on Economic Activity: Microeconomics*, Vol. 2.

NATIONAL ECONOMIC AND SOCIAL COUNCIL, 1993. *A Strategy for Competitiveness, Growth and Employment*, Report No. 96, Dublin: NESC.

NATIONAL ECONOMIC AND SOCIAL FORUM, 1993. *Negotiations on a Successor Agreement to the PESP*, No. 1, Dublin: NESF.

CHAPTER 6

Discretionary Tax Expenditures and Tax Reform in Ireland

Francis O'Toole[1]
Trinity College, Dublin

I believe that we must continue to work systematically towards broadening the tax- base, not as an end in itself, but as the only feasible route in the short or medium term to a tax regime which is lighter in the overall (Budget 1994).

1. Introduction

The 1994 Irish Budget has been hailed by the two Government parties as tax reforming. Approving comparisons have been made by representatives of the Government between elements of the Budget and some of the proposals outlined in Reports by the Commission on Taxation (1982,1984a, 1984b,1985a,1985b), the National Economic and Social Council (1986,1990,1993) and the Industrial Policy Review Group (1992).[2] It is an appropriate time, therefore, to contrast the Irish tax system as it exists today with the Irish tax system as it existed at the outbreak of the Irish "tax revolt" at the beginning of the 1980s.

The aim of this chapter, however, is not to generate a checklist of recommendations from various advisory bodies and to compare this list with the Government's taxation policy. The interested reader is directed to O'Toole (1994) for an experiment of this nature. The objective of the present chapter is to focus on the most salient proposal from the above mentioned reports, namely, the widening of the Irish tax base alongside a reduction in the tax rates imposed on the resulting broader definition of income. For example, the Commission on Taxation (1982) recommended that,

> *...income tax...should apply to a much more equitable and comprehensive definition of income than at present, including wages, salaries, profits, realised capital gains, lump sum receipts, gifts, inheritances and other windfalls* (p.29).

and the National Economic and Social Council (1993) noted that,

> *...the restructuring of the tax system requires a broadening of the tax base to facilitate a restructuring of taxes in favour of employment* (p.14).

Section 2 of this chapter focuses on the concept of a tax expenditure, a term which measures the revenue cost of tax allowances, tax exemptions and tax reliefs, all of which have contributed significantly to the narrowing of the Irish tax base. A tax expenditure can only be identified with reference to deviations from a previously accepted definition of the tax base. Following the Commission on Taxation and other authors' recommendation that a comprehensive definition of income forms an appropriate tax base, deviations from an impartial treatment of all income irrespective of its source or destination is taken as a tax expenditure in this chapter. The advantages and disadvantages of using tax expenditures rather than direct Government expenditures are outlined and the section concludes by drawing attention to the significant measurement problems involved in analysing tax expenditures.

Section 3 attempts to measure the significance of tax expenditures in an Irish context. An annual list of the major tax reliefs has been published in Ireland since 1980 and in this chapter an attempt is made to separate discretionary tax expenditures, such as mortgage interest relief, from non-discretionary tax expenditures such as the

1 The author gratefully acknowledges a research grant from the Foundation of Fiscal Studies and comments from Frances Ruane.

2 The decreasing tax burden on labour, the increasing tax burden on property and significant changes in the structure of Pay-Related Social Insurance contributions provide much-quoted examples.

standard tax allowances that characterise a progressive tax system. Discretionary tax expenditures that arise in the income tax system are separated from those which arise in the corporation tax system and the development of both types of expenditures in Ireland during the 1980s is charted. The figures suggest a decline in the importance of discretionary tax expenditures in the corporation tax system since 1989, i.e., the broadening of the corporate tax base, but a steady increase in discretionary tax expenditures in the income tax system since 1980, i.e., the narrowing of the income tax base.

Section 4 studies the evolution of two of the other major determinants of Irish tax revenues, namely, non-discretionary tax expenditures and tax rates on earned income. Given the narrowing of the personal income tax base that has occurred during the 1980s and the relative decline in the value of non-discretionary tax expenditures which is demonstrated in this section it is clear that many taxpayers who have been unable to avail of discretionary tax expenditures have found themselves paying a higher proportion of their income in tax, i.e., an increasing tax burden. The changes introduced in the 1994 Budget suggest that the policy makers understand the severity of the tax burden confronted by low income earners in Ireland and the urgent need for a significant broadening of the tax base but many of the unnecessarily distortionary features of the personal tax system remain in place despite these changes. Some comments on the aftermath of the 1994 Budget and the prospects for tax reform in Ireland over the next few years conclude the chapter.

When discussing taxation in an Irish context one must be aware of the crucial background details surrounding the public finances and the state of the economy. Taxation revenue as a percentage of Ireland's Gross Domestic Product (GDP) appears unremarkable when compared to our partners in the European Union (EU). The figure for Ireland in 1991 was 37.5 per cent compared to an unweighed average of 41.2 per cent in the EU.[3] However, GDP overestimates the level of wealth creation that accrues to Irish residents by a margin of at least 10 per cent (£22,911m Gross National Product (GNP) compared to £25,693m GDP in 1990, for example). Taxation revenue as a percentage of GNP in Ireland for 1991 was 42.0 per cent compared to a figure of approximately 41.2 per cent for the EU. Another noteworthy feature of the Irish public finances is that a significant proportion of our tax revenue must be used to service the national debt leaving less revenue to finance current and capital Government expenditures (22 per cent of total Government spending went on servicing the debt in 1993 and the estimated figure for 1994 is 20 per cent). No chapter on taxation in Ireland can be complete without noting the relentless increases in unemployment over the past decade and its subsequent effect on the tax burden confronted by the employed. The Irish unemployment rate increased from 7.3 per cent in 1980 to over 16 per cent by 1993. Although the extent of the relationship between the tax burden or wedge and the unemployment rate in Ireland is uncertain, McGettigan in chapter 7 in a review of the literature on the causes of unemployment in Ireland suggests that almost half of the increase in unemployment during the 1980s was attributable to the Tax and Real Exchange Rate Wedge.

2. The Concept of Tax Expenditure

When the Minister of Finance refers to a "*tax regime which is lighter in the overall*", it is likely that he has three summary characteristics of the Irish tax system in mind: efficiency, equity and administrative simplicity. Efficiency refers to the absence of distortions or, more realistically in the context of taxation, the smoothing out of the inevitable distortions that arise when Governments raise revenue to finance expenditure. Taxes on labour, for example, distort the employee's choice between labour and non-labour and the employer's choice between the use of labour and other factor inputs.

Equity comes in two dimensions: horizontal and vertical. Horizontal equity refers to the treatment of taxpayers on equivalent incomes whereas vertical equity refers to the treatment of taxpayers

[3] The composition of tax revenue differs substantially across the EU. For example, if social security contributions are excluded taxation as a percentage of GDP is 30.2 per cent in Ireland and 29.3 per cent in the EU.

on different incomes. Generally accepted social norms suggest that tax payments should be equivalent across taxpayers with equivalent incomes and that taxpayers on high incomes should be taxed at a higher proportional rate than taxpayers on low incomes.[4] Taxes on labour income in Ireland, for example, are progressive whereas Pay-Related Social Insurance (PRSI) contributions tend to be regressive.[5] Administrative simplicity refers to maximising the transparency of the tax system and minimising the cost of administration from both the tax collector and the taxpayer's perspectives.

Although often portrayed as being in conflict, the concurrent pursuit of all three objectives may, in fact, be possible. This is particularly true in the context of the Irish tax system which displays the inefficiencies, inequities and administrative complexities associated with high tax rates being imposed on narrow bases. The goals of efficiency, equity and administrative simplicity can be pursued effectively by reference to the concept of Equitable Taxation based on a comprehensive definition of income. The Schanz-Haig-Simons concept of comprehensive income is defined as the maximum amount of expenditure that a tax unit can engage in within a specified time period without affecting its net wealth.[6] This comprehensive definition of income does not distinguish between different income sources; labour income is indistinguishable from income which is derived from a capital gain on an asset which in turn is indistinguishable from a win on the lottery, etc. In short, Equitable Taxation derives its name from the impartiality it displays towards the source of income.

Broadly defined, tax expenditures represent departures from the use of this comprehensive notion of income as the tax base. Tax expenditures encompass (i) tax exemptions which exclude certain types of income from the tax base, (ii) tax allowances which reduce the tax base by a certain amount and (iii) tax credits which reduce the tax liability by a certain amount. It is essential, however, to distinguish between discretionary tax expenditures and non-discretionary tax expenditures. Discretionary tax expenditures are only available on income destined for particular uses or derived from particular sources and, by implication, are not generally available to all taxpayers. To avail of discretionary tax expenditures taxpayers must be involved in some activity which qualifies for appropriate classification. Non-discretionary tax expenditures, however, are available to all taxpayers. For example, the personal income tax schedule incorporating various rates, bands, allowances, exemption limits and marginal relief are not discretionary tax expenditures as all taxpayers can avail of these tax expenditures irrespective of the destination or source of income. The existence of non-discretionary tax expenditures is essential for the implementation of a progressive tax system. Once established the "normal" tax structure, which incorporates these non-discretionary tax expenditures, is seen as the appropriate benchmark by which discretionary tax expenditures can be measured.

The importance of discretionary tax expenditures was first noted by the Royal Commission on the Taxation of Profits and Income (UK) in 1955 while Surrey (1973) was the first author to analyze their contribution in the US. Discretionary tax expenditures represent an indirect type of expenditure by the Government, presumably in pursuit of a commonly-accepted policy goal, but direct Government spending may offer a more transparent method of pursuing this policy goal. Canada has adopted a budgetary system that seeks to minimise the financial distinction between these alternative methods of Government financing. Each Government department is allocated a certain amount of funding (placed conceptually in an "envelope") and can choose to use direct expenditures and/or tax expenditures in dispersing this allocation. Each tax expenditure proposal (almost invariably discretionary) stemming from the department must be costed and debited against their allocation of funds. No other country has adopted such a radical approach to tax expenditures but most

4 Generally accepted social norms are not, of course, necessarily translated into social practices.

5 The example of social security contributions highlights the difficulties involved in analysing taxation without incorporating a simultaneous analysis of expenditure decisions. Social insurance benefit recipients tend to be low income earners and as such the social insurance *system* cannot automatically be regarded as regressive.

6 The issue of fluctuating income can be addressed by income-averaging over a suitable time period.

OECD countries publish a list containing the estimated costs of various tax reliefs annually (see OECD (1984) for more details).

The disadvantages of discretionary tax expenditures stem from their non-transparency. Discretionary tax expenditures in most jurisdictions are not open to the same level of public scrutiny as are the necessarily more explicit decisions taken with respect to taxation and direct expenditures. Even allowing for the assumption that discretionary tax expenditures are only directed towards the correction of market imperfections, by narrowing the tax base they increase the distortionary effects of the taxation that is required to finance direct Government expenditure.[7] The unintended side-effects that often accompany discretionary tax expenditures should not be discounted. In an Irish context, recent manifestations of this problem include the abuse of "Section 84" loans, leasing agreements and tax covenants. Perhaps the most worrying feature of tax expenditures lies in their distributional effects. Surrey (1973) notes that the rich benefit disproportionately due to the "upside-down" distributional effects of tax expenditures in a progressive tax structure.[8] In an Irish context, for example, a taxpayer in the 48 per cent tax band has benefited disproportionately from mortgage interest relief compared to a taxpayer in the 27 per cent tax band.

An obvious advantage of using discretionary tax expenditure over direct expenditures is that the recipient of the expenditure is forced (allowed) to determine the value of the expenditure. For example, the tax expenditure directed at "*certain earnings of writers, composers and artists*" in Ireland is likely to be a relatively efficient way of supporting, and directing people towards, these activities. The artists themselves determine the value of the tax exemption which is directly related to the value of their output. Direct Government expenditure is unlikely to be as successful in its targeting or as inexpensive in its administration. It can also be the case that the Government may want to impose differential rates of taxation so as to take advantage of behaviourial responses by the taxpayer. Again in an Irish context, it could be claimed that 10 per cent of a substantial level of the profits of companies in the manufacturing sector is better than 40 per cent of an insignificant level of profits.

Notwithstanding the various advantages and disadvantages associated with using discretionary tax expenditures, the fundamental problem in the context of analysing tax expenditures is one of measurement. Separating discretionary tax expenditures from the standard features of any tax structure is extremely difficult. All personal tax systems contain different rates, initially starting at zero and progressing through a number of tax bands to the highest rate that is imposed on income above a certain threshold. The standard personal allowance is not treated as a discretionary tax expenditure but the problem of a suitable definition of the tax unit remains. Should married couples always receive two personal tax allowances? How should children be incorporated into the definition of the tax unit? Other difficulties surround the appropriate degree of integration of the personal income and the corporate income bases. Should the double taxation of corporate income under the classical system (whereby the dividend recipient receives no tax credit for corporation tax already paid) be treated as a negative discretionary tax expenditure? Should a discretionary tax expenditure be measured by reference to accrued or realised tax liabilities? Tax expenditures in the context of different categories of social security contributors tends to be "discreetly" ignored.[9] Indirect expenditure taxes present problems in that many

7 See Honohan and Irvine (1982) for an analysis of the efficiency costs of taxation in an Irish context.

8 Direct Government expenditure also displays this "upside-down" feature in that without direct Government provision of services higher-rate taxpayers would have to earn more pre-tax income to provide the same level of private services as lower-rate taxpayers. The distinction between discretionary tax expenditures and direct Government expenditure on distributional grounds remains, however, in that lower-rate taxpayers often do not receive *any* benefit from discretionary tax expenditures. Tax covenants provide an illustrative example in the case of Ireland.

9 Given that the insurance component of PRSI contributions has declined in recent years it is difficult to justify the existence of 13 different insurance classes. The phasing-out of the modified PRSI class in the public sector from 1995 onwards, however, may be part of a more general move towards a reduction in the number of PRSI classes.

different tax rates, including zero, exist simultaneously. Typically many of these problems are simply avoided by reserving the use of the term "tax expenditure" to the personal and corporate income tax sectors.

The inclusion or otherwise of behaviourial responses by economic agents in the context of the removal of a tax expenditure has taken on an extra degree of importance given the increasing openness of the major economies. The use of the revenue forgone concept as a measure of the cost of a tax expenditure allows for no behaviourial responses by taxpayers in reaction to the removal of a tax expenditure. The use of the revenue gain concept as a measure of the cost of a tax expenditure requires the estimation of behaviourial responses and seeks to identify the appropriate counterfactual by which the increase in Government revenue can be measured. The revenue forgone method overestimates the value of a tax expenditure in terms of the potential increase in tax revenue that would accrue to the revenue authorities whereas the revenue gain method underestimates the narrowness of the tax base caused by the existence of a tax expenditures. If the aim of the exercise is to estimate the effect of tax changes on the budgetary position it is clear that the revenue gain method is the appropriate one although the difficulties associated with estimating behaviourial responses to significant changes in the tax system should not be underestimated. If the aim of the exercise, however, is to focus on measuring the tax base the revenue forgone method seems adequate.

The adding-up problem focuses on the difficulty involved in measuring the total effect of tax expenditures on the tax base. The initial approach of simply adding up the various costs associated with the removal of all tax expenditures can lead to significant errors in the estimates of the total level of tax expenditures. A simple example provided in the Statistical Report of the Revenue Commissioners demonstrates the problem,

> *For instance, a person with £1,000 gross trading profits, £1,000 capital allowances and £1,000 stock relief would pay no tax if* ***either*** *of the two reliefs were withdrawn but would pay tax on £1,000 if* ***both*** *reliefs were withdrawn. In this case, the cost of each relief separately is nil but the combined cost is tax on £1,000* (1992 p.66).

The underlying problem arises from the partial approach generally taken in measuring the value of discretionary tax expenditures whereas a full analysis requires a general equilibrium approach.[10]

3. Tax Expenditures in Ireland

> *...a tax expenditure budget listing the cost in terms of revenue forgone of all items of tax expenditure should be published regularly* (First Report of the Commission on Taxation, p.88).

Irish tax expenditures associated with income tax and corporation tax were first published in a Report of a Working Party made up of Government departments and trade union officials in January 1980. Prior to the formal publication of the Commission on Taxation's first report it was agreed to incorporate a listing of the major tax expenditures associated with the personal and corporate tax schemes into the annual Statistical Report of the Revenue Commissioners. Table 6.1 contains the revenue forgone figures for the major discretionary tax expenditures in Ireland for 1980/81, the year of the "tax revolt", and 1990/91, the most recent year for which comprehensive data are available. Table 6.1 does not list some of the relatively minor discretionary tax expenditures, for example, health expenses relief (£4.2m in 1990/91), relief for rent in private tenancies (£0.9m in 1990/91) and urban renewal relief (£5.8m in 1990/91).[11] The table published by the Revenue Commissioners refers to "Tax Relief Provision" and contains many allowances, exemptions and reliefs that would be generally regarded as non-discretionary tax expenditures. It has being decided (for the purpose of this

10 A similar problem arises in estimating the total welfare effect associated with multiple price changes involving goods that are substitutes or complements. The underlying problem is the issue of path dependency. See Just *et al.* (1982) for a review of these issues.

11 Although most of the tax expenditures in the Statistical Reports have been defined on a consistent basis over time, the tax expenditures associated with the exemption from tax of certain social welfare payments such as disability benefit, unemployment benefit, maternity allowance and injuries benefit have only been included since 1984. In 1990 these expenditures amounted to £39m.

Table 6.1: Major Discretionary Tax Expenditures (£m) in Ireland 1980/81 and 1990/91

	1980/81	1990/91	Real Annual Percentage Change
Income Tax			
Relief in respect of medical insurance premiums	6.0	47.7	14.2
Relief for employees' contributions to pensions	10.0	52.5	9.6
Retirement annuity premiums by self-employed	10.0	23.0	0.9
Exemption of superannuation income	30.0	200.0	12.2
Interest paid in full ("mortgage interest")	36.0	163.7	8.0
Exemption of interest on Post Office savings media	1.2	17.6	21.5
Exemption of Government securities where owner not ordinary resident in Ireland	16.0	108.0	12.4
Relief for investment in corporate trades ("BES")	—	31.2[1]	74.6
Miscellaneous	68.8	209.18	3.8
Corporation Tax			
Manufacturing relief (10 per cent tax rate)	—	488.9[2]	30.1
Capital allowances	99.0	373.0	6.0
Export sales relief (0 per cent tax rate)	106.0	202.1	−1.0
"Section 84" loans	—	140.0[3]	9.3
Total	383.0	2,056.88	9.8

Source: Costs of allowances and reliefs, Statistical Reports of the Revenue Commissioners.
[1]£0.9m in 1984/85. [2]£40m in 1982/83. [3]£76.5m in 1985/86.

chapter at least) that exemption limits, single and married person's allowances and many other forms of personal allowances constitute non-discretionary rather than discretionary tax expenditures. It also seems clear that relief under Schedule E for expenses incurred by employees and double taxation relief should not be regarded as tax expenditures. In the case of foreign holders of Irish debt, however, it is assumed that the failure to impose a withholding tax is not due to the possibility of foreign authorities taxing the relevant income a second time and hence this exemption is classified as a discretionary tax expenditure. Aside from corporation tax, which incorporates some element of double taxation, Irish discretionary tax expenditures are identified by reference to the Commission on Taxation's definition of income.[12]

The classification of the PRSI allowance as a discretionary or non-discretionary tax expenditure is to some extent an open issue. If PRSI contributions are viewed as simply an extension to income tax then it would be appropriate to offer some compensation to those who pay PRSI at the higher rate of 5.5 per cent.[13] As such the PRSI allowance would be regarded as a "compensating differential" and not as a dis-

12 The following list contains tax reliefs included in the Statistical Report of the Revenue Commissioners but not treated as discretionary tax expenditures in this chapter: exemption limits; PAYE, PRSI, married person, single person and widowed person's allowances; additional allowances for widowed person in year of bereavement, one parent family, dependant person, age, blind person and incapacitated child; relief under Schedule E for expenses incurred by employees and double taxation relief.

13 It would, of course, be even more appropriate to incorporate a single rate of PRSI explicitly into the income tax system.

cretionary tax expenditure. Alternatively, if a significant insurance link can be established between different rates of PRSI contributions and subsequent benefit entitlements then the PRSI allowance for those who pay PRSI at the higher rate would be seen as an unwarranted and discretionary tax expenditure. For the purposes of this chapter it has been decided to adopt the former position and consequently the PRSI allowance is treated as a non-discretionary tax expenditure. It should be noted that the inclusion of the PRSI allowance in Table 6.1 would have a relatively minor effect as the cost of the allowance decreased from £83.8m in 1983/84, its year of introduction, to £62.4m in 1990/91. A similar argument can be made against the inclusion of the PAYE allowance. Employees who pay tax *as they earn income* are at a disadvantage relative to those who pay tax *after they earn income*, i.e., with a time lag. As such the PAYE allowance can also be seen as a "compensating differential" and should not be included as a discretionary tax expenditure. The cost of the PAYE tax expenditure increased from £117m in 1980/81 to £261.2m in 1990/91. The real value of discretionary tax expenditures have increased dramatically over the time period in question, the only exception being provided by export sales relief which has been abolished.

As previously indicated much controversy surrounds the classification of particular reliefs as tax expenditures. Mortgage interest relief ("interest paid in full"), or at least the real interest component, could be excluded from the above list if there was a tax on the imputed income from home ownership. Given that this is not the case, although the widening of the residential property tax base could be regarded as a proxy for such a tax, it seems appropriate to allow mortgage relief expenditures by the Government to approximate the narrowing of the tax base caused by the exclusion of housing "income". It could also be argued that contributions to pension schemes should not be regarded as a tax expenditure but this is equivalent to arguing that expenditure rather than income provides the appropriate tax base.

Table 6.1 splits the sample of discretionary tax expenditures into expenditures that arise in the income and the corporation tax bases. The justification is twofold. First, corporation tax without full imputation involves some element of double taxation and as such diverges from the equitable treatment of all income. Second, in Ireland's case the substantial differences between the revenue forgone and revenue gain methods of calculating the value of discretionary tax expenditures in the context of corporation tax should not go unnoticed. Export sales relief and manufacturing relief have been very attractive to foreign firms and it seems naive to suggest, as the revenue forgone method of estimating the level of discretionary tax expenditures does, that foreign direct investment has not been responsive to these tax reliefs. Capital allowances create a further difficulty in that the figures include both economic and accelerated depreciation allowances.[14] Ideally only accelerated depreciation allowances should be included as a discretionary tax expenditure. It appears that the forces of European tax harmonisation will lead to a decline in the discretionary tax expenditures associated with the corporate sector in the near-future and a widening of the Irish corporation tax base can be expected.

The discretionary tax expenditures associated with the existence of different rates of commodity taxes lies outside our stated domain but the extent of the potential "discretionary tax expenditure" involved can be flagged by focusing on one example. Duffy and O'Hagan (1988), in a study of public funding for the arts in Ireland, noted that the exemption of live artistic performances from VAT in Ireland is of greater value to the arts than either the exemption of certain artists' income or the exemption for charitable contributions to artists.[15] Despite this example, the 1980s have witnessed a broadening of the Irish VAT base and European tax harmonisation will make it more difficult for the Irish Government to unilaterally offer what should be regarded as discretionary tax expenditures through this medium in the future.

Table 6.2 measures the total value of discretionary tax expenditures in Ireland over the 1980 — 1990 period. Despite the myriad of measurement

[14] It has only been since 1985/86 that a separate tax expenditure figures has been published for accelerated capital allowances.

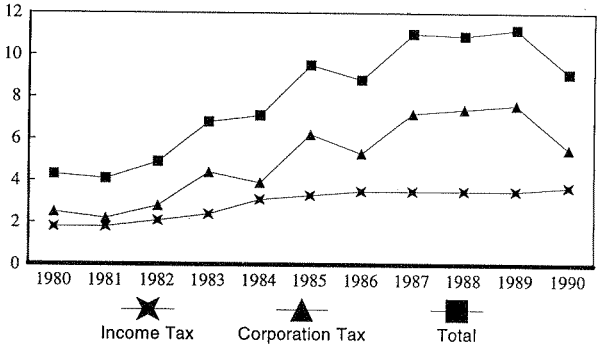
[15] These "reliefs" are equivalent in value to over one-third of the Arts Council's budget.

problems mentioned in the previous section the exercise allows us to have some measure of the extent of discretionary tax expenditures and the subsequent narrowing of the tax base in Ireland. It also allows us to look at the trend in these expenditures over the period in question.

Table 6.2 decomposes discretionary tax expenditures into the two categories of income tax and corporation tax. The total estimated value of tax expenditures in Ireland increased from £383m in 1980 to over £2,330m by 1989. This is an enormous increase by any standards but particularly when set out in terms of discretionary tax expenditures as a percentage of GNP in Figure 6.1 which indicates that tax expenditures as a percentage of GNP increased from 4.3 per cent in 1980 to 11.2 per cent in 1989. Subsequently the ratio declined to a value of 9.1 per cent in 1990.

Figure 6.1

Tax Expenditures as % of GNP 1980 - 1990



Changes in discretionary tax expenditures associated with the corporate tax base during the 1980s were strongly influenced by the movement by firms from export sales relief to manufacturing relief. The value/cost of export sales relief jumped from £96.3m in 1982 to £301.1m in 1983 and to £812.5m by 1989 before falling back to £202.1m in 1990. The abolition of export sales relief has, however, led to the an increase in the value/cost of manufacturing relief from £147.9 in 1988 to £488.9m in 1990. All of this suggests that the increase in the total value of tax expenditures in the corporate sector as a percentage of GNP from 2.5 per cent in 1980 to 5.5 per cent in 1990 (via 7.6 per cent in 1989) should be treated with some caution. The decline in the value of discretionary tax expenditures in the corporate sector, however, did contribute to a significant increase in tax revenue from corporate taxes. As a percentage of GDP, corporate tax revenue increased from 1.2 per cent in 1989 to 1.8 per cent in 1990 (with a further increase to 2.2 per cent in 1991). The increase in the value of tax expenditures in the income tax base as a percentage of GNP from 1.8 per cent to 3.7 per cent, however, is represented by a particularly steady increase over the time period in question and represents a deterioration in the characteristic of the Irish tax base that all of the above-mentioned reports had commented negatively upon. Comments on the likely effects of the recent budget on these trends is left until the next section.

Table 6.2: Discretionary Tax Expenditures (£m) 1980/81 — 1990/91

Year	Income Tax	Corporation Tax	Total	Total as Percentage of Real GNP
1980/81	159.0	224.0	383.0	4.3
1981/82	198.2	242.1	440.3	4.1
1982/83	264.8	344.0	608.8	4.9
1983/84	323.35	595.8	919.15	6.8
1984/85	456.83	585.4	1,042.25	7.1
1985/86	521.96	974.6	1,496.56	9.5
1986/87	578.91	892.9	1,471.81	8.8
1987/88	630.01	1,359.6	1,989.61	11.0
1988/89	671.27	1,400.2	2,071.47	10.9
1989/90	740.20	1,594.4	2,334.60	11.2
1990/91	828.48	1,228.4	2,056.88	9.1

Source: Costs of allowances and reliefs, Statistical Reports of the Revenue Commissioners.

The significant increases in discretionary tax expenditures as a percentage of GNP over the 1980s must be placed in the context of direct Government expenditure as a percentage of GNP which increased from a level of 45.9 per cent in 1980 to 47.1 per cent in 1989 and taxation revenue which increased from 39.5 per cent to 46.4 per cent during the same interval. Tax revenue from a shrinking tax base increased significantly over the decade implying an increase in tax rates for sectors unfortunate enough not to have received the benefit of a discretionary tax expenditure.

4. The Tax Rate on Earned Income in Ireland

By focusing on the evolution of discretionary tax expenditures the previous section has established that the tax base narrowed considerably over the course of the 1980s. Table 6.3 looks at the evolution of non-discretionary tax expenditures over the 1980s and the contrast between Tables 6.2 and 6.3 is rather revealing. The value of non-discretionary tax expenditures has remained constant in real terms but as a percentage of GNP they have fallen from 8.6 per cent in 1980 to 7.0 per cent in 1990. This is in contrast to the increase in the cost of discretionary tax expenditures as a percentage of GNP from 4.3 per cent to 9.1 per cent over the same time period.

Table 6.3: Non-Discretionary Tax Expenditures (£m) 1980/81 — 1990/91

Year	Total	Total as Percentage of Real GNP
1980/81	776.6	8.6
1981/82	869.4	8.0
1982/83	1,190.1	9.6
1983/84	1,205.8	8.9
1984/85	1,462.7	9.9
1985/86	1,558.61	10.6
1986/87	1,606.59	9.6
1987/88	1,625.35	9.0
1988/89	1,651.86	8.7
1989/90	1,590.16	7.6
1990/91	1,585.87	7.0

Source: Costs of allowances and reliefs, Statistical Reports of the Revenue Commissioners.

While narrowing the tax base in terms of expanding discretionary tax expenditures the Government has been undermining the tax structure by decreasing the value of non- discretionary tax expenditures. In practice this occurred through the non-indexation of basic allowances and the standard tax band during a time of high inflation (see Bristow (1993) for further details).

Since the publication of the Commission on Taxation's Reports the tax burden imposed on labour has increased for most workers. Previous research (see O'Toole (1994) for details) has shown that the marginal and effective (average) tax rates imposed on various categories of income earners increased over the period 1982 — 1993. Tables 6.4 and 6.5 contain the effective rates of tax paid by single persons on various percentages of the average industrial income for selected years since 1980. In Table 6.4 the effects of PRSI (Class A1) contributions, health, employment and income levies have been incorporated into the calculations. In Table 6.5, the effects of PRSI contributions and the PRSI allowance have been removed. If PRSI contributions are regarded as part of income tax then the appropriate figures are given in Table 6.4. If PRSI contributions are regarded as premiums to an insurance scheme then the appropriate figures are in Table 6.5. The 1994 figure for average industrial earnings is estimated at £13,600 compared to its 1980 value of £5,000. Between 1980 and 1987 the tax burden increased for all categories of income earners. This is particularly noteworthy given the large increase in discretionary tax expenditures which occurred over the same time period. It would be difficult to find a more inefficient and inequitable procedure for increasing total tax revenue. The year 1988 marked the beginning of a gradual decline in the tax burden for all categories of employees but the major beneficiaries of the ensuing reductions have been the higher income-earners.[16] Both tables incorporate 1994 budgetary changes.

Tables 6.6 and 6.7 perform similar calculations for the case of married couples with one spouse employed.

16 O'Toole and Ruane (1993) compare the evolution of pre- and post-tax incomes across the private and public sectors with some allowance being made for fringe benefits.

Table 6.4: Effective Tax Rates for Single People including PRSI 1980 — 1994

Income as percentage of the average industrial wage	1980/81	1987/88	1990/91	1994/95
50%	14.4	22.0	21.1	18.9
60%	18.5	25.4	23.9	21.2
80%	23.7	30.4	27.0	26.2
100%	**26.9**	**35.4**	**31.6**	**31.1**
150%	32.1	45.3	39.7	39.3
200%	36.8	48.8	44.2	42.1
400%	48.3	53.9	49.1	46.2
500%	50.6	54.9	50.1	47.0

(The exemption limit, personal, PAYE and PRSI allowances are incorporated.)

Table 6.5: Effective Tax Rates for Single People excluding PRSI 1980 — 1994

Income as percentage of the average industrial wage	1980/81	1987/88	1990/91	1994/95
50%	9.9	18.5	17.1	14.5
60%	14.0	21.5	19.6	16.6
80%	19.2	26.4	22.8	21.5
100%	**22.4**	**31.3**	**27.8**	**26.6**
150%	27.9	40.9	36.2	34.5
200%	33.7	45.4	40.7	38.4
400%	46.7	52.2	47.3	44.3
500%	49.4	53.6	48.7	45.5

(The exemption limit, personal, PAYE allowances are incorporated.)

Table 6.6: Effective Tax Rates for Married Couples including PRSI 1980 — 1994

Income as percentage of the average industrial wage	1980/81	1987/88	1990/91	1994/95
50%	4.5	7.75	7.75	5.5
60%	7.6	13.9	9.9	10.3
80%	13.1	21.1	20.5	20.4
100%	**17.1**	**25.4**	**24.0**	**23.3**
150%	24.3	31.9	28.4	27.1
200%	26.9	36.3	32.8	32.0
400%	36.3	47.6	43.2	41.0
500%	40.9	49.9	45.1	42.8

(The exemption limit, personal, PAYE and PRSI allowances are incorporated.)

Table 6.7: Effective Tax Rates for Married Couples excluding PRSI 1980 — 1994

Income as percentage of the average industrial wage	1980/81	1987/88	1990/91	1994/95
50%	0	2.25	2.25	0
60%	3.1	9.4	4.4	4.8
80%	8.6	16.8	15.8	15.7
100%	**12.6**	**20.9**	**19.1**	**18.4**
150%	20.1	27.2	23.5	22.0
200%	23.8	32.9	29.1	28.0
400%	34.8	45.9	41.4	39.1
500%	39.7	48.5	43.9	41.3

(The exemption limit, personal and PAYE allowances are incorporated.)

The 1994 budgetary changes decrease the income tax bill for all categories of employees. The elimination of the 1 per cent income levy has a uniform effect on all incomes (above £9,000) but the introduction of income floors for the health and employment levies is of particular benefit to the low-paid. The decrease in the marginal relief rate from 48 per cent to 40 per cent and the increase in the standard rate band from £7,675 to £8,200 (a 7 per cent increase in nominal terms) must also be welcomed.[17] The effects of these measures led to a significant decrease in the tax bill for those earning half the average industrial income (estimated at £6,800 for 1994), down from 21.1 per cent in 1990 (21.2 per cent in 1993) to 18.9 per cent in 1994 for single employees and down from 7.75 per cent in 1990 (and 1993) to 5.5 per cent in 1994 for married couples. It is still the case, although not often appreciated in the media, that the major beneficiaries of tax changes since the publications of the Commission's reports are the high income-earners but at least the decreases in the average tax bill since 1988 have been more evenly spread.

The introduction of an income floor for levy purposes without some form of marginal relief, however, has the indirect effect of increasing the marginal tax rates for employees as they rise above this floor. This runs contrary to the above-mentioned decrease in marginal relief for employees earning slightly above the relevant exemption limit. The extreme example is the case of the employee earning £9,000 and receiving a pay increase of £1 but being confronted by an extra tax bill of over £200. Changes introduced in the 1994 Budget to the employers' contributions to social insurance also complicate the above comparisons. Prior to 1994 the employers' contribution to social insurance was 12.2 per cent of the employee's income with an income ceiling of £21,000. The 1994 Budget introduced a lower rate of 9 per cent payable on employees who earn no more than £9,000. The 12.2 per cent rate will, however, extend to a new ceiling of £25,800, which is an increase of over 22 per cent in nominal terms. Again no marginal relief applies therefore increasing an employee's earnings from £9,000 to £9,001 would cost an employer an extra £278. The combination of the above changes in PRSI contributions and levies suggest that few employees will be earning between £9,000 and £10,000 in the coming tax year.

5. Conclusion

The 1994 Budget witnessed some moves in the direction of decreasing discretionary tax expenditures and increasing non-discretionary tax expenditures. The restriction in mortgage interest relief ("interest paid in full") and medical insurance contribution relief to the standard tax rate (over a three year period) must be welcomed as the large increases in the costs of these reliefs over the 1980s were particularly noteworthy

[17] The decline in the rate of marginal relief from 48 per cent to 40 per cent implies an increase in the marginal tax rate from 27 per cent to 40 per cent over a certain range of income for taxpayers availing of the income exemption limit.

given the distributional effects of these expenditures (see O'Toole and Ruane (1993) for further details).[18] Despite these efforts at broadening the income tax base and the broadening of the corporation tax base indicated in Figure 6.1, vested interests are more than capable of successfully lobbying for the introduction of new allowances, deductions and reliefs and perhaps even obstructing the removal of existing expenditures. The Business Expansion Scheme ("relief for investment in corporate trades") has been expanded considerably in recent years and the base of the probate tax, introduced in 1993, has already been narrowed in the 1994 Budget. The cost of the tax expenditure associated with tax covenants and maintenance payments has increased from £21.5m in 1990 to £29.1m in 1992. It would be somewhat reassuring if the cost of these expansions and other likely expansions in the urban renewal scheme and the financial service sector schemes were open to as much public scrutiny as explicit increases in Government expenditures.

The residential property tax "experience" provides an excellent example of the non-transparency of a tax expenditure, i.e., the exemption from the tax base of imputed income, the ability of interest groups to resist even a hint of substantial tax reform and perhaps, most revealingly of all, the unrealistic expectations of tax reform that the various reports on taxation in Ireland have generated. Proponents of tax reform in Ireland have apparently failed in their attempt to separate the issue of tax reform from tax decreases with many commentators applauding the recently announced fine-tuning of the capital gains tax and the previously announced expansion in the Business Expansion Scheme only to castigate the Government for increasing tax revenue from property by £5m. Tax reform may very well be capable of delivering a broader tax base, lower tax rates and a simpler, fairer and more efficient tax system but it appears that few taxpayers/voters are really interested.

References

BRISTOW, J., 1993. "Opportunities for Reform of the Irish Personal Income Tax", in (K. Murphy and M. Mulreany, eds.) *Taxation, Ireland and the New Europe*, Institute of Public Administration, Dublin.

COMMISSION ON TAXATION, 1982. *First Report: Direct Taxation*, Dublin: Stationery Office.

COMMISSION ON TAXATION, 1984a. *Second Report: Direct Taxation: The Role of Incentives*, Dublin: Stationery Office.

COMMISSION ON TAXATION, 1984b. *Third Report: Indirect Taxation*, Dublin: Stationery Office.

COMMISSION ON TAXATION, 1985a. *Fourth Report: Special Taxation*, Dublin: Stationery Office.

COMMISSION ON TAXATION, 1985b. *Fifth Report: Tax Administration*, Dublin: Stationery Office.

DUFFY, C. and J. O'HAGAN, 1988. "Tax Concessions to the Arts: Importance and Impact", Paper presented to Fifth International Conference on Cultural Economics, Ottawa, Canada.

HONOHAN, P. and I. IRVINE, 1982. "The Marginal Social Cost of Taxation in Ireland", *Economic and Social Review*, Vol.19, No.1, October.

[18] It can also be argued that the value of mortgage interest relief to the *individual* fell considerably during the 1980s (see O'Toole (1994) for details). However, the cost of the tax expenditure to the *Government* has increased significantly as demonstrated in Table 6.1.

INDUSTRIAL POLICY REVIEW GROUP, 1992. *A Time for Change: Industrial Policy for the 1990s*, Dublin: Stationery Office.

JUST, R., D. HUETH and A. SCHMITZ, 1982. *Applied Welfare Economics and Public Policy*, Englewood Cliffs NJ: Prentice-Hall.

NESC, 1986. *A Strategy for Development, 1986-1990*, Dublin: Stationery Office, Report No. 83.

NESC, 1990. *A Strategy for the Nineties*, Dublin: Stationery Office, Report No. 89.

NESC, 1993. *A Strategy for Competitiveness, Growth and Employment*, Dublin: Stationery Office, Report No. 96.

OECD, 1984. *Tax Expenditures: A Review of the Issues and Country Practices*, Paris: OECD Publications.

OECD, 1993. *Revenue Statistics of OECD Member Countries*, Paris: OECD Publications.

O'TOOLE, F., 1994. "Tax Reform Since the Commission on Taxation", *Journal of Social and Statistical Inquiry Society of Ireland 1993-94*, (forthcoming).

O'TOOLE, F. and F. RUANE, 1994. "Taxation of High Income Earners in Ireland: The Present Situation", *Proceedings of the Eighth Annual Conference of the Foundation for Fiscal Studies*.

ROYAL COMMISSION ON THE TAXATION OF PROFITS AND INCOME, 1955. *Final Report, London, Her Majesty's Stationery Office.*

STATISTICAL REPORTS OF THE REVENUE COMMISSIONERS 1981-1992, Dublin: Stationery Office.

SURREY, S., 1973. *Pathways to Tax Reform*, Harvard University Press.

CHAPTER 7

The Causes of Irish Unemployment: A Review

Donal McGettigan
Central Bank of Ireland, Dublin

1. Introduction

Unemployment is commonly accepted to be the most serious economic problem facing Ireland today. Much has been written on the subject of Irish unemployment over the years. This paper confines itself to one particular strand of such work in so far as it attempts to summarise briefly the major empirical analyses of the Irish unemployment problem over the last decade or so and to highlight the main results and themes of such work. It is to be hoped that, in the light of this summary, the major areas of agreement among economists as well as remaining areas of disagreement will be clear to the reader. Section 2, the main body of the chapter, details in a chronological fashion, the studies concerned. Section 3 attempts to gather together the main findings and themes running through the studies which are surveyed.

2. A Brief Review of Major Studies

Conniffe and Kennedy (1984)

Conniffe and Kennedy (1984) carried out a very broad study of unemployment in Ireland. Besides describing the problem in detail and illustrating the constraints under which any solution to the problem had to be found, the main aim of the study was to prescribe policies which would help tackle the unemployment problem in both the short and long term. Kennedy and Conniffe emphasise the central role of economic growth in this regard. They state that their "favoured strategy aims at increasing long-term economic growth and ensuring that the benefits of growth are distributed so as to provide adequate employment opportunities for a rapidly growing labour force" (p. 299). They go on to say that the growth strategy must be based on the traded goods sectors, i.e., agriculture, other natural resources, manufacturing, and a number of important services, and that there should be a concentration on indigenous firms. A wide range of policy measures are recommended to this end. In addition, however, they stressed the necessity of increasing public sector employment in order to solve the unemployment problem, and that this was to be financed by increased taxation and public sector pay cuts.

Honohan (1984), (1992)

Honohan (1984), in explaining the evolution of unemployment in Ireland over the 1962-1983 period suggests that there is a long-run equilibrium differential between Irish and British unemployment rates. He fails to find any exogenous variables with a permanent influence on this differential. His conclusion is that migration is the chief explanation for this equilibrium property rather than any fortuitous parallel movements in unemployment rates due to common external influences on Irish and British unemployment.

In his 1992 article, Honohan re-emphasises the major role of migration using data from 1975 to 1991 although admitting that his previously hypothesised equilibrium relationship had not held. Notwithstanding the divergent unemployment experiences of Ireland and Britain since the mid-1980s, Honohan demonstrates that strong links still exist between the two labour markets, especially in the case of males (although weaker than previous links). It is, however, a partial study as, unlike the 1984 article, he does not consider other variables that may have had an impact on Irish unemployment.

One important lesson to be drawn from these studies is that any work on Irish unemployment would be seriously inadequate if it did not give due emphasis to the role of migration.

Bean, Layard and Nickell (1986)

Bean, Layard and Nickell (1986) include Ireland in their multi-country study of the rise in

The views expressed are not necessarily those held by the Central Bank and are the personal responsibility of the author.

unemployment from 1956-66 to 1980-83. Their approach makes use of a small scale model, centred on the labour market, and is mainly used for the sake of inter-country comparison. As they point out "there are likely to be special factors operating in many of the countries whose incorporation would enhance the explanatory power of the model, and a more comprehensive search over the dynamic specification for individual countries might also prove to be fruitful" (p. S6). It follows, therefore, that too much weight should not be placed on their results for individual countries. This would seem to be even more pertinent for an economy such as Ireland's with its own very distinctive features. In considering the proximate causes of the rise in unemployment in the countries covered Bean, Layard and Nickell confine their attention to taxes, import prices, search, and demand variables. For Ireland's rise in unemployment, taxes and demand variables are found to be primarily responsible for the rise in unemployment recorded over the period.

Walsh (1987)

Walsh (1987), in a wide-ranging paper, examines among other things some possible explanations of high rates of Irish unemployment. First, in comparing labour force growth in Ireland in the early 1980s with that of the US, Walsh contends that high labour force growth was not a central reason for our unemployment problem. He cites renewed emigration as the main reason for the relatively slow growth of the labour force.

Walsh then makes use of an application of Okun's finding that unemployment varies with the deviation of real GNP from its trend growth path to conclude that the proximate reason why unemployment rose so sharply in Ireland between 1979 and 1986 is that there was no economic growth in the period. He demonstrates, using his posited relationship between economic growth and unemployment (similar to Okun's for the US in 1965 that "each extra 1 per cent of real GNP [above trend growth] means a decrement of about one-third of a percentage point in the unemployment rate" (p. 10)), that unemployment would have only risen very slightly from 7.8 per cent in 1979 to 8.1 per cent in 1986 if real GNP growth of 3 per cent per annum had been maintained during this period (compared to the 152 per cent increase in the unemployment rate that was actually recorded).

As Walsh concludes, this finding begs the questions : (1) why was there so little growth and (2) in the absence of growth why did the labour market not clear? As it was outside the scope of the paper, the first question was left aside. In relation to the second question, Walsh gives evidence to show that Irish labour costs did not deteriorate much relative to our main trading partners between 1979 and 1986 and thus could not be largely responsible for the recorded rise in unemployment. Walsh then goes on to show how the tax wedge rose significantly in the first part of the 1980s, while at the same time the tax rate on capital was at extremely low levels. These developments had obvious implications for the Irish unemployment situation. He then demonstrates how the average payment per recipient of unemployment benefit increased much more than the take-home pay of male industrial workers between 1978 and 1985. This rise in the replacement ratio, he asserts, had a role to play in the unemployment rise. While admitting that a sudden upsurge in union membership or militancy after 1979 was not the cause of the sharp rise in unemployment, Walsh goes on to state that the environment arising out of the industrial relations problems of the 1970s may not have been conducive to employment. Walsh then uses reduced-form models of fiscal policy as used by Eisner and Pieper (1984) and Muller and Price (1984) to show "that an increase in the Irish budget surplus increases the level of unemployment and lowers the rate of real GNP growth for a given level of EEC growth" (p. 19). He concludes that "the sharp increase in the structural budget surplus since 1982 is part of the reason for the deteriorating unemployment situation here compared with the rest of Europe" (p. 25).

Overall, Walsh's paper makes some interesting suggestions as to what the causes of the sharp rise in Irish unemployment were in the first part of the 1980s. Many of these causal factors are included in subsequent models of Irish unemployment.

Lee (1988), (1989)

Lee (1988) and (1989) posits that hysteresis in the labour market (i.e., strong persistence of

unemployment) could have a direct impact on the "natural" rate of unemployment and leaves it open as a possible explanation for the rise in Irish unemployment over the 1970s and 1980s. In doing so he gives three possible reasons why a labour market may be subject to hysteresis. First, there is the physical capital stock explanation which states that a rise in unemployment can result from a reduction in capital stock (through, for example, factory closures) which causes subsequent demand for labour to remain low. Secondly, there is the possibility that the longer a person remains unemployed the more deskilled and unemployable he/she becomes. The discouraged worker effect sets in, reducing search intensity, and thereby reducing effective labour supply. Effective labour demand is also reduced by the factors associated with the inability of employers to find suitable employees. The final reason put forward for hysteresis is the insider-outsider argument which states that those employed (the insiders) do not take account of the welfare of the unemployed (the outsiders) when engaged in wage bargaining, thus resulting in the setting of wages which are too high for the re-employment of outsiders to take place.

In his 1989 paper Lee seeks to demonstrate how the presence of hysteresis caused the equilibrium rate of unemployment to rise almost in line with the actual rate of unemployment over the 1980s. However, the fact that hysteresis is capable of describing the pattern of growth in the unemployment rate over time does not provide an explanation for this rise. As Lee himself points out (p. 19) the mechanisms lying behind the hysteresis cannot be exactly determined using the approach he adopted. They are, however, useful papers in so far as they highlight the important role of hysteresis in the Irish unemployment problem in the 1980s.

Newell and Symons (1990)

Newell and Symons (1990) follow the approach pioneered by Layard and Nickell in their seminal work on British unemployment. The Layard and Nickell approach involves developing a small structural macroeconomic model which is centred on the labour market in order to study the unemployment problem (see, for example, Layard and Nickell (1985; 1986) and Layard, Nickell, and Jackman (1991).

Newell And Symons make use of a three equation model when assessing the causes of Irish unemployment, with one for labour demand (employment), one for wages, and one for participation in the labour force. Under the assumption of price-setting by imperfectly competitive firms, they use the hiring decision of such firms to arrive at a theoretical relationship where aggregate labour demand depends on the real product wage and perturbations in aggregate demand. Next, they make use of a bargaining approach to wages, where wages are found to depend on both the tightness of the labour market (which in turn depends on the number of people employed), and a set of "push" factors such as the replacement ratio and the tax wedge. Finally, they endogenise the labour force by making labour force participation dependant on expected income and demographic variables.

After econometric analysis Newell and Symons conclude, having tested for alternatives, that the most important demand variables in explaining Irish labour demand over the 1955-1986 period were real interest rates and shocks to UK GDP.

Using their product wage equation they find, *inter alia*, that the "wedge" effect (i.e., a measure of the difference between the real wage the firm has to pay to its workers and the real take-home consumption wage of the workers themselves) and the expected outside wage (reflecting the influence of opportunities available elsewhere to the inside workers) had significant expected effects on the wage bargain. (In contrast to other work on the Irish labour market they make the very important assumption that the wedge has no *long-run effect* on the wage bargain. In other words any increase in taxes or import prices are assumed to be borne by labour alone in the long run.)

When considering the participation equation Newell and Symons take account of the fact that migration patterns could possibly have a significant influence on labour force participation (because of the atypical participation patterns of migrants). Having decided against including migration as a separate explanatory variable in the participation equation (on the grounds that its level of significance does not warrant the inclusion of another equation in the model), they find that both the UK/Irish relative wage and UK

unemployment (the main determinants of Irish migration patterns) have significant and correctly signed effects. The overall results of the model are not, however, much affected by the omission of these migration variables. It must be pointed out, however, that Newell and Symons treat the working age population as being exogenous, and in doing so ignore the most important impact of migration on the labour force.

Combining the three equations, and using 3SLS (an econometric technique) to arrive at new parameter estimates, Newell and Symons simulate this model to try and explain the rise in Irish unemployment from 1979 to 1986. In order to do this they perform a sequence of dynamic simulations of the model, holding each exogenous variable constant at its 1979 value in each successive simulation, thus being able to apportion the rise in Irish unemployment to each such variable in turn. This model suggests that the rise in Irish unemployment over the period covered was caused by demand shocks, supply-side factors and demographics in the approximate ratio 4:2:3 respectively. The demand shocks were high interest rates and a slowdown in the rate of growth of UK GDP. An increase in the size of the wedge and an increase in the replacement ratio were the major supply side shocks. Finally, the population increase and the increase in trend participation rates were purported to be the demographic factors contributing to the rise in unemployment.

Newell and Symons conclude that, in addition to the demographic factors being outside the policy makers' control, the demand shocks were external in origin. On the supply side, they attribute part of the increase in taxes to the increase in world interest rates, and assert that the Irish replacement rate was not particularly generous. In other words they attribute the rise in unemployment "more to bad luck than to bad management" (p. 412).

Many Irish economists strongly disagree with Newell and Symons' conclusions, especially their conclusion that the contractionary Irish fiscal policies had only a very minor impact on Irish unemployment over the 1979-1986 period. In fact, they specifically address this issue in their article and find that even after experimentation with different measurements of Irish fiscal deficits no significant role could be found for this variable.

Barry and Bradley (1991)

Barry and Bradley (1991), attempt to redress the perceived shortcomings of the Newell and Symons approach by using a large-scale macroeconomic model (HERMES Ireland) of the Irish economy to analyse, *inter alia*, the 1979-1986 increase in unemployment.

Before going on to describe the main aspects of their approach Barry and Bradley criticise various aspects of the Newell And Symons model. First, they point to the fact that Newell And Symons treat employment in the various sectors of the economy as being determined in exactly the same fashion (in other words they are criticising the single labour demand schedule as not being adequate to properly analyse Irish unemployment). Newell And Symons assume that the entire economy can be represented by a typical firm selling into an imperfectly competitive market. Barry and Bradley point to the need to distinguish between the market and non-market (i.e., public) sectors and also to the need to split up the former into industrial and market services sectors. The fact that Newell and Symons assume that the entire economy can be represented by a typical firm selling into an imperfectly competitive market is questioned on the grounds that "the extensive empirical literature on price determination points quite unambiguously to Irish internationally-traded goods prices being externally determined" (p. 257).

Another major criticism they make of Newell and Symons's paper is that it does not deal at all adequately with the issue of migration. The direct (and most important) route by which migration affects the labour force is the direct leakage from, or additions to, the working age population. They ignore this effect by treating the working age population as being exogenous (in other words the treatment of labour supply is also deemed to be inadequate). Newell and Symons do test whether any atypical pattern of labour force participation by migrants affects the overall participation rate and conclude that the omission of this effect does not make any substantive difference to their results. Accordingly, they

operate with a closed economy approach when analysing the Irish labour force!

Finally, Barry and Bradley point out that the complete absence of a economy-wide macro-framework is a serious omission. They demonstrate that this absence makes it impossible to look at the trade-offs involved when analysing the effects of various policy instruments.

Barry and Bradley describe their model in terms of labour demand, labour supply and wage determination:

Labour Demand

In order to overcome some of the difficulties of the Newell and Symons approach, they look at four separate sectoral labour demands i.e., that for industry (driven by world demand and cost competitiveness), market services (driven by domestic demand), agriculture (modelled as a labour release process) and non-market services (i.e., public sector which is assumed to be policy driven) and then combine them to give aggregate labour demand. They also briefly describe the "income-expenditure mechanisms in aggregate labour demand" i.e., consumption, investment, exports and the service account of the balance of payments (servicing of foreign debt and profit repatriations).

Labour Supply

Labour supply is determined by population growth, education participation, labour force participation and international migration. Although they use the same labour force participation equation as Newell and Symons, they treat the working age population as being endogenous, depending, *inter alia*, on the effects of migration. Migration, in turn, is dependant on relative Irish-UK employment prospects and after tax earnings.

Wage Determination

Like Newell and Symons, they use a wage-bargaining approach to arrive at their wage equation, with wage increases originating in the tradable-goods sector and spreading across to the non-tradable sector. However, in contrast to Newell and Symons they find that the tax wedge has a permanent effect on the product wage.

In considering the evolution of Irish unemployment Barry and Bradley consider three main external factors: world demand, world interest rates and the state of the UK labour market. The main domestic factors considered are the demand-side and supply-side effects of fiscal policy, and the operation of demographic factors.

They simulate the model in such a way that, to the best possible approximation, the external and domestic factors described above are held at their pre-1970 levels for the 1970-1987 period and the simulated and historical outturns are then compared to ascertain the causes of the rise in Irish unemployment. Over the 1970-1987 period the HERMES model simulates a rise of 9.7 percentage points in the unemployment rate over the period as opposed to a historical outcome of 11.9 per cent. External, domestic policy and demographic factors were found to be responsible for 4.3 per cent, 2.0 per cent and 3.5 per cent respectively. (These do not add to 9.7 per cent exactly because the model is not linear. The first three values are obtained by simulating holding the three factors constant separately, whereas the aggregate figure is obtained by simulating holding all three factors constant simultaneously.)

They then proceed to assess the causes of Irish unemployment over the 1979-1986 period and compare their results with those of Newell and Symons (Table 7.1).

Table 7.1: Decomposition of Unemployment changes 1979-1986 (percentage change in unemployment rate)

	Barry and Bradley	Newell and Symons
External factors	3.00	4.30
Domestic policy factors	4.41	1.90
Demographic factors	0.60	3.00
All factors combined	8.44	9.20
Historical data	10.20	10.20

Source: Barry and Bradley (1991).

Domestic policy factors (which incorporate taxation and expenditure effects) play a much more important role when the Barry and Bradley approach is used. Such factors play a more important part (i.e., world demand,

world interest rates and the state of the UK labour market) in explaining the rise in Irish unemployment than external factors which is in contrast to the findings of Newell and Symons. The conclusion which is reached by Barry and Bradley is that it was not so much a matter of bad luck which led to the hike in unemployment over the 1979-1986 period but a consequence of the fiscal mismanagement of the 1970s which resulted in pro-cyclical contractionary policies having to be adopted in the 1980s to stop the very high levels of public debt spiralling out of control.

Leddin (1991)

Leddin (1991) points to the importance of considering monetary variables when analysing Irish unemployment. First, Leddin shows that the real exchange rate appreciation and the increase in the real interest rate which took place after our entry to the EMS, combined with the contractionary fiscal policy which was implemented in the presence of inflexible prices and wages could have played a significant role in the increase in Irish unemployment that took place in the first part of the 1980s. He ascribes an important role to the 8 per cent devaluation of the Irish pound in August 1986 in the turnaround in fortunes thereafter and posits that this devaluation led to a depreciation of the trade-weighted real exchange rate and to a decline in the real interest rate in the 1986-1989 period. He goes on to suggest that these factors could have contributed to the increase in net exports in 1987, and that this in turn could have set the expansionary process in train.

Using a reduced form model, Leddin finds that 95 per cent of the variance in unemployment over the 1979-1989 period is explained by real exchange rates, real interest rates and real wages. (Fiscal policy is omitted from the equation on the grounds that uncertainty created by the fiscal imbalance is reflected in movements in the real exchange rate and in the real interest rate.) However, as Leddin points out, the residuals suffer from positive autocorrelation which indicates that the reduced form equation employed does not capture all the important explanatory variables. It is also shown, using econometric techniques, that there is a long-run equilibrium relationship between unemployment and the real trade weighted exchange rate, as well as between unemployment and the real interest rate to further back up his assertion that monetary variables are important when it comes to explaining movements in Irish unemployment. Following on from this point, he criticises both Newell and Symons and Barry and Bradley for not placing enough emphasis on the role of the real exchange rate in their analysis of the Irish unemployment problem. Bradley and Whelan (1992), suggest that Ireland's poor unemployment performance in the 1980s could primarily be assigned to worsening external conditions at the time, especially in the UK, together with restrictive domestic policies aimed at bringing the public finances under control, rather than the quasi-fixed exchange rate regime pursued.

Browne and McGettigan (1993)

Browne and McGettigan (1993), use the small-scale model approach of Newell and Symons and extend it to take into account particular features of the Irish economy. In doing so, they take on board some of the criticisms levelled by Barry and Bradley. In addition, the importance of monetary factors and the real exchange rate (or the internal terms of trade) are highlighted.

The model contains seven behavioural equations. Labour demand is divided into four separate sub-sectors: marketed services (the non-traded sector), manufacturing (the traded sector), non-marketed services (i.e., the public service) and agriculture (the latter two categories being treated as exogenous in the model). It is felt that this approach addresses the oversimplification of Newell and Symons in assuming that the whole economy can be represented as a typical price-setting imperfectly competitive firm. In addition, there are separate wage equations for the traded and non-traded sectors. The absence of an important role for migration in Newell and Symons is rectified by the inclusion of a separate equation for migration. Finally, they make use of a widely-

Table 7.2: Decomposition of Unemployment Changes: 1979-86

	Barry/ Bradley	Newell/ Symons	Browne/ McGettigan
External factors	3.00	4.30	2.60
Domestic policy factors	4.41	1.90	4.50
Demographic factors	0.60	3.00	1.80
All factors combined	8.44	9.20	8.90
Historical data	10.20	10.20	10.20

used small open economy measure of competitiveness, following Dornbusch (1980). This was felt to be an improvement on the measures of competetiveness used, which were not felt to be appropriate if the traded sector is price-taking, as is the case in Ireland. This measure, known as the internal terms of trade, or the real exchange rate, is essentially the ratio of the price of non-traded to traded goods. The role of money, and its relationship to this particular measure, is also incorporated in the model. The advantage of using a small-scale model similar to Newell and Symons is that it helps to focus attention on the labour market. It also means that the model is not so much of a "black box" as larger models, in that it is relatively easy to those not familiar with the model to see what mechanisms are at work.

After testing to find the most appropriate equations, their model is simulated to estimate the proximate causes of the rise in Irish unemployment from 1979 to 1986. The major factors found to be responsible for the rise were the "wedge" (comprising both tax and real exchange rate appreciation components), the ratio of average unemployment payments to average take home pay (the replacement ratio), population increase and the rise in UK unemployment. Allocating these to external factors, domestic policy factors and demographic factors, and comparing the results with the other papers gives Table 7.2:

Like the other two models, this model is not without its shortcomings and no doubt several extensions and refinements could be made. However, the fact that the results provide corroboration for the main thrust of Barry and Bradley's findings is important in so far as it fails to exonerate policy-makers from the rise in Irish unemployment over the 1980s.

3. Summary of Findings and Major Themes on the Story of Irish Unemployment

As an attempt to gather together what has been surveyed in this chapter, and as a method of highlighting the major themes in the rise of Irish unemployment in the 1980s, we have constructed a summary of the findings in Table 7.3.

In the table we include three categories in the left-hand column: outside factors, domestic factors and issues of central concern. Outside factors comprise increases in the labour force, UK GDP growth, UK unemployment and world demand. In addition, real interest rates are included both in this category and in the domestic factors category. Although high world real interest rates will invariably be transferred to Ireland, there remains scope for real interest rate differentials, and these are influenced by domestic factors. Besides real interest rates, domestic factors comprise the tax wedge, the real exchange rate, the replacement ratio, Government expenditure, output growth, and the labour/capital cost ratio.

Looking at the outside causal factors, it can be seen that Walsh, Barry and Bradley and Browne and McGettigan are all broadly in agreement that excessive labour force growth rates did not play an important part in the rise of Irish unemployment in the first part of the 1980s. Bean, Layard and Nickell also discount excessive labour force growth as being the culprit behind the rise in OECD-wide unemployment in the 1980s. Newell and Symons, on the other hand, attribute an important role to demographic factors; this could, however, be connected with the omission of a migration equation from their model. The importance of the performance of the UK in the

Table 7.3: Causal Factors Lying Behind the Rise of Irish Unemployment in the 1980s*

		A	B	C	D	E	F	G	H
"Outside" Casual Factors	Labour force increase		-	-		+		1	1
	UK, GDP growth					+			
	UK unemployment	+						+	+
"Domestic" Casual Factors	World demand		+			-		+	
	Real interest rates					+	+	+	2
	Tax wedge		+	+		+		+	+
	Real exchange rate			3		-	+		+
	Replacement ratio			+		+			4
	Government expenditure		+	+		-		+	
	Ouput growth		+	+					
	High cost of labour relative to capital			+					5
Issues of Central Concern	Migration	+		+		-		+	+
	Hysteresis (persistence)		+		+			+	+

Notes:

A. Honohan (1984), (1992)
B. Bean, Layard and Nickell (1986)
C. Walsh (1987)
D. Lee (1988), (1989)
E. Newell and Symons (1990)
F. Leddin (1991)
G. Barry and Bradley (1991)
H. Browne and McGettigan (1993)

* Conniffe and Kennedy (1984) is not included in the table as it covers a period ending in the early 1980s. Many of the factors given in the table are considered in their study.

1. Although both Barry and Bradley and Browne and McGettigan report that the working-age population increase in Ireland contributed to the overall unemployment problem in the 1980s, both show a rather minor contribution.
2. Although a role could not formally be found in their model for high read interest rates, Browne and McGettigan nevertheless cite the movement from negative real interest rates in the 1970s as playing a part in the rise of Irish unemployment.
3. Walsh, in his study, considered one particular measure of the real exchange rate, labour costs (both absolute and unit) adjusted for currency interpreted with care (see Walsh, 1987, p.11, for details). The raw series (unadjusted for productivity changes) shows a small disimprovement, whereas the adjusted series shows a large improvement.
4. Although a positive contribution is reported by Browne and McGettigan it is shown to be rather minor. This may be due in part to the absence of a Government budget constraint in the model.
5. Although Browne and McGettigan refer to the hign cost of labour relative to capital as making an important contribution to the Irish unemployment problem, this effect was not incorporated in their model.

+(-) Denotes as issue considered explicitly by the author to be (not to be) important in the rise of Irish unemployment. A blank entry means that the causal factor under consideration is not considered explicitly by the author(s).

evolution of Irish unemployment is illustrated by the next two causal factors, UK GDP growth and the UK unemployment rate. They find that the slowdown in UK GDP growth in the early 1980s, and Honohan, Barry and Bradley and Browne and McGettigan all find that the sharp increase in UK unemployment rate over the same period, had a direct impact on the Irish unemployment rate. A proxy for world demand was included by Bean, Layard and Nickell, Newell and Symons and Barry and Bradley and although Newell and Symons could find no effect from their chosen variable, the proxies used by both other sets of authors played an important role in their models.

Turning to real interest rates, which straddle both the outside and domestic factor categories, it can be seen that there is agreement between the authors who explicitly looked at these rates, that the movement from negative real interest rates in the 1970s to high positive rates of interest in the 1980s played an important part in the rise of Irish unemployment. There is also unanimous agreement among those studies which considered the increase in the tax wedge, that this had an adverse effect on the Irish unemployment situation. Proceeding to the role of the real exchange rate, Newell and Symons found that losses in competitiveness did not play an important role in the rise of Irish unemployment. However, they used measures of competitiveness that did not take into account the price-taking nature of Irish exports and hence competitiveness losses may have been masked as a result. Both Leddin and Browne and McGettigan find that the real exchange rate appreciation (using their particular measures) that took place in the first half of the 1980s had an important role to play in the rise of Irish unemployment. The rise in the replacement ratio is posited to have played an important role by Walsh, Newell and Browne. In Browne and McGettigan's model the rise in the replacement ratio does not show up as being particularly important; this was, however, probably due in large part to the absence of a government budget constraint in their model (see Browne and McGettigan, 1993 for details). Next, we come to one of the major issues of contention among economists, in so far as the sharp rise in Irish unemployment in the first part of the 1980s was concerned. Bean, Layard and Nickell included Government spending in their demand variable which they found to have an important role to play in the rise of Irish unemployment. Then, Walsh, in 1987, found, using reduced-form models of fiscal policy, that the movement from expansionary fiscal policy in the late 1970s to contractionary policy in the late 1980s accounted in part for the varying unemployment performance between each of these period. However, Newell and Symons in 1990, using a variety of different measures of fiscal stance, failed to find any which had an important role to play. This was a finding disputed by many Irish economists, and when Barry and Bradley investigated the matter in 1991, they found that fiscal policy did indeed have an important role to play. In a similar vein (and although many factors other than Government expenditure determines output growth, even in the short run), Walsh found that if output growth had continued from 1979 to 1986 at a steady rate of 3 per cent, that unemployment would have remained roughly steady between 1979 and 1986 (Bean, Layard and Nickell also included GDP in their significant demand variable). Finally, there is agreement between Walsh and Browne and McGettigan that the high cost of labour relative to capital contributed to the rise in unemployment.

Issues of central concern to the Irish unemployment problem, though which do not fit neatly under either causal factors category are migration and hysteresis (or persistence). Migration is considered by Honohan, Walsh, Barry and Browne be of central importance to the evolution of Irish unemployment. The only dissenters from this view are Newell and Symons, who find that migration can be omitted from their model, without there being any major effect on the results obtained. It was pointed out earlier that this conclusion is based on the unwarranted exclusion of the direct effect of migration on the working age population. The importance of hysteresis or persistence of unemployment is highlighted by Bean, Layard and Nickell and by Lee and is also explicitly considered in the models by Barry and Browne. For details of factors possibly contributing to the persistence of Irish unemployment see Browne, Kearney and McGettigan (1993).

To conclude, it can be seen from our discussion, that there is a high degree of agreement on the causal factors which played a role in the rise Irish unemployment in the first part of the 1980s. The

main dissenters seem to be Newell and Symons and some of the reasons for the peculiarity of aspects of their results are given in this chapter. It is widely accepted among economists that the removal of the causal factors, where this is possible, would not lead to the reduction of unemployment to its previous levels and that analysis cannot simply be transferred unaltered from one period to another. It is also felt, however, that, despite these caveats, a good understanding of these causal factors, may contribute in some way to informed policy-making on the unemployment front.

References

BARRY, FRANK and JOHN BRADLEY, 1991. "On the Causes of Ireland's Unemployment", *The Economic and Social Review,* Vol. 22, No. 4, July, pp. 253-286.

BEAN, CHARLES RICHARD LAYARD and STEPHEN NICKELL, 1986. "The Rise in Unemployment: A Multi-country Study", *Economica Supplement,* Vol. 53, pp. s121-s170.

BRADLEY, JOHN and KARL WHELAN, 1992. "Irish Experience of Monetary Linkages with the UK and Developments Since Joining the EMS", in Ray Barrell (ed.) *Economic Convergence and Monetary Union in Europe,* London: Sage Publications, National Institute for Economic and Social Research.

BROWNE, FRANK and DONAL MC GETTIGAN, 1993a. "Another Look at the Causes of Irish Unemployment", Dublin: Central Bank of Ireland, Technical Paper 1/RT/93.

BROWNE, FRANK and DONAL MC GETTIGAN, 1993b. "The Evolution of Irish Unemployment: Some Explanations and Lessons", Dublin: Central Bank of Ireland, Technical Paper 6/RT/93.

BROWNE, FRANK, IDE KEARNEY and DONAL MC GETTIGAN, 1993. "The Persistence of Unemployment: A Cross-Country Study", Dublin: Central Bank of Ireland, Technical Paper 4/RT/93.

CONNIFFE, DENIS and KIERAN KENNEDY, (eds.) 1984. *Employment and Unemployment Policy for Ireland,* Dublin: The Economic and Social Research Institute.

DORNBUSCH, RUDIGER, 1980. *Open Economy Macroeconomics,* New York: Basic Books.

EISNER, ROBERT and PAUL J. PIEPER 1984. "A New View of the Federal Debt and Budget Deficits", *American Economic Review* (March).

FRAIN, JOHN, 1990. "Borrow and Prosper? Notes on the User Cost of Capital", Dublin: Central Bank of Ireland, Technical Paper 3/RT/90, April.

GEARY, PATRICK, 1992. "Ireland's Economy in the 1980s: Stagnation and Recovery — A Preliminary Review of the Evidence", *The Economic and Social Review,* Vol. 23, No. 3, pp. 253-281.

HONOHAN, PATRICK, 1984. "The Evolution of the Rate of Unemployment in Ireland 1962-1983", *Quarterly Economic Commentary,* May, pp. 41-58.

HONOHAN, PATRICK, 1992. "The Link Between Irish and UK Unemployment", *Quarterly Economic Commentary,* Spring, pp. 33-44.

LAYARD, RICHARD and STEPHEN NICKELL, 1985. "The Causes of British Unemployment", *National Institute Economic Review,* February, pp. 62-85.

LAYARD, RICHARD and STEPHEN NICKELL, 1986. "Unemployment in Britain", *Economica Supplement,* Vol. 53, pp. s121-s170.

LAYARD, RICHARD, STEPHEN NICKELL and RICHARD JACKMAN, 1991. *Unemployment, Macroeconomic Performance and the Labour Market,* Oxford: Oxford University Press.

LEDDIN, ANTHONY, 1991. "An Analysis of the Irish Unemployment Problem in the Context of EMS Membership", Paper to the Department of Economics, mimeo, University College Cork, January.

LEE, GEORGE, 1988. "Hysteresis and the Natural Rate of Unemployment", Dublin: Central Bank of Ireland, Technical Paper, 5/RT/88.

LEE, GEORGE, 1988. "Hysteresis and the Natural Rate of Unemployment in Ireland", *Journal of the Statistical and Social Inquiry Society of Ireland,* Vol. XXVI, Part II.

MC GETTIGAN, DONAL, 1992. "Irish Unemployment: A Review of Issues", Dublin: Central Bank of Ireland, Technical Paper, 2/RT/92.

MULLER, PATRICK and ROBERT W. R. PRICE 1984. "Structural Budget Indicators and the Interpretation of Fiscal Stance in OECD Economics", *OECD Economic Studies* (Autumn).

NEWELL, ANDREW and JAMES SYMONS, 1990. "The Causes of Ireland's Unemployment", *The Economic and Social Review,* Vol. 21, No. 4.

Ó CASÁIDE, CIARAN, 1983. "The Determinants of Non-Agricultural Unemployment in Ireland 1966-1980", Dublin: Central Bank of Ireland, Technical Paper, 6/RT/83.

WALSH, BRENDAN, 1987. "Why is Unemployment so High in Ireland Today?", *Perspectives on Economic Policy,* Vol. 1.

CHAPTER 8

Analysing the Two Economies of Ireland

John Bradley and Jonathan Wright
The Economic and Social Research Institute, Dublin
Harvard University, Massachusetts

1. Introduction

The partition of the island of Ireland in 1922, when Northern Ireland remained part of the United Kingdom and the Republic of Ireland became an independent sovereign state, formalised an already dichotomised island economy.[1] The initial industrial inheritance of Northern Ireland was vastly greater than that of the then largely agricultural South, and the subsequent separate but parallel development of the two regions during the period 1922-60 has been extensively documented elsewhere (see Kennedy, Giblin and McHugh, 1988).

Although the North enjoyed considerable policy autonomy in fiscal matters prior to 1972 under the Stormont parliament, today the Northern authorities have only limited discretion on regional economic policy. Monetary policy in the North, and most elements of taxation and public expenditure policy, are set by UK norms, although there remains considerable discretion in the area of regional industrial policy. The Republic, on the other hand, always had the potential for extensive freedom for independent policy actions, although this was not regularly exercised in practice. For example, the South maintained a fixed link with sterling for almost six decades after independence, only breaking this link after EMS entry in 1979.[2]

However, in the area of industrial policy, with an emphasis on attracting foreign direct investment, the South deviated considerably from UK corporate tax norms from the mid-1950s onwards. Nevertheless, EC membership, the imperatives of tax harmonisation and the Maastricht guidelines now place tight constraints on present and future Southern domestic fiscal and monetary policy. The very recent broadening of the EMS currency bands has freed these constraints only to a slight degree.

Despite the difference in political status of the two regional economies of Ireland, both share an extensive dependence on the external world. The external links of Northern Ireland are dominated by Great Britain: in 1990, 50 per cent of external sales of Northern manufactured goods were to Britain (Scott and O'Reilly,1992) and the external multinational presence in the North has been dominated by British firms to the extent that they provide about 60 per cent of employment in externally owned firms (NIEC, 1992, p. 14).

Prior to 1960 the trading and other external links of the Republic of Ireland were similarly British oriented, but since then the South's trade links have diversified considerably: in 1990, 29 per cent of Southern exports of manufactured goods were sold in Great Britain, down from about 70 per cent in 1960. Nor has Britain played the leading role in inward foreign direct investment in the Republic: in 1990, about 50 per cent of multinational employment was in companies of US origin and only 20 per cent was of British origin. The British-Irish influence works the other way as well. For example, the Republic of Ireland is the UK's fifth most important export destination, taking an export share of 5.1 per cent, nearly half of the 12.7 per cent share of Germany (the largest single destination), and is the only major trading

1 Until 1949 the Republic of Ireland was known as the Irish Free State and remained in the British Commonwealth. Considerable political sensitivity can attach to the various names given to the two parts of Ireland. For brevity, we will often refer to Northern Ireland as "the North" and to the Republic of Ireland as "the Republic" or "the South". Henceforth, we shall always use the term "the island of Ireland" simply in its geographical sense.

2 Bradley and Whelan (1992) give an account of the historic link between the Southern currency and sterling, the reasons for terminating it, and the economic consequences of the South joining the EMS narrow band in the absence of the UK.

partner with which the UK runs a trade surplus, amounting to about £1 billion in 1990 (HMSO, 1993).

In addition to world trade and multinational investment flows, there are large migrant labour movements specifically between the island of Ireland and Great Britain which are crucial to an understanding of the islands' two economies. The openness of the labour markets on the island of Ireland means that the migration mechanism plays a major role in adjusting regional labour supply and demand, and heavily influences regional wage setting, particularly in the South, in a way that is unique in the OECD.

Their close geographical proximity and common land border, the strength of these external linkages, and the degree of economic dependence on Great Britain that these imply, make it useful, despite their difference in political status, to study both Irish economies in a common framework as regions within the British Isles and the rest of the EC.[3] In addition, the two Irish regions have many economic and social problems in common: serious long-term unemployment; demographic trends that are at variance with other EC states; a poor competitiveness and innovation performance of indigenous industry; extreme vulnerability to external economic influences (world growth, in the case of the South, and British fiscal policy in the case of the North), over-dependency on external and foreign multinationals; imbalances in the public finances that were explicit in the South and implicit in the North.

Although Northern Ireland and the Republic of Ireland share many economic characteristics and problems, the published literature contains virtually no attempts to place analysis within a common regional modelling framework. The one exception is Gibson and Spencer (1975) which contains an outline of a simple formalised Keynesian model schema of the two regions. Both regions have, of course, been extensively analysed and modelled in isolation from each other: see Jefferson (1978) and Roper *et al.* (1989) for the North and Bradley and FitzGerald (1991) and Bradley *et al.* (1993) for the South.

To a non-Irish outsider, it might seem the most natural and interesting thing in the world to compare the economies of Northern Ireland and the Republic of Ireland. Adjusting for the difference in industrial inheritance in 1922, such a comparison can fruitfully address the fascinating question of the extent to which political and economic institutions, culture, attitudes to enterprise and innovation, and personal characteristics condition economic performance (Mjoset, 1992). Nevertheless, there are few descriptions of both regions that start off from an assumption that their structure, and the forces that drive them, have more similarities than differences. What one does find are, at the one extreme, descriptions of both regions in isolation from each other and, at the other extreme, attempts to portray how the two regions might perform under radically changed political arrangements (see Bradley and Wright, 1993 for references).

Given their shared regional and peripheral characteristics, we suggest that many interesting issues can be addressed within a comparative study of the two economies of Ireland. For example:

(i) Having been previously the most heavily industrialised region of the island of Ireland, we shall see that the manufacturing sector in Northern Ireland has declined sharply since the 1960s and, at least relative to the more dynamic behaviour of the South, the North has failed to capture adequate substitute multinational investment (NIEC,1992). What are the consequences of this relative decline and difference in performance?

(ii) Northern Ireland is in receipt of massive regional transfers within the UK. What effects have these had on the structure of the Northern economy compared with the effect of the parallel extensive public sector borrowing on the economic performance of the South?

(iii) Given the difference in structure and behaviour of the Northern and Southern economies, how does each separate

[3] A recent study of the UK regional economies by Harris (1989), excluded any mention of, or comparison with, the Republic of Ireland and even ignored links between individual UK regions and the rest of the UK and the external world.

region react to shocks in external or world factors?

(iv) More generally, what is the potential for accelerated growth and development in the North and the South, an acceleration that will be needed if the relative position of both regions towards the lower end of the EC league table is to be improved?

The aim of this chapter is to outline and use a macroeconomic framework for the two regions of the island of Ireland that is explicitly based on the acceptance of their common status as small European peripheral regional economies, where the key influences on both emanate from Great Britain and the rest of the world.[4] The chapter is organised as follows. In Section 2, we provide a summary description of key structural aspects of the two regional economies of the island of Ireland. In Section 3, after a brief survey of previous North-South macroeconomic research, we introduce two new economic models of the Northern and the Southern economies which have been designed explicitly to permit comparative analysis.

In Section 4, we outline how these models can be used in order to explore the effects on the two regions of a range of external and local policy shocks. However, since we will argue that the analysis of a peripheral economy in isolation from the encompassing behaviour of the world economy can be potentially misleading, we also discuss a strategy for linking the two regional models as satellites of the London-based National Institute world model, NIGEM (National Institute Global Economic Model (Barrell, 1992)), and show some practical examples of how this link operates.[5] In Section 5 we relate our macroeconomic findings to the burgeoning literature on growth theory, in order to explore the potential for faster North-South growth. Section 6 concludes with a summary of the main findings and a note on further research topics being pursued in the International Fund for Ireland project.

2. The Structure of the Economies of Ireland

Although the economies of Northern Ireland and the Republic of Ireland have been extensively described and studied in isolation, they are seldom compared and contrasted within a common framework of analysis. Rather, the North is usually discussed in the context of the eleven sub-regions of the United Kingdom (Harris, 1991) and the South in the context of a small peripheral member state of the EC (Bradley *et al.*, 1993). In this section we provide a brief overview of the economies of both regions, focusing on four key structural features: the distinction between the traded and non-traded sectors in the Northern and Southern economies; the two regional labour markets; public expenditure, taxation and the regional PSBR, and the determination of regional output, expenditure and the trade balance.

Sectoral Characteristics: Traded and Non-traded

The Traded Sector: Manufacturing[6]

The manufacturing sector of a modern small open regional economy is very directly exposed to competition in the wider external or international marketplace.[7] For the earlier period 1932-1960 there had been rapid growth of all kinds of indigenous industry in the South, protected from international competition by high tariff barriers. However, after the advent of the Anglo-Irish Free Trade Agreement in the 1960s and EC entry in 1973, much of this industrial base vanished, unable to compete with more efficient foreign firms (Kennedy, Giblin and McHugh, 1988). Northern Ireland, of course, always functioned

4 The regional modelling approach we use has its formal origins in the international literature on regional modelling (Nijkamp *et al.*,1986) and modelling of the States of the USA (Blanchard and Katz,1992).

5 Such a link between the island of Ireland and the external world is post-recursive, i.e., one where external forces are transmitted into the two Irish economies but events within the island of Ireland have no discernible influence on the external world because of the very small size of the two Irish economies.

6 We ignore the important agriculture sector, which is partially traded. The EC Common Agricultural Policy (CAP) dominates developments in both regions of the island of Ireland in terms of quota restrictions and price setting.

7 For a recent international survey of regional modelling issues as they arise in the analysis of economies such as Northern Ireland and the Republic of Ireland, see Nijkamp *et al.* (1986).

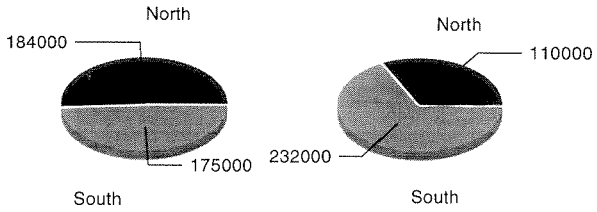
in a regime of free trade, with full access to the large British markets.

Since both regional Irish home markets were so small, the domestic traded sectors, North and South, simply could not efficiently supply all their different needs through import substitution. Rather, they needed to specialise in a narrow range of products, sell in highly competitive export markets, and import the goods not produced at home. The two most striking aspects of manufacturing activity on the island is that total employment has remained almost unchanged over the last three decades (359,000 in 1960 compared with 343,000 in 1990), while a dramatic shift in favour of the South was taking place (Figure 8.1).

Figure 8.1

Size of Manufacturing Sectors

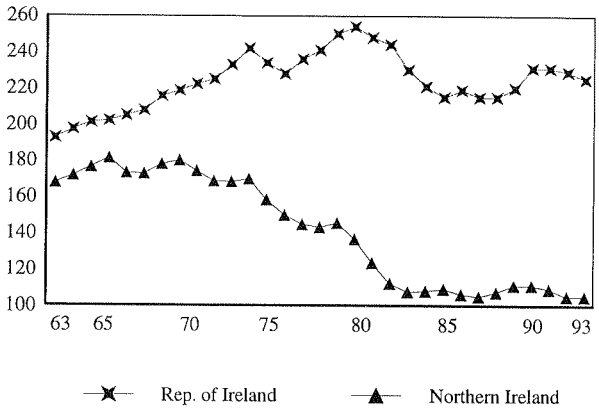
Employment, North and South



ern and Southern manufacturing employment is shown in Figure 8.2.[8] While Northern GDP from manufacturing stagnated, Southern manufacturing output rose rapidly, even adjusting for distortion of the figures due to transfer pricing by foreign multinationals and the associated profit repatriation. Although the performance of Southern manufacturing employment was disappointing, and declined from the 1980 peak of 250,000 during the prolonged post-OPEC II recession, the decline of Northern manufacturing employment over the period 1970 to 1982 was very dramatic and had serious consequences for the wider Northern economy. Also, against a background of relatively buoyant Southern manufacturing investment, driven largely by foreign direct investment, Northern manufacturing investment largely stagnated.

Figure 8.2

Manufacturing Employment



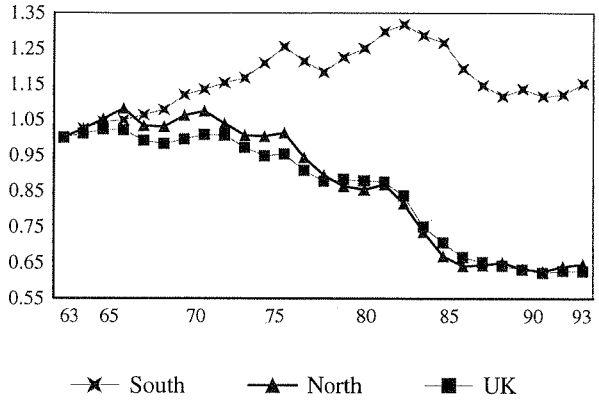
The decline of the Northern manufacturing sector relative to the South and, in particular, the decline of Northern manufacturing employment in absolute terms, are key Irish economic events of the last two decades for which we need explanations. There are two very obvious questions that arise from this contrast in manufacturing behaviour. First, was the North-South difference in manufacturing performance due mainly to the civil unrest in the North, starting in the late 1960s and continuing to the present day? Second, was it due to a greater policy flexibility enjoyed by the South, with the South's ability to deviate, to some extent, from UK policy norms? In the former case, there is a certain amount of Northern research on the quantification of the obvious negative effects of civil unrest, but with no very convincing conclusions, since all Northern under performance relative to other UK regions is attributed to the civil unrest.[9] In the latter case, as Figure 8.3 illustrates, comparison of Northern employment performance with aggregate UK performance shows that Northern Ireland was merely tracking a wider UK manufacturing decline, without the parallel strong growth of private services that occurred in Great Britain, and appears to have been unable to arrest this decline with the limited range of policy instruments and the level of support available (NIEC, 1992, p. 21). Northern Ireland comparisons with Scotland tend to reinforce this finding (NIEC, 1992, pp. 38-43).

8 Both the Northern and Southern data bases are simply computerised versions of published data sources (Bradley, Fitz Gerald and Kearney, 1991; Roper and Schofield, 1990).

9 A brief survey of methodological approaches to quantifying the effects of the civil unrest in the North and the insights they provide is available in Bradley and Wright (1993).

Figure 8.3

Employment in Manufacturing



The performance of the Southern manufacturing sector may look flattering in comparison with the North, but contains a disturbing difference between the inability of the Southern indigenous sector to grow and compete internationally, and a more rapid growth of the foreign-owned sector which was not, however, employment intensive (NESC, 1992). Teague (1987) has observed that the relative stagnation of the Northern and Southern economies during the 1950s led policy makers in both regions simultaneously to make fundamental re-evaluations of industrial policy and actively seek foreign direct investment. Both regions designed attractive investment grants and factory building schemes. In the South, a zero rate of tax on profits arising from exports was put in place, replaced after EC entry by a flat rate of 10 per cent on profits in manufacturing. In the British policy as applied in the North, a regional employment premium (REP) scheme of wage subsidies was included, among other policies.

Foreign investment in both regions grew rapidly over the period 1958 to 1975, mainly in the engineering and textiles sectors. The South has continued to benefit from a continuing inflow of foreign investment, interrupted only temporarily by the OPEC-I and II world recessions, and continuing thereafter at a somewhat slower rate, reflecting slower world growth. In the South, the emphasis in foreign direct investment shifted to computer and pharmaceutical products in the 1970s and 1980s. However, many of the earlier Northern multinational projects were lost (particularly in the artificial fibre sector) and the ability of the North to attract new replacement multinational investment in high technology areas was considerably weaker than that in the South (NIEC, 1992).

The Non-Traded Sector: Market Services

The main components of the private non-traded sector are market services (transport, communications, distribution, finance, insurance and other personal and business services), building and construction and utilities (electricity, gas and water). The relationship of this sector with the traded manufacturing sector has been changing over the years as many activities previously carried out in the manufacturing sector are being transferred to the service sector.

In both regions the sector has grown, in stark contrast to the decline of the manufacturing sector for Northern Ireland shown above. However, the service sector growth in the South had more to do with servicing the ever increasing complexity of the manufacturing sector than in the North, where it was more associated with the phenomenal growth of the public sector (see below). This is an area where further research is needed, and is hampered by the absence of up-to-date Northern input-output matrices, tools that permit analysis of inter-sectoral linkages and dependencies.

The Non-Market Service Sector

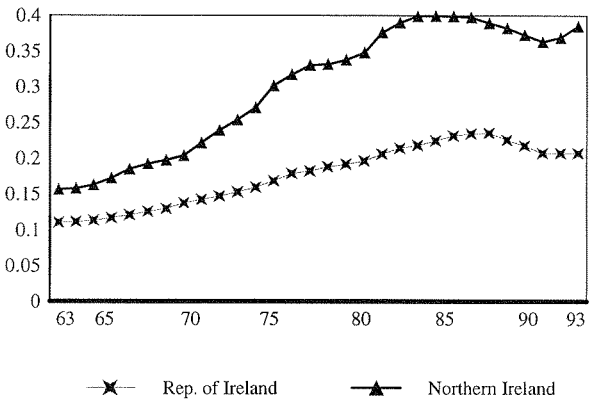
Our definition of the non-market sector is quite wide and embraces public administration, defence, health and education. Basically, all employees in this sector have their salaries and wages paid out of the public purse, i.e., from tax revenue or from borrowing. While employment grew rapidly both North and South, the size of the Northern sector is quite phenomenal. To illustrate this we show in Figure 8.4 non-market sector employment as a percentage of market sector employment (i.e., manufacturing, market services and agriculture). In a sense this is the "burden" carried by a region's private sector to the extent that regional tax revenue supports the public sector, and it is seen that the Northern evolution is dramatically different from the Southern pattern.

The relationship between the exposed manufacturing sector (which is price taking and driven by external demand) and the non-market sector is a particularly interesting one. In the South, as

we shall see below, the need to finance public sector expansion by immediate or deferred taxation drives a "wedge" between wage costs borne by employers in manufacturing and the take home consumption wage spent by the worker. Hence, public sector expansion can crowd out employment in the exposed manufacturing sector through loss of competitiveness as unions drive up nominal wages to restore their real standard of living. This tended to happen in the South during the 1980s and was a cause of serious loss of manufacturing jobs (Barry and Bradley, 1991).

Figure 8.4

Non-market/market Employment Ratio



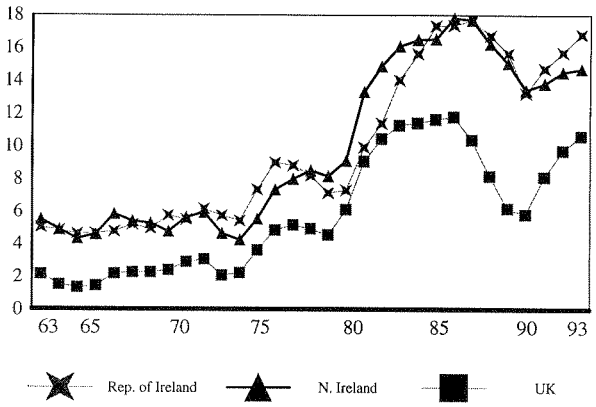
However, in the North, as we shall see, there is now no immediate link between the size of the public sector and the need to finance it exclusively from Northern Ireland tax resources. Nevertheless, the increase in the size of the public sector can still crowd out the exposed manufacturing sector through the effect of the lower rate of regional unemployment in driving up wage rates. Causation is difficult to establish here: the growth in public sector employment may have been a rational and deliberate policy response by the UK government to the poor performance of the Northern manufacturing sector. On the other hand, a massive autonomous growth of the public sector may have exacerbated the cost competitiveness problems of Northern manufacturing by driving up wages in the North and absorbing too much of the talented workforce in the provision of public services. We now turn to these regional labour market issues.

The Regional Labour Markets

A shared feature of the two labour markets on the island of Ireland is the high rate of unemployment in both regions. In Figure 8.5 we show both Irish regional and British unemployment rates, using (in the case of the South) the labour force survey definition. In Figures 8.6(a) and 8.6(b) we show the annual change in the working age population superimposed on net migration to and from each region.

Figure 8.5

Unemployment Rates



The common pattern of behaviour of unemployment is striking. During the 1980s, both Irish regions suffered much higher rises in unemployment rates than occurred in Great Britain. In addition, the gap between unemployment rates in Great Britain and in the Republic of Ireland has risen much more dramatically than has the gap between unemployment rates in Great Britain and in Northern Ireland (the period of unsustainable fiscal expansion of 1978-81 being a temporary exception). The Northern situation might well have been much more serious if it were not for the increased role of the public sector, described above.[10]

However, the patterns of labour migration and population growth are very dissimilar in the two Irish regions. In the case of the South, migration was net outward during the 1960s, became strongly net inward during the expansionary 1970s, and reverted to net outward during the 1980s. In the last few years net outward migration has

10 The more recent reduction in the differential between Northern unemployment rates and those of the other UK regions has more to do with the severity of the recession than any improvement in the Northern economy.

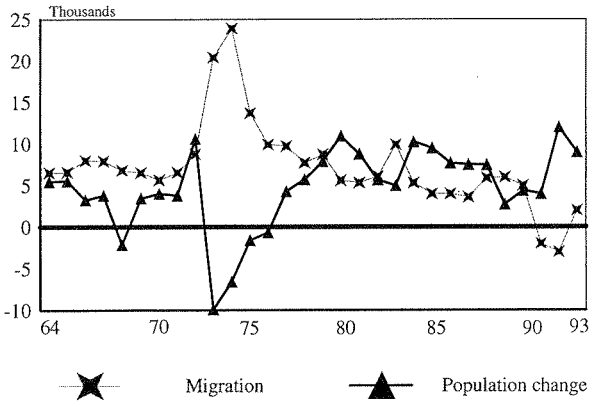
essentially ceased, due to the deterioration of the British labour market. In the case of Northern Ireland, migration was more modest and steady, other than during the years 1971-72, a period of very serious civil unrest.

The existence of migration flows, either actual or potential, has important consequences for the operation of the labour market and the determination of regional wage rates. Ireland, North and South, has large pools of potential emigrants at home and potential return migrants overseas. These migration flows are sensitive to regional Irish/British unemployment and wage differentials, although empirically unemployment differentials appear more important. Expansion of employment in either Irish region is likely, in the long run, to reduce emigration much more than it will reduce unemployment: the polar case of this argument is presented in Honohan (1984) and (1992). In his 1984 paper it was argued, using data from 1962-83, that the unemployment rate in the South tended to remain at about 5 percentage points above the UK level and that any shift in Southern and British unemployment rates away from the long-run equilibrium would induce migration flows that restore the equilibrium differential.

Figure 8.6(a)

Population change (15-64) and migration

Northern Ireland

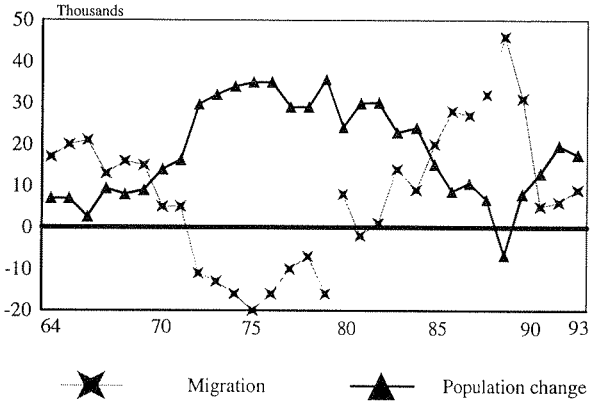


In the 1980s, the historical relationship between aggregate Southern and British unemployment rates broke down, but Honohan (1992) has argued that British unemployment rates continue to exercise a dominant role on Southern male unemployment rates, in the long run. However, the equilibrium differential appears to be increasing over time. One possible interpretation for this may lie in the fact that unemployment benefit, assistance and other social welfare rates in the South, even if at a lower level than British rates until recently, have risen faster than those in Great Britain, a factor of critical importance in relation to the Southern unemployment problem. Thus, while the unemployment differential does not appear to be beyond the influence of policy-makers, this does indicate the inadequacy of demand-led employment stimuli as a measure for reducing Southern unemployment as distinct from increasing employment.

Figure 8.6(b)

Population change (15-64) and migration

Republic of Ireland



The situation in the North is quite analogous to that in the South. For example, Roper and O'Shea (1991) based on simulations of the NIMOD model, analysed the effects of the higher than UK average Northern Regional Employment Premium (REP). They suggest that the initial benefits of the REP in boosting employment and reducing unemployment during the early years of its operation were offset later by reduced emigration. In fact they conclude that the longer-term legacy of the labour subsidies of the 1970s was to increase the rate of unemployment subsequently in the mid-1980s, after the REP was abolished in 1979.

Regional Public Expenditure, Taxation and the PSBR

After the introduction of direct rule in 1972, any attempt to maintain even an approximate link between tax revenues and public expenditures in the North was broken and public spending since then has been related to need, defined by British standards, with no local revenue raising constraint. If a regional balanced budget had

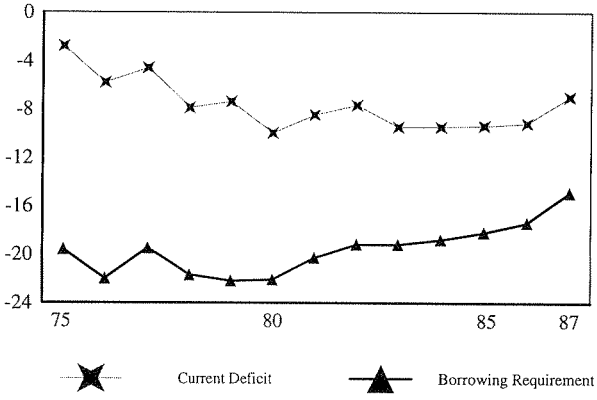
continued to be required, as it was in previous decades, Canning, Moore and Rhodes (in Teague (1987)) suggest that some 50,000 less public sector jobs would have been sustainable, with less induced market sector employment as a consequence.

Rowthorn (in Teague, 1987) asserts that the Northern economy is a financial burden on the British government and the region has lost its previous self-sustaining capacity. The industrial sector of the North, the main source of wealth creation, has stagnated (as we showed above) and the public sector is now financed through massive subsidy from Great Britain.[11] Estimates of this burden vary. James Bradley (1990) has derived estimates for the current deficit and the overall public sector borrowing requirement, shown in Figure 8.7(a) (with the South for comparison in Figure 8.7(b)). The Northern estimates are based on an approximate attribution of UK indirect taxes to Northern Ireland, and assume that receipts are confined to revenue and other receipts generated from the North's own economic activity.

Figure 8.7(a)

Northern Ireland

Current Deficit & Borrowing Requirement

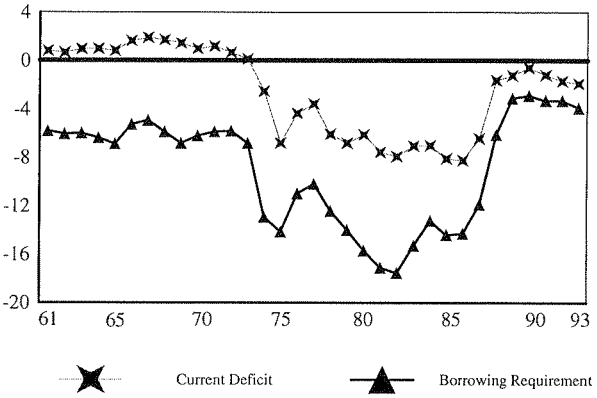


What these estimates show is that had the North been forced to rely on its own tax receipts, generated from its own economic activity, assuming the level of activity and all other factors remained unchanged, the result would have been a series of unsustainable large current deficits and public borrowing requirements as shown in Figure 7.[12] Had the North been an autonomous economic entity and had all other factors remained unchanged, it would have been forced into a most severe adjustment as a result of these deficits.

Figure 8.7(b)

Republic of Ireland

Current Deficit & Borrowing Requirement



Whereas the link between tax revenue and public expenditure in the North has been broken, policy-makers and tax payers in the South enjoy no such luxury. For as long as British tax-payers accept the current system of financing the Northern deficit, the deficit is only a post-recursive residual item. On the other hand, deficit-financing in the South represents a very real constraint on public policy initiatives. Prior to 1980, public expenditure in the South grew rapidly, driven mainly by an increase in public sector employment. The ratio of public to private sector employment has however been consistently lower than in the North (see Figure 8.4 above). Even as Southern tax rates were raised, the PSBR moved deeper into deficit and rose to almost 16 per cent of GNP in 1981. As a consequence, the debt/GNP ratio rose and an increasing portion of this national debt was denominated in foreign currencies. This meant that interest payments on much of the debt became a direct outflow from the Southern economy and the devaluations of the Irish pound within the EMS during the first

11 In a recent study of the Northern public sector, Smyth (1993) has stated that: "Expansion of the public sector of Northern Ireland has been a surrogate for autonomous growth, a buttress against political instability and remains the dominant feature of the region's economy".

12 As James Bradley points out, these figures understate the problem since they ignore interest payments on the hypothetical accumulated regional debt.

half of the 1980s further increased the debt burden.[13]

During the early 1980s direct and indirect tax rates were raised sharply and capital expenditure curtailed, and these measures began to stabilise the national debt. However, by 1986 the Southern debt/GNP ratio rose to about 130 per cent. A further sharp adjustment was inevitable at this stage since the South had run right up against the budget constraint that the North has not yet had to face. The Southern fiscal adjustment, when it came after 1987, was extraordinarily and unexpectedly severe. Public expenditure fell, even measured in nominal terms, between 1987 and 1988.[14] A combination of buoyant world demand, falling interest rates, and a devaluation of the Irish pound (IR£) against sterling within the EMS, boosted Southern growth and enabled the debt/GNP ratio to be cut significantly. More recently, the disciplines of the EMS (particularly prior to the broadening of the currency bands in August, 1993) and the explicit commitments in the Maastricht treaty now constrain the Southern government from moving away, even temporarily, from fiscal rectitude.

Surprisingly, far from depressing Southern GNP, as might have been predicted by Keynesian analysis, the economy (and private consumption and investment in particular) grew very strongly in the years after the 1987 adjustment. Giavazzi and Pagano (1991) claimed that there was actually causation underlying this correlation and argued that the Republic of Ireland's experience during the years 1987-90 was a case of "expansionary fiscal contraction".[15] However, this view is controversial.

Bradley, Whelan and Wright (1993) incorporated forward looking, or rational, expectations into a Southern macro-model and found that the strong performance of private consumption could not be accounted for convincingly by expectational effects related to personal income and consumption. Rather, they suggest that it could very easily be explained by the unexpectedly strong growth in the world economy, particularly in Great Britain (the "Lawson" boom), which occurred at the same time.

Such analysis of the Southern experience of fiscal restructuring motivate us to look at the effects of a possible curtailment of the Northern subvention and how the contractionary effects might be offset by positive expectational effects on the private sector and by strong growth in the economies of the trading partners of the North (especially the Great Britain and Germany). Later we shall use our models of the two regional economies to address such issues.

Regional Expenditure and the Trade Balance

In larger relatively closed economies the expenditure breakdown of GNP into its separate components is of central concern. For example, in the British economy the role played by private consumption and private house purchase in overheating the economy in the late 1980s is being followed by a preoccupation with a consumer led recovery in the 1990s. There has been a tendency to interpret the Northern Ireland experience during the recent UK recession as a milder version of essentially the same type of wider national recession (Gudgin and O'Shea,1992).

In their recent analysis of the Northern experience of recession, Gudgin and O'Shea (1993) place great emphasis on consumer spending, in particular the influence of house prices and access to consumer credit on household behaviour. Three factors are advanced to account for the lower amplitude of cyclical fluctuations in Northern Ireland and the consequential mildness of the Northern recession:

(1) The absence of a speculative property boom equivalent to that of Great Britain between 1986 and 1989;

13 Opinions differ as to whether or not a devaluation causes problems for a country whose national debt is denominated partially in foreign currencies. Honohan (1993) presents arguments that it does not.

14 We know of no other instance of such a phenomenon in modern Western Europe: in only one year (1988) since the British Conservatives came to power in 1979 in the UK were they able to avoid a real increase in public expenditure (deflated by the CPI).

15 In an expansionary fiscal contraction (EFC), public expenditure cuts will reduce the need for future high taxes. This will be foreseen by rational, optimising agents in the private sector who will immediately increase their consumption, possibly more than offsetting the contractionary effects of the cuts.

(2) The relatively larger Northern public sector, although this is largely discounted as an explanation;

(3) The lower exposure of Northern manufacturing to the depressed British markets and a wage-cost competitive advantage.

However, NIEC (1993) has interpreted these factors as representing an underlying structural weakness which may be further exacerbated when the British economy moves into its recovery cycle. Furthermore, an excessively strong focus on the behaviour of internal regional consumer demand may not be entirely appropriate to the economic circumstances of the North. For example, Southern commentators, in their efforts to isolate the primary driving forces of the South's economy, place much more emphasis of the role of external forces and the performance of the supply side of the exposed trading sector (with the downstream consequences for domestic demand) than on the behaviour of private consumption and private housing investment. Domestic demand factors are important, of course, but their significance in the medium to long term is more as "effects" rather than "causes" in the economies of the North and South (Bradley, Fitz Gerald and McCoy,1991).

The situation in a small open regional economy is very different from the large economy case. Such a region is so dependent on its export markets that the operation of the supply-side of the economy is of primary concern, rather than the demand side. Here the difference between Northern Ireland, as a region of the UK, and the Republic of Ireland, as a sovereign state, becomes crucial. It is obvious that the Southern balance of trade and the current and capital accounts of the balance of payments place constraints on private sector behaviour and the operation of public policy. So, for example, when the excessively high public expenditure of the late 1970s and early 1980s led to deterioration of both the public sector borrowing requirement (with a consequential rapid accumulation of public debt) and of the current account of the balance of payments, severe constraints were placed on public policy. These problems took almost a decade to bring under control and continue to constrain the role of public policy during the 1990s. This story is well known and need not be laboured (Bradley, *et al.*, 1985; Fitz Gerald, 1986).

The parallel problems of Northern Ireland are, paradoxically, at once simpler and more complex. They are simpler because responsibility for the Northern element of the UK balance of payments rests with the UK government and not with the Northern Ireland authorities. They are more complex, since the feedback from an adverse regional balance of trade is likely to be bound up in the way in which a sovereign nation like the UK handles regional policy and inter-regional transfers. In the case of the North, there are interesting parallels with the *Mezzogiorno* region of Italy, where fiscal integration and large-scale public transfers have led to the decline of the traded sector and to a state of semi-permanent dependency and underdevelopment (Commission of the European Communities, 1993).

Northern exposure to Great Britain as a destination for its external sales of manufactured goods (34 per cent) is about twice as high as Southern export exposure to Great Britain (15 per cent), where both are measured in terms of the fraction of their regional output sold in Great Britain. Based on the survey data of Scott and O'Reilly (1992), Figure 8.8(a) shows the destination of all sales of manufactured goods in Northern Ireland in the year 1990, and 8.8(b) shows the equivalent data for the Republic of Ireland, based on the 1990 Census of Industrial Production. It is seen that the North has an exposure amounting to 72 per cent of sales of manufactured goods within the economy of the British Isles, while the corresponding figure for the South is at the lower level of 55 per cent.

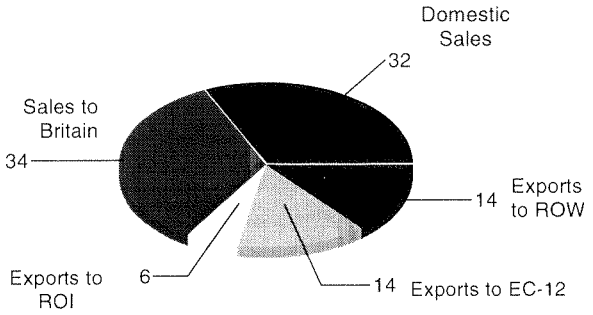
Until the mid-1970s the UK Regional Accounts contained data on imports into and exports from Northern Ireland. Although no official trade data are available after 1974 — a disappointing situation, given the previous record of regional data collection — unofficial estimates can be made. For example, Rowthorn (in Teague, 1987) provides output-expenditure estimates for selected years in the period 1970-84 from which it is possible to calculate a residual net trade balance. Using available time series data, we have also made such estimates, and the resulting net trade balance is shown in Figure 8.9 as a percentage of

Northern GDP.[16]16 It is seen that the Northern trade balance was almost in equilibrium in the early 1970s, just prior to the OPEC-I recession and before the civil unrest became serious. Subsequently there was a sharp deterioration that has persisted to the present day.

Figure 8.8(a)

Northern Ireland manufactured goods

Destination of Sales - % : 1990



The emergence of such a large and persistent balance of trade deficit in the South would be symptomatic of a deeply uncompetitive regional economy. However, the position in the North is rather different. Although there is considerable evidence of an underlying problem with cost competitiveness in the North (Borooah and Lee,1991), the trade deficit is also a direct consequence of the massive external financing of the Northern public sector deficit by means of the annual subvention from London. Indeed, the two explanatory factors are undoubtedly interlinked.

Figure 8.8(b)

Republic of Ireland manufactured goods

Distribution of Gross Output (%)
1989

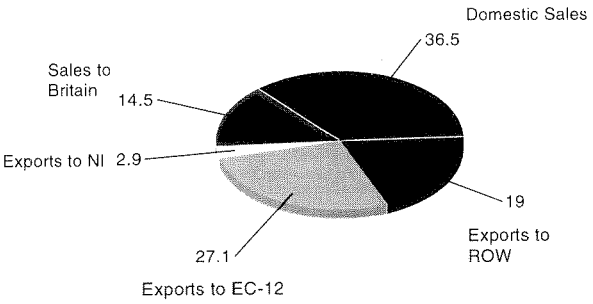
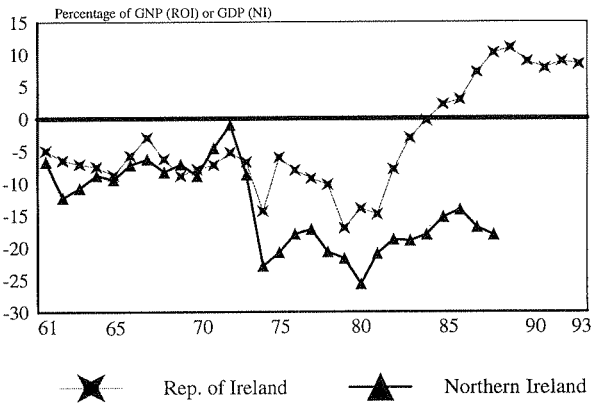


Figure 8.9

Net Trade Balances of Irish Regions



The Republic of Ireland's data for North-South trade illustrates the emergence of the large trade deficit run by the North with the South, as shown in Figure 8.10. Prior to the 1960s, the balance had been in favour of the North, but a modest deficit emerged during the 1960s and 1970s, a time when the South itself moved towards a serious balance of trade deficit with the rest of the world. However, a significant trade deficit in favour of the South emerged in the early 1980s, and has persisted to the present. It now amounts to between £IR300 and £IR400 million, i.e., between 1 and 2 per cent of Southern GNP.[17]

Based on these data, Scott and O'Reilly (1992) draw some interesting, if pessimistic, conclusions on the prospects for faster Northern and Southern growth based on greater trade penetration. They point out that the existing level of sales between the two regions of Ireland appears to be largely in line with the level of sales between other small European countries and their nearest neighbours: for example, in 1990 sales by the North to the South were £110 per head of

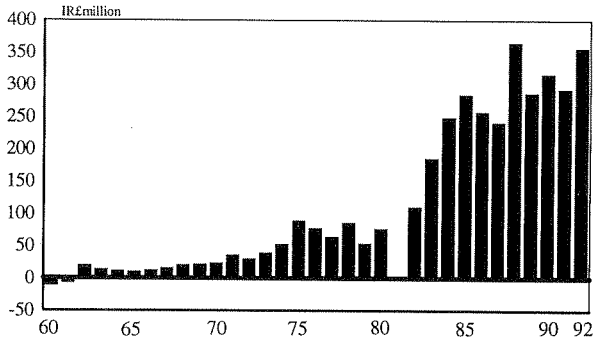
16 In Figure 8.9, the Northern trade balance data for 1961-74 are taken directly from the publication The Trade of Northern Ireland, published by the Dept. of Commerce. After the publication of Northern trade data ended in 1974, the figures are estimated residually from the output-expenditure identity and are only rough approximations.

17 It would be interesting to estimate how much of this Southern trade surplus with the North arises out of the North's subvention from Britain. Any reduction of the subvention could have serious consequences for Southern firms. Recent changes in the method of gathering trade statistics indicates that the South's trade surplus with the North may have been exaggerated.

Southern population, compared with sales of £37 per head in Great Britain.

Figure 8.10

Southern Trade Surplus with North



Source: Trade Statistics of Ireland, CSO

Summing Up on Regional Structure

We have examined four key features of the Northern and Southern regional economies: the distinction between the exposed (or traded) sectors and the sheltered (or non-traded) sectors; the two regional labour markets; the behaviour of the public sector, and the relationship between output, expenditure and the trade balance. Much of the performance of the two economies can be understood from these features.

Whatever modest dynamism that the Southern economy has probably stems from the better performance of its traded sector relative to that of the North. This includes a greater Southern ability to attract inward multinational investment, the orientation of industry towards products that have high demand elasticities (such as computers and pharmaceuticals), and a greater openness to EC markets other that Great Britain. The failure of the North to secure a strong flow of inward foreign direct investment in the most recent decades is the key distinguishing feature in any comparison with the South.

Although both Irish regional labour markets are characterised by high natural rates of increase and high migration, the flexibility of the Southern labour market would appear to be greater than the North, both in terms of the response of migration to conditions relative to Great Britain and in terms of the faster adjustment of the unemployment rate to deviations from the British rate.

The Northern public sector is very much larger, in terms of its share of GDP, than that of the South, with a corresponding higher level and quality of services. A beneficial effect of this for the North is that, given continued finance, the Northern economy is partially shielded from the vicissitudes of external economies. A negative effect is that the Northern economy may be less responsive to upturns in the external economic environment given that the public sector pre-empts such a large fraction of the regional economy. The *Mezzogiorno* analogy is very strong.

Finally, in terms of their trade deficits the two regional economies are starkly different, the South showing a persistent trade surplus and the North a persistent and large trade deficit. Much of the Northern trade deficit is due to the external financing of the public sector deficit by London. The equivalent Southern experience occurred during the latter part of the 1970s and early 1980s, a period of large Southern public sector deficits that were financed by foreign borrowing. During that period there was never any illusion in the South that the underlying economy was competitive and it was recognised that the expanded public sector was partly to blame. However, it remains a somewhat open question as to how uncompetitive the Northern economy actually is and whether the Northern traded sector can expand rapidly under current public sector financing arrangements.

3. IRISH ECONOMETRIC STUDIES

Some Themes in North-South Econometric Research

Since policy makers in the South have a wider range of instruments to play with, and given the more extensive range of available data, it is not surprising that Southern econometric work reflects greater diversity than in the North. During the 1970s a major theme of Southern research concerned international price transmission and a series of pioneering papers firmly established the external source of most Southern price inflationary pressures (Geary,1976).

However, after the link with sterling was broken, price determination issues became more complex. Work by Callan and Fitz Gerald (1989) re-established the external price-taking findings for the exposed traded sector, although, with the recent turbulence of the EMS, the issues are still controversial.

The Southern inflation transmission literature finds no parallel in Northern Ireland. Indeed, Northern price data are almost impossible to come by since the statistical fiction is maintained that Northern prices are identical to those of the UK. Hence, Northern price taking assumptions go far beyond the traded sector and apply to the non-traded sector as well as to an extensive area of wage determination (Roper and Schofield, 1990).

During the 1980s there was considerable econometric work on the supply side of the Southern economy, much of it based on formal production and cost functions (Bradley, Fitz Gerald and Kearney, 1993). It was established that the notion of internationally mobile investment was at the centre of the behaviour of the Southern manufacturing sector and the ability to attract this investment depended on Southern costs of production (in particular wage costs) and the profitability of firms in the South relative to other international locations (Bradley and Fitz Gerald, 1988).[18] Even for indigenous firms, the ability to survive depended on a similar competitiveness calculus. Not surprisingly, this theme finds echoes in Northern Ireland research (Borooah and Lee, 1991; Roper and Schofield, 1990). Indeed, with the deepening of EC economic integration, the larger member states will increasingly begin to display regional characteristics similar to the Republic of Ireland and Northern Ireland.

Given the serious unemployment problems in both regions, one would expect to find in Ireland as rich a macroeconomic and microeconomic empirical literature on the labour market as, say, that of Great Britain, summarised and integrated in Layard, Nickell and Jackman (1991). While there have been some recent econometric studies of unemployment, they raise many more questions than they answer and the area is still under-researched (see Geary (1988) for a general survey of the field).

In two recent studies, Newell and Symons (1990) and Barry and Bradley (1991) used econometric modelling techniques to try to answer the following question: Why did the Republic of Ireland's rate of unemployment rise by 10 percentage points between 1979 and 1987 and lock into the higher rate? The potential culprits were the slow-down in the world economy (particularly the deterioration in the British labour market in the first half of the 1980s), domestic policy actions and demographic trends. Barry and Bradley attributed the blame equally between the world recession of 1979-81 and its aftermath, and the high tax rates needed to stabilise the burgeoning Southern national debt after the fiscal expansions of the earlier 1977-82 period.[19]

Of interest in the Barry-Bradley study is the so-called "hysteresis" effect of rising unemployment on wage bargaining. It was found that while the unemployment rate was rising, it exerts downward pressure on wage inflation, but when unemployment stabilised, even at a high level, the numbers of long-term unemployed build up and tend not to continue to participate effectively in the labour market. Hence, upward pressure on wage *inflation* can co-exist with high *levels* of aggregate unemployment where a sizeable fraction of it is long-term. Also, increases in labour productivity were found to be mainly passed on to labour in the form of higher wages, a result replicated in most other EC countries but not at all the case in the US labour market (Dreze and Bean, 1990). In summary, this research has serious implications for the prospects of ever reducing the rate of Southern unemployment even to the already high average EC levels in the absence of major changes in the mechanisms of wage bargaining and in the nature of the system of unemployment transfer payments and retraining.

18 Pain (1993) has recently studied the determinants of foreign direct investment in the United Kingdom.

19 The high natural rate of population growth was another factor driving up the labour supply and, other things being equal, increasing unemployment. However, what is of relevance in the Barry-Bradley study is the change in the natural rate over the relevant period 1979-87. Migration and labour force participation mechanisms were modelled behaviourally, if somewhat crudely, and are not independent explanatory factor.

In a related study, Borooah and Lee (1991) examined disparities of economic performance between Northern Ireland and the UK as a whole. They proceeded from the hypothesis that such regional disparities arise as the consequence of regional differences in cost competitiveness. In summary, they found that lower total factor productivity (TFP) growth in the North compared with the UK coincided with a rapid convergence of Northern wage rates upwards towards those in the UK. This had serious negative consequences for Northern manufacturing competitiveness, employment and unemployment. They also found that the level of the capital stock had little influence on employment and Northern demand for labour was considerably more sensitive to the real wage level than was the case in the UK. Factors affecting the demand for labour had little effect in wage determination: rather, Northern wages are determined by aggregate UK wages, moderated to a modest degree by local labour market conditions.

In summary, then, there is much to be learned from the econometric research findings for Northern Ireland and the Republic of Ireland. We have merely touched on this work, stressing the mechanisms of price transmission, wage determination, unemployment, competitiveness and the operation of the supply side of the economy. In addition, there are interesting results concerning the determinants of household consumption, investment in residential property, and, at least in the case of the South, work on the operation of the financial and money markets. There remains much scope for systematising this work and carrying out more in depth North-South comparisons.

Previous North-South Macroeconomic Modelling

The goal of much applied econometric research is the construction of complete model systems to describe an economy, and there are two existing operational large-scale macro models of the Irish regional economies: NIMOD in the North (Roper *et al.*, 1989) and HERMES in the South (Bradley and Fitz Gerald, 1991). Both models are highly disaggregated, having considerable sectoral and expenditure detail (25 production sectors in NIMOD and 11 in HERMES). They were constructed in isolation from each other, have distinct specific features and, consequently, are of limited value for comparative work on the two economies.[20]

The broad underpinnings of NIMOD come quite naturally from the position of Northern Ireland as a region within the United Kingdom. This explains NIMOD's neglect of balance of trade and public sector financing constraints (quite aside from data difficulties, which can usually be overcome, in one way or another). Also, investment behaviour is passive in NIMOD and not modelled behaviourally. The focus on Great Britain as the entire external "world" environment for the North and the largely external wage/price mechanisms are partially the result of a purely regional perspective, but research is made more difficult by data restrictions.

For the Southern HERMES model, the underpinnings come from the Republic of Ireland's status as an independent sovereign state with a small open economy. This necessitates careful attention to trade, balance of payments and public sector financing constraints. The greater diversification (compared with the North) of trade away from Great Britain and towards EC and other world markets, together with the non-British source of most foreign direct investment, requires a wider international orientation to the model than is the case in NIMOD, and the available Southern data permit such an approach. Finally, since the break in the Irish pound link with sterling in 1979, there has been considerable scope for wider domestic and international price/wage influences in the South. Although tradable prices essentially remain externally determined (in the context of the South's quasi-fixed EMS-based exchange rate regime), non-traded prices are determined internally as a markup on costs, and there are considerable domestic influences on wage bargaining mechanisms.

Both NIMOD and HERMES have some shared core stylised features. For example, both are in the neo-Keynesian tradition in that disequilibria (like unemployment) can arise and persist and wages and prices do not move rapidly to clear markets. They both use backward-looking or

[20] For a survey of earlier modelling work in the South, see Bradley and Fanning (1981).

auto regressive expectations mechanisms, and they are aggressively open in orientation in both product and labour markets. Finally, they are similar in broad sectoral structure, each model consisting of the following categories:

(i) A range of exposed manufacturing sectors, which are price taking and driven mainly by external demand;

(ii) A range of sheltered service sectors, which (only in the South) price as a mark up on costs and are driven by internal regional demand;

(iii) An agriculture sector that is dominated by the EC Common Agriculture Policy (CAP);

(iv) Broadly similar public sector categories and organisation, but considerable differences in the levels of tax rates, social expenditure and funding mechanisms.

HERMIN and NIMIN: Two New Regional Models of Ireland

The situation with respect to the existing NIMOD and HERMES models is that they are very large and complex, have very specific features, and are silent on some important issues. Mainly the missing features relate to the Northern model, NIMOD. Although both models are very useful for work on the two regions separately, they are not suitable for work on comparing and contrasting the two regions.

For the reasons outlined above, and building on previous research, we have constructed new, small scale, neo-Keynesian macro models of the two regional economies of Ireland: NIMIN for the North and HERMIN for the South. These are in the spirit of the experimental aggregate core models of Deleau *et al.* (1984), have a common level of sectoral disaggregation, and similar theoretical assumptions. For detailed descriptions of these models, including full estimation results and model listings, the reader is referred to the relevant working papers (Bradley and Wright, 1992a and b).[21] In this section we merely outline the main features of the models, paying particular attention to the role of external linkages.[22]

The properties of any model are determined by its individual component equations, and model construction is an iterative process of trial and error, involving simulations and reformulation. It should, of course, always be stressed that what emerges at the end of this process is only to a very limited extent an objective study of the economy: rather it is a largely subjective exercise of quantification where econometric techniques are only of limited assistance in choosing between alternative formulations of how the economy might function (Summers,1991). Nevertheless, the insights gained are a useful complement to other less formalised approaches. In addition, formal modelling techniques permit an analysis of underlying economic mechanisms that goes much deeper than a purely descriptive approach and assist in distinguishing cause and effect.

The production sides of HERMIN and NIMIN are disaggregated into four sectors, this division being the very least needed to obtain a clear picture of the structure and dynamics of open regional economies like Ireland, North and South.

(i) An aggregate internationally traded sector (T), excluding agriculture, consisting of all manufacturing industry.

(ii) An aggregate private/market non-traded sector (N), consisting of market services, building and construction and utilities.

21 The "MIN" in the model names is to remind readers that these are rather small models by normal standards. In the case of the Southern model, HERMIN, a complete description of the model design and construction, together with applications to stabilisation and growth analysis, is available in Bradley, Whelan and Wright (1993). The computer data bases for NIMIN and HERMIN, together with estimation and simulation software macros (based on TSP and SIMPC), are available to interested researchers on request.

22 For the present the HERMIN and NIMIN models should be regarded more as "parametrised" rather than as formally and satisfactorily "estimated". Our *ad hoc* treatment of the econometric estimation of NIMIN and HERMIN means that they partially resemble the way Computable General Equilibrium (CGE) models are treated. CGE models are widely used in the analysis of developing countries, where the model parameters are simply imposed on the basis of *ex-ante* priors (Chenery, Robinson and Syrquin, 1986). Our econometric estimates are an improvement on such a simplistic approach, but fall far short of theoretical rigour.

(iii) Agriculture, forestry and fishing (A).

(iv) A non-market/public, service sector (G).

The Economics of NIMIN and HERMIN

We focus on the key mechanisms within NIMIN and HERMIN, including the determination of output and factor inputs (i.e., employment and investment), private consumption, prices and wages, and the functioning of the regional labour markets. Full technical descriptions of both models are available in separate technical papers (Bradley and Wright, 1992a and b).

Output and factor demands in NIMIN and HERMIN

In NIMIN's traded sector, Northern output (OT) is driven by world demand (OW), cost competitiveness (COMPT) and a time trend (t) in an equation of the following form:[23]

$$\log\left(\frac{OT}{OW}\right) = \alpha_0 + \alpha_1 \log(COMPT) + \alpha_2 t \qquad (1)$$

Note that there is no domestic Northern demand effect in the tradable sector. This type of simple equation can be justified in terms of the industrial plant location decision model of Bradley and Fitz Gerald (1988).[24] Statistical estimation yielded a unitary elasticity with respect to world output, a competitiveness elasticity of −0.81, and a trend growth of about −0.5 per cent per year.

Firms produce output by combining labour, capital and raw materials. To impose theoretical consistency, we originally tried to estimate joint factor demand equations for labour and capital using an added-value constant elasticity of substitution (CES) production function, but with poor results. Hence, a conditional labour demand equation was specified, driven by output (with a unit elasticity), the real product wage (elasticity −0.55), and a trend term (−1.8 per cent per year). The capital stock is assumed to be quasi-fixed, with investment determined in an accelerator model by changes in output.

In HERMIN's traded sector, Southern output is likewise determined by world output (with a unit elasticity), by cost competitiveness (with an elasticity of −0.2), and a time trend (3.6 per cent per year).[25] Employment and investment are determined under the assumption that firms engage in a process of cost minimisation with the production technology described by a standard CES production function. Consequently, demand for labour and capital goods are functions of output and relative factor prices.[26] The elasticity of substitution estimates at 0.34, with labour and capital saving technical progress, although these are very imprecise estimates.

In NIMIN's non-traded sector, Northern output is driven by a weighted measure of final demand, consisting of private and public consumption and investment and using the 1985 input-output weights from the Republic of Ireland in the complete absence of recent Northern I/O tables. Investment and employment are modelled as in the traded sector above, the estimate of the elasticity of labour demand with respect to the real wage being -0.81.

In the HERMIN non-traded sector, Southern output is similarly driven by an I/O weighted measure of domestic demand, with employment and investment determined in a CES-imposed joint factor demand system as in the traded sector above. However, the technology is considerably less flexible (technically, the production function

23 World demand (OW) is proxied by a weighted average of UK industrial production (0.8) and German industrial production (0.2), capturing the dominant role of Britain in the Northern Ireland economy. Cost competitiveness (COMPT) is measured as Northern unit labour costs relative to a similar weighted average of UK and German unit labour costs.

24 If one moved to a further level of tradable sector disaggregation (say, into high technology, food processing and other indigenous, as in Bradley, Fitz Gerald and Kearney (1993) for the South), then the domestic effects would be concentrated mainly in the indigenous area of manufacturing.

25 World demand for the South is proxied by a weighted average of US, UK and German industrial production, with weights of 0.4, 0.3 and 0.3 respectively, reflecting the more diverse forces driving Southern manufacturing activity. Cost competitiveness is measured as Southern unit labour costs relative to a similar weighted average of US, UK and German unit labour costs.

26 See Bradley, Fitz Gerald and Kearney (1993) for a more detailed study, based on four factor inputs and a generalised Leontief cost function.

is more Leontief), the estimate for the elasticity of substitution being 0.19, with labour saving and capital using technical progress.

Both the NIMIN and HERMIN public sectors are policy driven, with employment and all expenditure and tax rates normally set as exogenous policy instruments. A notional Northern regional public sector budget deficit is imputed as a memo item. In HERMIN the public sector borrowing requirement is similarly defined as a residual, but the dynamics of public debt accumulation/decumulation is explicitly modelled, albeit in a simple way. In addition, an optional policy feed back rule (explained further below) can be incorporated, through which the direct tax rate can be used to force the national debt/GNP ratio to track an exogenous imposed target, as in the IMF's world model MULTIMOD (Masson, Symansky and Meredith,1990).

Absorption in NIMIN and HERMIN

Private consumption in NIMIN is driven by Northern real personal disposable income, with an estimated marginal propensity to consume (MPC) of 0.92. Investment is determined as part of the factor demand systems above. However, given the absence of reliable Northern export and import data, the net trade balance (i.e., exports less imports) is merely residually determined as the difference between total output (determined in the supply side of the model) and domestic demand. The Northern net trade balance is of particular interest in North-South comparisons since policy attitudes to this measure go to the heart of the difference between a sovereign nation and a region of a sovereign nation.

Private consumption in HERMIN is also driven by real personal disposable income, with an estimated marginal propensity to consume of 0.59. We have deliberately kept the consumption function simple, although obvious generalisations could be easily implemented. Exports are driven by traded sector output, reflecting the simple stylised logic of multinational activity in the South: i.e., firms mainly produce in order to export, rather than to supply the small local market. Imports are residually determined from the output-expenditure identity, being deemed for simplicity to be intermediate inputs in the production process. The balance of trade identity is explicit, and, corrected for net factor income from abroad, endogenises the current account of the balance of payments. This permits modelling of the accumulation and decumulation of private net foreign assets.

Prices and Wages in NIMIN and HERMIN

Producer prices in the UK are determined in part as a markup on domestic costs and in part by competitive prices on world markets. The larger the economy and the smaller its exposure to world trade, the more domestic cost factors will influence producer price determination. In this respect, the UK is an intermediate case: more open than, say, the US economy, but considerably less open than, say, Belgium or the Republic of Ireland.

Although Northern Ireland is part of the United Kingdom, the regional economy is so small that it is unlikely that Northern producers have much power to price as a markup on costs. Producer and expenditure prices in the Northern NIMIN model are taken to be exogenous, unrelated to any Northern influences and are identical to the UK equivalents. While we do allow for German influences on the demand for Northern traded sector output and on Northern wage cost competitiveness (see above), we are forced to treat all Northern prices as being set in the UK alone.

Producer prices in the traded sector of the Southern HERMIN model are also externally determined by foreign prices. This foreign price is a weighted average of UK and German prices, converted to Irish currency, with weight of 0.3 and 0.7 respectively[27] (Callan and Fitz Gerald, 1989). In the non-traded sector, producer prices are determined as a mark-up on unit labour costs. Consumer and other expenditure deflators are a function of sectoral output and import prices.

The real product wage in NIMIN's traded sector is a function of the exogenous UK real wage, with a Phillips curve term and some dynamics (Borooah and Lee, 1991), and is of the form:

$$\log\left(\frac{W_T}{P_T}\right) = \alpha_0 + \alpha_1 \log\left(\frac{W_T}{P_T}\right)_{-1} + \alpha_2 \log\left(\frac{Wuk_T}{P_T}\right) + \alpha_3 UR \qquad (2)$$

27 We obtained these weights by regressing Southern T-sector prices in US$ on German and UK US$ wholesale prices.

where W_T, WUK_T, P_T and UR refer to the Northern wage, the UK wage, the UK price and the Northern unemployment rate, respectively, and the subscript "T" denotes the traded sector. We find that 68 per cent of UK wage shocks are passed on to Northern Ireland in the short run, with 100 per cent pass-through in the long run. The Phillips curve effect is small, the real wage semi-elasticity being -0.7 per cent in the short run and -1.1 in the long run. For wage determination in the rest of NIMIN, we invoke the Scandinavian model, where traded sector wage inflation is passed on to the non-traded and public sectors (Lindbeck, 1979).

Southern traded sector wages are determined by producer prices, a tax "wedge", productivity and tension in the labour market (measured by the rate of unemployment). The wage equation (3) can be justified as a fairly standard example of a bargaining approach (Layard, Nickell and Jackman, 1991).

$$\log\left(\frac{W_T}{P_T}\right) = \alpha_0 + \alpha_1 \log((1+T_D)(1+T_I)) + \alpha_2 \log(PROD_T) + \alpha_3 UR \qquad (3)$$

where W_T, P_T, T_D, T_I, $PROD_T$ and UR refer to the traded sector wage, output price, direct and indirect tax rates, labour productivity and the unemployment rate, respectively.[28] The elasticities on the tax wedge and productivity terms were estimated at 1.8 and 0.69 respectively, while the semi-elasticity on the rate of unemployment was estimated at −2.6 per cent, i.e., about twice the Northern value. This traded sector wage equation is a crucial component of the HERMIN model both because the economy-wide wage is assumed to be set in the traded sector and because unit labour costs constitute the only determinant of traded sector output over which domestic policy makers have any direct influence.

Labour Markets in NIMIN and HERMIN: Unemployment Determination

The determination of unemployment, labour force participation, migration and population growth are important mechanisms in both Irish regional models. For the South, Honohan (1984 and 1992) and Wright (1993) have argued that the labour market is so open that UK unemployment rates are the dominant long-run determinant of Southern unemployment rates. Hence HERMIN uses the Equation 4 error correction mechanism (ECM), taken from Wright (1993):

$$\Delta UR = \alpha_0 \Delta UR_{-1} + \alpha_1 \Delta L_{-1} + \alpha_2 \left(UR - \beta_0 - \beta_1 UR_{UK} - \beta_2 \frac{UB}{UB_{UK}} \right) \qquad (4)$$

where UR, UR_{UK}, L, UB and UB_{UK} refer to the unemployment rate, the UK unemployment rate, employment, the unemployment benefit rate and the UK unemployment benefit rate, respectively. Note that we have deliberately used the UK unemployment rate in the above equation since Southern migration links are predominantly with Great Britain. In the long run, when all dynamic effects have played out, the equation simply states that there is an equilibrium relationship between Southern and British unemployment rates that is influenced by relative unemployment benefit rates. This is simply the stylised fact discussed by Honohan (1984 and 1992).

A similar ECM exists in NIMIN except that the long-run equilibrium relation specifies a fixed gap between Northern and UK unemployment rates. This is a special case of the HERMIN equation, since unemployment benefits are the same in Great Britain and the North. The unemployment rate, labour force participation rate and employment are combined with the exogenous natural growth rate of the population to yield a residual determination of migration.

4. Policy Analysis Using the Irish Models

Our main motivation in constructing HERMIN and NIMIN was to work towards a better understanding of the structures and growth processes of the two Irish regional economies, and to be in a better position to analyse the medium to long-run effects of exogenous policy and world

[28] We experimented with adding UK wages to this equation, as in the NIMIN case above, but the extra estimated coefficient is not significant. However, see Curtis and Fitz Gerald,1993.

shocks.[29] To illustrate the use of the Irish models, we select three types of shock: a boost to public consumption, an increase in world growth activity and an increase in the British rate of unemployment, the latter being of special relevance to the performance of the two Irish labour markets. Specifically, we examine shocks to the following variables that are exogenous to HERMIN and NIMIN:

(i) A public expenditure shock consisting of a permanent increase in public sector employment of 10,000 above the baseline in both models

(ii) A 1 per cent permanent increase in world output above the baseline

(iii) A 1 percentage point increase in the UK unemployment rate above the baseline

Where the individual variable being shocked is truly exogenous, and not endogenous in the (as yet unspecified) encompassing world model, it is meaningful to shock HERMIN and NIMIN in isolation. The first shock above is an example of this, where the knock-on effects of, say, a Southern fiscal expansion on the North are not yet handled in the models and the effects on the rest of the world are so tiny as to be safely ignored.[30] However, shocks (ii) and (iii) are a very different matter since they involve changes to variables (such as UK industrial output and unemployment) that, while they may be exogenous in the Irish regional models, are endogenous in the encompassing world model, NIGEM. Furthermore, it is only legitimate to shock genuinely exogenous variables in NIGEM (such as, say, UK public consumption), and examine the knock-on effects on the relevant NIGEM endogenous variables. We return to this important point later where we link the two small Irish models into the world NIGEM model. Here we ignore these considerations, treat world output and UK unemployment as exogenous and unrelated to each other, and regard the simulation results as merely diagnostic checking devices on the behavioural responses of NIMIN/HERMIN.

These three isolated shocks illustrate certain symmetries and asymmetries of the economies of the North and South.[31] First, attempts to stimulate regional activity through increased regional public consumption can have enduring benefits in the case of the North, where any tax financing is carried by the entire UK. In the South, such a shock would have similar effects if the source of finance was in the form of, say, an EC-funded transfer. In each case the fiscal multiplier is small, and never rises above 1.3.

However, if the Southern authorities attempt to carry out such a demand stimulus, it will have a much more attenuated impact, since any required tax financing must be carried by the small Southern tax base. Any such rise in tax rates will depress domestic demand, increase the tax wedge, drive up wage inflation and cause a loss of international competitiveness. The resulting multiplier falls from an impact value of 1.3 to below 0.8 as the public sector crowds out the private sector. If the Northern increase in public employment were to be financed within a fixed subvention, the regional analogue of a balanced budget, a similar attenuation of the multiplier would occur.

Second, the benefits of increased "world" demand are stronger in the South, with its larger traded sector (34 per cent of GDP) and consequentially stronger indirect demand responses, than in the North, where the traded sector has shrunk to half its size over the last 20 years and now generates only 19 per cent of GDP. Consequently, a 1 per cent sustained increase in world demand generates a 0.5 per cent increase in Southern GDP, but a less than 0.3 per cent increase in the North.

29 Attempts to draw policy conclusions from shocking an econometric model is a process fraught with difficult problems of interpretation. The so-called "Lucas critique" of policy analysis holds that the structure of the model is not invariant to the shocks. See Bradley, Whelan and Wright (1993) for further treatment of this issue and for reasons why the Lucas critique may not totally invalidate our analysis.

30 This statement is certainly true for the South. Even for the North, it is conceivable that public employment in Northern Ireland could be increased/decreased, without parallel changes in Britain.

31 A more complete description of these shocks is available in Bradley and Wright (1993).

Third, the different speeds of adjustment of the two regional labour markets in response to higher unemployment in the British labour market are quite marked and arise from the dynamics in the unemployment rate equation shown earlier in Section 3. The econometric evidence suggests that the speed of adjustment in the South is three times that of the North (the "half-lives" being 1.5 and 4.6 years respectively), although more precise investigations will be needed to establish this firmly.

The above analysis is very partial in nature and can, as a consequence, be misleading. For example, it is very unlikely that the British rate of unemployment would ever rise in the absence of other associated changes in the British economy, such as to output, wages and prices. Hence, we need to examine some slightly more realistic external shocks that take into account possible inter linkages between the external variables. The key external "driving" variables in HERMIN and NIMIN consist of output, prices, unit labour costs and interest rates in the wider world economy; the British unemployment rate and the British wage rate (the latter being explicit only in NIMIN). The world variables operate mainly through the exposed traded sector while the British unemployment rate operates directly through the two Irish regional labour markets. The externally determined interest rates have a wide range of channels of influence, through the cost of capital to firms, housing investment, national debt interest, etc.

Two of the shocks we considered above, those of world output and the British rate of unemployment, were partial in nature because they considered the multiplier effects of changing just one external variable in NIMIN/HERMIN, holding all the others constant, thus ignoring how such shocks might actually arise in the world economy and possible associations between external variables which are inter-related in the context of the wider world economy. A better analysis needs to use a two-stage process. At the first stage, we can use the National Institute world model, NIGEM, to simulate the effects of exogenous shocks at the world level on all the variables that are external in the two Irish models. At the second stage we simulate HERMIN and NIMIN using the changed configuration of external variables generated at the first stage within NIGEM.

Such a two-stage process is valid because the peripheral satellite HERMIN and NIMIN models are post-recursive to the larger NIGEM model. Hence, world events (analysed in the first stage NIGEM simulations) influence the economies of the island of Ireland, but Irish events (analysed in the second stage NIMIN/HERMIN simulations) have little or no feedback influence on the rest of the world. This represents a simple strategy for linking the two Irish regional models into a larger encompassing world model while, at the same time, taking into account the interrelationships between the larger OECD big-7 economies. At present there is a very important limitation in our model-based analysis, in that we do not yet include any direct economic links between the North and South, the modelling of which will require further research and data on North-South trade.[32]

The "world" impinges on the two regional Irish models in rather different ways, and this is reflected in the construction of "world" variables in NIMIN and in HERMIN. The external orientation of the economy of the island of Ireland has been shifting for some time (particularly in the South) from a complete domination by Great Britain to a situation in which Great Britain and Germany (and the rest of Europe) play important roles. Both Irish regional economies are open to external forces from a range of countries including the US, the UK and Germany in determination of prices, output and in labour market linkages.[33]

The world exogenous shock whose implications for Ireland we consider is a 5 per cent increase in UK real public consumption.[34] Such a shock is of considerable practical political interest (albeit

[32] The Southern CSO collect data on exports to, and imports from, Northern Ireland at a high level of disaggregation. This source will be exploited in the next phase of the project to understand North-South trade links. In fact, given the relatively modest magnitude of trade flows North and South, relative to much larger international trade flows, ignoring the North-South trade link is of no great consequence under present institutional arrangement.

with reversed sign!), even though we stress that our motivation in this section is primarily methodological. We now consider the impact of the shock at the world level using NIGEM and, in a post-recursive second stage, the simulated effects on NIMIN and HERMIN.

UK public consumption is exogenous in the NIGEM world model, and simulating NIGEM enables us to trace out the impact on a range of other variables that are endogenous to NIGEM but appear as exogenous in HERMIN/NIMIN. The fiscal expansion is tax-financed in the context of a fixed PSBR/GDP ratio. The short to medium-term effects are stimulatory on the UK economy: GDP is increased, unemployment is lower, and inflation is higher. In the long run these effects die away.

Because the UK fiscal shock leads to tax and public spending increases in the North, but not in the South, one must interpret the regional Irish impacts carefully. For example, in examining the effects of the UK fiscal shock on Northern Ireland, it should be noted that tax increases in Great Britain needed to finance the public expenditure increase would, under present fiscal arrangements, apply in Northern Ireland as well. However, it is conceivable either that public expenditure would rise *pro rata* in Northern Ireland or that the Northern Ireland block grant from Great Britain would be frozen. In the first case, the North benefits both from the direct increase in public consumption and from the indirect or spill-over effects from the stimulation of British activity.

The larger initial size of the Northern public sector, combined with the smaller size of the regional tax base, means that a balanced-budget UK-wide fiscal expansion will have a more positive effect on Northern Ireland than on Great Britain.[35] On the other hand, the negative effects of a tax levy on the North, to pay a share of a purely British fiscal expansion, are considerably greater than the positive spillover effects on the North of the boost to British economic activity. Such simulations underscore the importance of fiscal relationships for Northern Ireland within the UK because of the extent of Northern Ireland's economic dependency on Great Britain. UK tax rates are uniformly applied throughout Great Britain and Northern Ireland. For this reason alone, the UK tax-financed fiscal shock has very different effects on the two Irish regional economies. However, regional public expenditure need not necessarily be uniformly applied.

In the case of the South, the indirect or spillover effects of the UK fiscal expansion are much smaller than for the North, since the UK figures in the South's "world" with a lower weight (20 per cent compared with 60 per cent). Another asymmetry relates to net migration flows. Labour is attracted out of the South by the relative improvement of the British labour market, whereas net migration is inward in the case of the North. This causes a slight temporary loss of competitiveness in the South due to a tightening of the labour market.

5. Future Irish Growth and Development

If the two Irish economic models we have described, HERMIN and NIMIN, are acceptable as useful summary descriptions of the structural characteristics of the Northern and Southern economies, then they imply quite strong consequences for the processes of regional growth and development. In this section we explore some of these consequences and map out where our research on the two Irish economies, together with our wider concern for the entire EC periphery, is leading.

In the absence of costless income-sustaining transfers from outside the island of Ireland (an obvious assumption for the South, but less

33 While our construction of these variables is rather *ad hoc*, we use weights which broadly fit the stylised facts concerning the external linkages of the two Irish economies and which we have earlier sought to justify. Clearly, we are only at the early exploratory stages of these investigations, and the linkage mechanisms will be refined and extended as the work progresses.

34 We also examined a German fiscal expansion, but the consequences for the North and South were very similar.

35 Unfortunately, the opposite also applies, and *pro-rata* percentage cuts in public expenditure would have a much more serious effect on the Northern economy than similar cuts would have on the South.

obvious for the North), the exposed regional traded sectors are the engines of regional growth. Leaving aside, for the moment, issues related to wage cost competitiveness, both regional traded sectors tend to inherit the world rate of manufacturing growth, with a positive growth differential of some 3 percentage points in the South and a slight negative differential in the North. Clearly the Southern positive differential is picking up some factors that are unrelated to our narrow relative wage costs measure of competitiveness. More disaggregated models also contain this differential (Bradley, Fitz Gerald and Kearney,1993), which is probably related to such factors as the South's low corporate tax regime for the manufacturing sector. There is an obvious need to "deepen" the modelling in this area and to explain these trend terms.

Although the econometric evidence is very weak, the North seems to be considerably more sensitive to relative competitiveness than the South. However, given the close links between Northern and British wage rates, this is an aspect of the Northern economy that may be very difficult for Northern policy-makers to exploit.[36] The earlier use of wage subsidies in the North was not very successful, and probably carries high dead-weight costs (Roper and O'Shea, 1991). In addition, the smaller size of the manufacturing sector within the Northern economy compared to the South (measured in terms of output) means that the knock-on influences of increased manufacturing growth on the rest of the regional economy is also relatively smaller.

Using the two Irish models, we have also seen that expansion of the public sector is not a policy option that is entirely without negative side-effects. In the South, the crowding out of the traded sector through the tax "wedge" and the Phillips curve mechanisms is quite direct. If public expenditure policies are to bring about permanent benefits, then such policies must be carefully designed and aimed at enhancing and complementing private sector behaviour. We return to this point below.

In the North, the nature of the accommodating block grant or subvention financing arrangements is crucial. However, the modelling work suggests that an ever increasing public sector share of the Northern economy (either direct, through public sector employment, or indirect, through induced domestic demand for private sector goods and services) may tend to squeeze out the exposed traded sector. The large Northern balance of trade deficits, however imperfectly measured, are partially a direct consequence of the external financing of the Northern budget deficit by means of the annual subvention from London, but may also be symptomatic of a lack of international competitiveness. The two explanations are interlinked and the restoration of a faster growing, dynamic and competitive Northern traded sector could be a slow and painful process.

Regional Growth and Growth Theory

Turning to wider issues, the initial stages of moves towards economic, monetary and political union within the EC have focused attention on the wide disparities in average income levels that exist throughout the Community and, in particular, between the core, on the one hand, and peripheral member states such as Greece, the Republic of Ireland, Portugal, Spain and the South of Italy, on the other. In addition, Northern Ireland has the lowest income *per capita* within the usual 11 regions of the United Kingdom and shares many of the developmental problems of the relatively poorer Republic of Ireland in the EC periphery.

Domestic policies, both North and South, have as their long-term goal the promotion of faster growth and development on the island of Ireland, with the ultimate aim of achieving convergence to the real income levels pertaining in Great Britain and the other core EU economies. In addition, an important instrument which the EU has designed to help achieve this goal (usually referred to as the "cohesion" objective) is the Community Support Framework (CSF) of public and private sector investment programmes partly funded by transfers from the EU. Since it seems unlikely that the cohesion objective is something that could be achieved without a large positive differential in the rate of economic growth of the regions of Ireland over the other core areas, at the centre of all discussions of the cohesion issue lies the theory of economic growth and its application to underdeveloped or lagging regional

[36] Borooah and Lee (1991) also make this point about Northern competitiveness and policy ineffectiveness.

economies like Ireland, North and South. Such theories take us beyond the scope of the HERMIN and NIMIN models as currently specified, but these models provide a useful starting point for longer-run growth analysis.

If a region is not to be in a permanent state of dependence on income-sustaining transfers from outside, there is a general consensus that in the long run it is the economy's private sector supply side which is the key determinant of economic performance. This means that public policy actions such as contained within the CSF must concentrate on supply side mechanisms in their attempts to promote faster growth and long-run economic convergence. Applied growth theory provides an appropriate framework through which to think about the long-run effects.

What, then, does standard neo-classical growth theory have to say about international trends in economic growth and, in particular, about the possibilities for economic convergence within the EC? Neo-classical growth theory suggests three elements that together determine a peripheral region's rate of economic growth in a world of mobile capital:

(i) The lower the capital-labour ratio in the region, the higher is the productivity of capital and, thus, the potential return to inward capital investment.

(ii) The degree of uncertainty that is perceived to be attached to the expected return to investment is important. If international investors are risk averse then a higher level of regional uncertainty will lead to a lower level of inward investment.

(iii) Institutional factors which influence the extent to which a country's factor markets approximate the neo-classical ideal of *laissez faire* and perfect competition are important. Thus, regulations on economic behaviour may prevent profitable opportunities being exploited, taxes on profits and labour may distort factor prices and the existence of inefficiently produced non-traded inputs may also reduce the return to capital.

The view that a poor country may be able to catch up spontaneously with richer countries, once it has an appropriate combination of suitable policies, freely functioning market mechanisms and political stability which reduces uncertainty, broadly represents the official thinking within international organisations involved in promoting economic growth and development, such as the World Bank, the IMF and the OECD. Indeed, it is also a view expressed by those who are sceptical about the desirability or wisdom of interventionist CSF-type programmes within the EU.

What does this imply for convergence and cohesion within the EU? A recent paper by Larré and Torres (1991) analysing the economies of Greece, Portugal and Spain, has suggested that the orthodox approach works quite well in explaining the recent economic growth performance of these less developed peripheral members of the EU. It is suggested that the combination of the liberalising effects of EU membership and a series of structural market reforms allowed Spain and Portugal to converge some way upwards towards average European income levels, while the poor economic performance of Greece can be assigned to its failure to introduce structural reforms and macroeconomic stability. The Republic of Ireland undoubtedly shares the convergent characteristics of Portugal and Spain rather than the divergent characteristics of Greece.

An emphasis on the encouragement of market mechanisms, competition and the reduction of uncertainty can also be seen as central to the policy prescriptions and analysis of neo-classical economists in the Republic of Ireland. Neo-classical explanations of Southern economic growth have attributed the failure of the South's protectionist era from the 1930s to the late 1950s to the lack of market incentives in a heavily protected economy (Neary, 1984). The success of the subsequent move towards an export and foreign direct investment oriented strategy is held to be due to the opening up of market mechanisms and the high return to international capital offered by the country's low capital-output ratio. The relatively poor performance of the Southern economy during the early and mid-1980s can be interpreted as the result of uncertainty generated by the precarious state of the public finances

and market distortions created by high levels of taxation.

Different factors may be relevant in the case of the North. The climate of uncertainty that was induced by erratic domestic policy in the South may have its origins in Northern Ireland from civil unrest and political uncertainty. However, studies that attempt to quantify this effect by taking the British performance as the norm and attributing all Northern deviations below this norm to civil unrest, may be greatly understating the negative effects. In addition, although no firm conclusions can be reached, there is some suggestion in the econometric modelling analysis that the very size of the Northern state sector, and the wide scope of its policy remit, may have distorted factor markets, and the labour market in particular, thus hindering the growth of the private traded sector (NIEC, 1990).

It is noteworthy that this analysis places little emphasis on the need for policies such as the EU structural fund expenditures (or, Community Support Framework) to promote economic convergence. What does this approach point to as the main drawbacks on the two regions of Ireland attaining a cohesion objective? A number of possibilities suggest themselves:

(i) *Public finances* The South's national debt/GNP ratio is still about 100 per cent and is a source of some uncertainty for potential multinational investors, who may be concerned with its implications for Southern price, interest rate and exchange rate stability and for industrial peace and economic stability more generally. However, the ratio is declining and the Southern government's strong commitment to moving towards the stringent Maastricht conditions for entry into EMU will certainly help reduce fears of any financial instability. Another important fiscal uncertainty concerns corporation tax rates and whether tax reforms will lead to the eventual raising of the Republic of Ireland's low 10 per cent corporate tax rate, which is only guaranteed up to the year 2010. Northern difficulties in this area may have more to do with international perceptions of the wider UK public finance problems.

(ii) *Labour market institutions* The South has low corporate taxes for manufacturing but, despite the high level of unemployment, relatively high taxes on labour, which are likely to distort labour costs away from the comparatively low level which the low capital-labour ratio would suggest. Furthermore, the extent of Southern integration into the British labour market may lead to some pressure for similar headline pay awards to those being obtained in Great Britain, even if these pay awards are not warranted by inflation or productivity (Curtis and Fitz Gerald, 1993). Finally, there is some evidence that high public, or non-market, sector pay awards may induce higher wage inflation in the market sector. Indeed, the strength of public sector trade union representation on the ICTU has almost guaranteed such upward wage pressure in the recent past. Policies which eased the tax burden on labour and encouraged wage restraint and flexibility within the increasingly corporatist wage bargaining system would boost investment by reducing uncertainty as to future labour costs.[37]

The situation in the North is more extreme in that very strong forces exist which drive Northern wage settlements towards their British equivalent. Borooah and Lee (1991) have drawn the necessary conclusions concerning the serious consequences of this behaviour for Northern employment and unemployment. However, there appears to be evidence from more recent data that Northern wage rates are diverging from the British norms. Such a divergence could have beneficial effects on cost competitiveness, although, as we have seen from the NIMIN simulations, it may

[37] As with everything else in economics, the claim that corporatist wage determination can be beneficial is widely contested. In the Southern case, it does indeed appear to have partially institutionalised high wage settlements for the "insiders" at the expense of long-term unemployment for the "outsiders". However, it could, and should, operate differently.

serve to depress Northern consumer demand and the demand for market services.

(iii) *Lack of competition in the non-tradable sector* A wide range of inputs that firms use when they locate in Ireland, North and South, are effectively non-traded and often sold at prices which are out of line with other international competitors. Policies to induce greater efficiency and competition in these sectors of the economy are also likely to promote inward investment. In the South, the weak demand for labour in the manufacturing sector, combined with the necessary cessation of public sector employment growth, has served to bring considerably more pressure to bear on the market services labour market, thus making it more productive and competitive.

These considerations suggest that growth-enhancing policies, such as the CSF programme in the South, should be aimed at aiding the reduction of the debt/GNP ratio, introducing labour market reform and encouraging greater competition in the non-tradable sector. Since many of the decisions in these areas are in the hands of Southern policy makers, it has been suggested that the EU CSF expenditures on such things as physical infrastructure and education should be closely linked to domestic policy makers' decisions on promoting market reforms and reduction of macroeconomic imbalances, thus strengthening incentives for the undertaking of potentially difficult reforms.

"New" Growth Theory

It needs to be stressed that the standard neo-classical theory of economic growth does not appear to have provided a fully comprehensive explanation of economic growth and development. In particular, its emphasis on the ability of market forces spontaneously to create economic convergence of regions would not appear to be born out by an analysis of international trends in economic growth (Whelan and Bradley, 1993). This means that policy recommendations based solely on the reduction of uncertainty and the encouragement of market reforms may not be the whole story.

The recent emergence of "new" or "endogenous" growth theory has allowed economists to focus on how growth can be generated without appealing to exogenous factors, be they technical progress or human capital formation. Endogenous growth theory is also likely to have an important effects on empirical modelling. Bradley, Whelan and Wright (1993) review these developments, focusing on the set of four mechanisms which these theories have postulated may be responsible for generating faster economic growth. Taken in turn, these are : human capital; public capital or infrastructure; industrial policy; and technology and trade.

Using the two Irish models we have developed, one can look at stylised shocks to public investment in physical infrastructure (i.e., roads, ports, communications, etc.) and to publicly financed education and training schemes. In both cases, the beneficial effects of the policy shocks are transitory if an element of domestic financing is required. In the South, this arises from the need to raise taxes. The choking off of these beneficial effects arises mainly because of a loss of competitiveness in the traded sector brought about by the need to raise taxes, and the consequential impact of the bigger tax wedge on wage bargaining, unit labour costs, and international competitiveness.[38] In the North, there may be a need to make offsetting reductions to other public expenditure programmes in the context of a fixed subvention. However, even in the context of an infinitely expandable subvention, there is some evidence that the manufacturing sector tends to be squeezed out by directly increased public sector employment (or by induced non-traded market sector activity) as a consequence of the tightening of the labour market, i.e., the so-called Phillips curve effect.

However, there are at least three types of beneficial externalities that are likely to enhance the effects of well designed investment, training, industrial and technology policy initiatives.[39] The

[38] This work has been completed for the South (see Bradley, Whelan and Wright, 1993), and is currently under way for the North.

[39] The essential characteristic of an externality is that its costs or benefits are not reflected in market prices.

first arises through the increased *total factor productivity* likely to be associated with improved infrastructure and a higher level of human capital associated with training and education. Of course, a side effect of increased factor productivity is that, in the restricted context of fixed demand for output, labour is shed. This could be particularly serious in economies like those of the Republic of Ireland, Northern Ireland and Spain, where the recorded rate of unemployment is extremely high. In practice, some of the benefits of increased factor productivity will be passed on in the form of lower unit labour costs, increasing competitiveness and boosting the demand for output. Whether the increase in labour demand due to the output effect outweighs the labour-shedding effect of increased productivity is an empirical issue. On balance, the model indicates that labour demand increases if the competitiveness effect is strong enough (see below).

The second type of externality is likely to be associated with the role of improved infrastructure and training in attracting productive activities to the island of Ireland through foreign direct investment, and enhancing the ability of indigenous industries to compete in the international market place. We call this an *industrial composition* externality, since it is well known that the type of products manufactured in developing countries change during the process of development, and become more complex and technologically advanced.

Research carried out with the Southern HERMIN model indicates that the factor productivity externality is a two edged process: industry and services become more productive and competitive, but labour demand is weakened if the gain in competitiveness alone cannot boost demand for output sufficiently so as to offset the fall in labour demand. The role of the industrial composition externality is more unambiguously beneficial: the higher it is, the faster the period of transitional growth to a higher income plateau. The outcome of this struggle between labour shedding (in the context of fixed output) and increased labour demand (in the context of higher output) is of vital importance to high unemployment regions like the North and South.

The third type of externality is both the most controversial and, potentially, the most beneficial to a country that badly needs to improve the operation of its *labour market*. Bradley, Whelan and Wright (1993) examined the effects of assuming that better training schemes might improve the process of wage bargaining by increasing the force with which unemployment dampens wage inflation. There are many interpretations of this effect, the most obvious being the blurring of the distinction between insiders and outsiders in the labour market. Model simulations show that even quite modest improvements in the efficiency of the labour market could yield very strong growth effects, particularly when operating in combination with the first two types of externalities.

The externality simulations reported in Bradley, Whelan and Wright (1993) were exploratory and designed to investigate the sensitivity of the economic outturn to a range of different mechanisms and, within any given mechanism, the sensitivity of the outturn to varying values that measure the strength of the externality mechanism. In each case the results are heavily conditioned by the structure of the two Irish regional models, reflecting the stylised features of the economy. Of crucial importance is the manner in which improved labour productivity (which sheds labour, *ceteris paribus*) interacts with endogenous competitiveness and special externality mechanisms that increase demand for output and labour. The sensitivity of the outturn to the characteristics of the labour market, as summarised in the Phillips curve, was particularly striking, and indicates that considerable employment growth might be achieved if the flexibility of the labour market could be improved by well-designed training and re-training policies. Unfortunately, the economic models are silent on how this desirable state of affairs might be brought about.

6. Conclusion and Future Research Priorities

Having made the case that the two regional economies of Ireland are closely interrelated with the British economy through trade, capital and migration flows, we have constructed a macro sectoral framework around the notion of regional transmissions of economic change, drawing on the broad theoretical and applied literature in

this area. Given such a high level of mutual interdependence, it is clear that economists and policy analysts, in both regions of Ireland and in Great Britain, share an obligation to explore and understand the structure and behaviour of the economy of the British Isles. The HERMIN and NIMIN models, in association with the NIGEM world model, are designed to help this process of learning.

Both in terms of their small size and their explicit regional orientation, the NIMIN and HERMIN models emphasise certain issues and neglect others. We highlight particularly the spatial allocation process that influences the behaviour of the two Irish regional manufacturing sectors, which are export oriented, dominated by external or foreign multinationals, price taking, and driven by regional cost competitiveness. The two Irish regions are fairly extreme cases of this paradigm, but may carry lessons for the evolution of other European regional economies as EC market integration progresses and national boundaries play a diminishing role in spatial economics.

The British Isles has long constituted a single market for labour, even in times of economic disruption such as during the tariff wars of the 1930s. This heavily influences the way in which we model the two Irish regional labour markets, and emphasises the role of labour migration to an extent that is unique in OECD modelling literature. Labour mobility implies that the Northern and Southern rates of unemployment tend to move in tandem with British rates, *ceteris paribus*. Hence, tension (or Phillips curve) effects in the two Irish wage bargaining models are rapidly attenuated if the Irish regions are subjected to external or domestic disturbances. Otherwise, wage determination differs between the two regions, with essentially a one-for-one relationship between Northern and British wage inflation but a more complex bargaining process in the South, driven by producer prices, a tax wedge and sectoral productivity.

More generally, given the largely external determination of all tradable prices in the island of Ireland, the only flexibility left relates to the price of labour (for North and South) and the exchange rate (for the South only), where the latter has seldom been availed of in practice. Further investigation will be needed to establish how the two regions of Ireland fit into the pattern of British regional labour market behaviour (Blackaby and Manning,1990). However, what our experience with Irish regional modelling points to is that the behaviour of inter-regional labour mobility has much wider implications than just for the regional labour market, but affects the whole behaviour of the regional macro economy. To the extent that the data permit, it would be interesting to replicate our approach in other UK regions, such as Scotland and Wales.

A British audience might find it strange that we place so little emphasis on monetary and financial modelling in NIMIN and HERMIN, given the UK authorities' preoccupation with monetary policy. However, since the authorities in Northern Ireland have no discretion in monetary matters, this omission is not surprising, and Northern monetary policy is handled in the UK sub-model of the NIGEM world model. The exogeneity assumptions for the South, where the authorities might be supposed to have some policy autonomy, are not as serious as they would be in a model of a larger economy like Germany and the UK. In fact they accord very well with the South's pre-EMS and post-EMS history (Bradley and Whelan,1992). The South's adherence to the narrow band of the EMS since 1979 left it little exchange rate autonomy (give or take events like the two major UK-related hiccups in 1986 and 1992/93), and effectively links Southern interest rates to those of Germany. Whether or not this currency arrangement is the optimal one for the South is a separate, hotly contested, issue (Leddin and Walsh,1992) and one on which our HERMIN model is silent. In the aftermath of the broadening of the EMS currency bands, there is potential for greater monetary autonomy, but these issues are still being debated in the context of a probable renewal of EMS-type arrangements (Honohan, 1993).

Turning to more technical modelling issues, our two Irish regional models are still in an early stage of development. For example, it would have been preferable to have a common CES production function in all sectors of both models, since this would have made stylised North-South comparisons easier and would have facilitated the interpretation of the subsequent model simulations. However, the crude estimation

experiments we carried out indicated that the Northern data were unlikely to fit such a restricted functional form (see Bradley and Wright, 1992b for details). One possibility is to move to a more flexible functional form such as the generalised Leontief cost function used in the Finnish KESSU-IV model (Ministry of Finance, 1992). Another possibility is to move to a greater level of sectoral disaggregation, although this carries high costs in terms of model complexity. A related issue concerns the more precise determination of the regional base, i.e., that portion of regional supply which is devoted to exports (Brown *et al.*, 1992), and incorporation of domestic demand influences in the non-base component of the manufacturing sector.

A second area where the models need to be improved concerns the way in which external or world variables influence the two Irish regions. In the present versions of the models we have characterised external influences in a very simple, rigid and stylised way. For example, external price transmission into the North is dominated by Great Britain, while German price influences dominate the South. British demand also dominates the determination of the scale of Northern manufacturing activity, while a mixture of British, German and US demand drives Southern activity. Regional competitiveness measures are similarly determined. As the weights used in defining these measures are fixed, this makes the external orientation of both regions quite rigid. However, we have seen that, over an extended period of time, a combination of world circumstances and regional policy initiatives served to reorient the South away from a previous almost total dependence on Great Britain towards a more widely based international dependence. To model this process will take us further afield and into the realms of SOE growth theory (Bradley *et al.*, 1993).

In addition, we need to be able to explore the consequences of regional trade and public finance imbalances on the island. For the Republic of Ireland, the need for such analysis goes without saying. For Northern Ireland, the justification is less obvious, but none-the-less important. The North's relative policy autonomy within the United Kingdom needs to be analysed in the context of an imputed regional budget constraint. There are efficiency costs within the UK of increasing the North's "block grant" or subvention which must be set off against any quantifiable benefits. Even if these are not made explicit, they must surely be implicitly used in the Northern Ireland Administration's dealings with London.

If public policy in Northern Ireland is to be directed at increasing export oriented growth, as in the South, then the net trade balance must be of interest since it represents a broad measure of the regional competitiveness outcome. Extended versions of the new models will need to look at a wider concept of regional competitiveness than is presently contained in Northern NIMIN model, constrained as it is by missing regional data.

In the context of the Maastricht Treaty, since it is conceivable that European Monetary Union may proceed in the absence of the United Kingdom, but with the Republic of Ireland included, a wide range of asymmetries may arise and persist between the two regions of Ireland and between the UK and the South. Even in the context of a complete breakdown of the EMS, the issues are ever more important for North-South interactions and economic stability. Given the strong links between the UK and the South, and the common land border between the North and South, it will be important to extend the models to deal with these important issues, should they arise.

Finally, a very serious gap in our regional models concerns the absence of any North-South interactions within the wider economy of the Island of Ireland. In Section 2 we pointed to the extensive North-South trade and the Southern trade surplus with the North. There is also a certain amount of North-South migration of labour, and some Southern ownership of Northern industry (NIEC,1992). In future developments we will need, at the very least, to model the determinants of North-South trade and migration. Capital flows may be more difficult to model, as will be the benefits of a greater domestic "island" market in the promotion of faster growth, moving beyond trading at arms length and building more supply-side linkages between the two regions. Specifically, it may be possible to use the models to examine synergies that may arise from focusing economic development in the island of Ireland on the important Belfast-Dublin economic cor-

ridor, as proposed by Quigley (1992). The completion of the current IBEC/CBI(NI) feasibility study on the Economic Corridor will be studied with great interest, and the NIMIN and HERMIN models could be used to tease out the wider macroeconomic consequences of imaginative island-wide policy initiatives in this area.

References

BARRELL, R. (ed.), 1992. *Economic Convergence and Monetary Union in Europe,* London: SAGE Publications and National Institute of Economic and Social Research.

BARRY, F. and J. BRADLEY, 1991. "On the Causes of Ireland's Unemployment", *Economic and Social Review*, Vol. 22, No. , pp. 253-286.

BLACKABY, D. and D. MANNING, 1990. "Earnings, Unemployment and the Regional Employment Structure in Britain", *Regional Studies*, 24, pp. 529-535.

BLANCHARD, O.J. and L.F. KATZ, 1992. "Regional Evolutions", *Brookings Papers on Economic Activity*, 1, pp. 1-75.

BOROOAH, V.K. and K.C. LEE, 1991. "The Regional Dimension of Competitiveness in Manufacturing: Productivity, Employment and Wages in Northern Ireland and the United Kingdom", *Regional Studies*, 25, pp. 219-229.

BRADLEY, J.F., 1990. "The Irish Economies: Some Comparisons and Contrasts", in R. Harris *et al.* (eds.), *The Northern Ireland Economy*, London: Longman.

BRADLEY, J. and C. FANNING, 1981. "Twenty Five years of Macro modelling the Irish Economy — Retrospect and Prospect", *Journal of the Statistical and Social Inquiry Society of Ireland*, Vol. 24, Part ,pp. 107-131.

BRADLEY, J., C. FANNING, C. PRENDERGAST, C. and M. WYNNE, 1985. *Medium-Term Analysis of Fiscal Policy in Ireland: A Macro Econometric Study of the Period 1967-1980*, Dublin: The Economic and Social Research Institute, Paper No. 122.

BRADLEY, J. and J. FITZ GERALD, 1988. "Industrial Output and Factor Input Determination in an Econometric Model of a Small Open Economy", *European Economic Review*, Vol. 32, pp. 1227-1241.

BRADLEY, J. and J. FITZ GERALD, 1991. "The ESRI Medium-Term Economic Model", in *Medium-Term Review: 1991-1996*, Dublin: The Economic and Social Research Institute.

BRADLEY, J., J. FITZ GERALD, and D. MC COY, 1991. *Medium-Term Review: 1991-1996,* Dublin: The Economic and Social Research Institute.

BRADLEY, J., J. FITZ GERALD, and I. KEARNEY, 1991. "Economic Time Series for Irish Industry and Services", Dublin: The Economic and Social Research Institute, Technical Series No. 5.

BRADLEY, J. and K. WHELAN, 1992. "Irish Experience of Monetary Linkages with the United Kingdom and Developments Since Joining the EMS", in R. Barell (ed.), *Economic Convergence and Monetary Union in Europe,* London: SAGE Publications in association with the NIESR.

BRADLEY, J. and J. WRIGHT, 1992a. "HERMIN: A Small-Scale Structural Model of the Republic of Ireland", Dublin: The Economic and Social Research Institute, Technical Paper No. IFI/NS 01-92.

BRADLEY, J. and J. WRIGHT, 1992b. "NIMIN: A Small-Scale Structural Model of the Northern Ireland Economy", Dublin: The Economic and Social Research Institute, Technical Paper No. IFI/NS 02-92.

BRADLEY, J., J. FITZ GERALD, and I. KEARNEY, 1993. "Modelling Supply in an Open Economy using a Restricted Cost Function", *Economic Modelling*, Vol. 10, pp. 11-21.

BRADLEY, J., K. WHELAN, and J. WRIGHT, 1993. *Stabilisation and Growth in the EC Periphery: A Study of the Irish Economy*, Aldershot: Avebury Press.

BRADLEY, J. and J. WRIGHT, 1993. "Two Regional Economies in Ireland", to appear, *Journal of the Statistical and Social Inquiry Society of Ireland.*

BRADLEY, J. and J. WRIGHT, 1993a. "The Determinants of Growth and Development in the Two Economies of Ireland", Discussion Paper 2, ESRI/NIERC, October.

BROWN, S., N. COULSON, and R. ENGLE, 1992. "On the Determination of Regional Base and Regional Base Multipliers", *Regional Science and Urban Economics*, 22, pp. 619-635.

CALLAN, T. and J. FITZ GERALD, 1989. "Price Determination in Ireland: Effects of Changes in Exchange Rates and Exchange Rate Regimes", *The Economic and Social Review*, Vol. 20, No., pp. 165-188.

CHENERY, H., S. ROBINSON, and M. SYRQUIN, 1986. *Industrialisation and Growth: A Comparative Study*, London: Oxford University Press.

COMMISSION OF THE EUROPEAN COMMUNITIES, 1993. "The Economic and Financial Situation in Italy", *European Economy*, No. 1.

CURTIS, J. and J. FITZ GERALD, 1993. "Convergence in an Open Labour Market", Paper presented at the Annual Conference of the Irish Economic Association, Galway, May.

DELEAU, M., P. MALGRANGE, and P.A. MUET, 1984. "A Study of Short-Run and Long-Run Properties of Macro Econometric Dynamic Models by Means of an Aggregative Core Model", in P. Malgrange and P.A. Muet (eds.), *Contemporary Macroeconomic Modelling,* Oxford: Basil Blackwell.

DREZE, J.H. and C.R. BEAN, 1990. "Europe's Unemployment Problem: Introduction and Synthesis", in J.H. Dreze and C.R. Bean (eds.), *Europe's Unemployment,* .

FITZ GERALD, J., 1986. *The National Debt and Economic Policy in the Medium Term*, Dublin: The Economic and Social Research Institute, Policy Research Series No. 7.

GEARY, P.T., 1976. "World Prices and the Inflationary Process in a Small Open Economy: The Case of Ireland", *The Economic and Social Review*, Vol. 7, No. pp. 391-400.

GEARY, P.T., 1988. *The Nature and Functioning of Labour Markets: A Survey of International and Irish Literature and a Statement of Research Priorities for Ireland*, Dublin: The National Economic and Social Council, Paper No. 86, September.

GIAVAZZI, F. and M. PAGANO, 1991. "Can Severe Fiscal Contractions be Expansionary? Tales of Two Small European Countries", in *The NBER Macroeconomics Annual 1991*, Cambridge: MIT Press.

GIBSON, N. J. and J.E. SPENCER, (eds.), 1975. *Economic Activity in Ireland: A Study of Two Open Economies*, Dublin: Gill and Macmillan.

GUDGIN, G. and G. O'SHEA, 1992. "Avoiding the Worst: Northern Ireland in Recession", *The Irish Banking Review,* Winter, pp. 17-32.

GUDGIN, G. and G. O'SHEA, (eds.), 1993. *Unemployment Forever? The Northern Ireland Economy in Recession and Beyond*, Belfast: Northern Ireland Economic Research Centre.

HARRIS, R., 1989. *The Growth and Structure of the UK Regional Economy 1963-85*, Aldershot: Avebury.

HARRIS, R., 1991. *Regional Economic Policy in Northern Ireland 1945-1988*, Aldershot: Avebury.

HMSO, 1993. *Annual Abstract of Statistics 1993*, London: HMSO.

HONOHAN, P., 1984. "The Evolution of the Rate of Unemployment in Ireland, 1962-83", *Quarterly Economic Commentary*, Spring.

HONOHAN, P., 1992. "The Link Between Irish and UK Unemployment", *Quarterly Economic Commentary*, Spring.

HONOHAN, P., 1993. *An Examination of Irish Currency Policy*, Dublin: The Economic and Social Research Institute, Policy Research Paper No. 18, October.

JEFFERSON, C.W., 1978. "A Regional Econometric Model of the Northern Ireland Economy", *Scottish Journal of Political Economy*, Vol. 25, pp. 253-272.

KENNEDY, K.A., T. GIBLIN, and D. MC HUGH, 1988. *The Economic Development of Ireland in the Twentieth Century*. London: Routledge.

LARRE, B. and R. TORRES, 1991. "Is Convergence a Spontaneous Process? The Experience of Spain, Portugal and Greece", *OECD Economic Studies*, No. 16, pp. 169-198.

LAYARD, R., S. NICKELL, and R. JACKMAN, 1991. *Unemployment: Macroeconomic Performance and the Labour Market*. Oxford: Oxford University Press.

LEDDIN, A. and B. WALSH, 1992. *The Macro Economy of Ireland*, 2nd Edition, Dublin: Gill and Macmillan.

LINDBECK, A., 1979. "Imported and Structural Inflation in Aggregate Demand: The Scandinavian Model Reconstructed", in A. Lindbeck (ed.), *Inflation and Employment in Open Economies*, Cambridge: MIT Press.

MASSON, P., S. SYMANSKY, and G. MEREDITH, 1990. *MULTIMOD Mark II: A Revised and Extended Model,* International Monetary Fund, Occasional Paper No. 71.

MINISTRY OF FINANCE, 1992. *KESSU-IV: An Econometric Model of the Finnish Economy*, Helsinki: Economics Department, Ministry of Finance, mimeo.

MJOSET, L., 1992. *The Irish Economy in a Comparative Institutional Perspective*, Dublin: The National Economic and Social Council, Report No. 93.

NEARY, P., 1984. "The Failure of Economic Nationalism", in *Ireland: Dependence and Independence*, The Crane Bag, Vol. 8, No. 1, pp. 68-77

NESC, 1992. *The Association Between Economic Growth and Employment Growth in Ireland*, Dublin: National Economic and Social Council, Report No. 94.

NEWELL, A. and J. SYMONS, 1990. The Causes of Ireland's Unemployment. *The Economic and Social Review*, Vol. 21, pp. 409-429.

NIESR, 1993. *NIGEM: The National Institute Global Econometric Model,* London: National Institute of Economic and Social Research, May.

NIJKAMP, P., P. RIETVELD, and F. SNICKARS, 1986. "Regional and Multiregional Economic Models: A Survey", in P. Nijkamp (ed.), *Handbook of Regional Economics: Volume I.* Amsterdam: North-Holland.

NORTHERN IRELAND ECONOMIC COUNCIL, 1990. *The Private Sector in the Northern Ireland Economy*, Belfast: Northern Ireland Economic Development Office.

NORTHERN IRELAND ECONOMIC COUNCIL, 1992. *Inward Investment in Northern Ireland.* Belfast: Northern Ireland Economic Development Office.

NORTHERN IRELAND ECONOMIC COUNCIL, 1993. *Northern Ireland and the Recent Recession: Cyclical Strength or Structural Weakness?*, Belfast: Northern Ireland Economic Development Office.

PAIN, N., 1993. "An Econometric Analysis of Foreign Direct Investment in the United Kingdom. *The Scottish Journal of Political Economy*, Vol. 40, pp. 1-23.

QUIGLEY, W.G.H., 1992. *Ireland — An Island Economy.* Paper presented at the Annual Conference of the Confederation of Irish Industry, Dublin, February 28.

ROPER, S. and A. SCHOFIELD, 1990. "NIMOD — An Econometric Model of Northern Ireland", Northern Ireland Economic Research Centre, mimeo.

ROPER, S. and G. O'SHEA, 1991. "The Effect of Labour Subsidies in Northern Ireland 1967-79: A Simulation Analysis", *Scottish Journal of Political Economy*, Vol. 38, pp. 273-292.

ROPER, S., A. SCHOFIELD, G. GUDGIN, and M. TAVAKOLI,M., 1989. "The NIERC Econometric Model of Northern Ireland: Technical Guide", Northern Ireland Economic Research Centre, mimeo.

SCOTT, R. and M. O'REILLY, 1992. *Exports of Northern Ireland Manufacturing Companies 1990*, Belfast: Northern Ireland Economic Research Centre.

SMYTH, M.J., 1993. The Public Sector and the Economy, in *The Economy of Northern Ireland: Perspectives for Structural Change*, London: Lawrence and Wishart.

SUMMERS, L.H., 1991. The Scientific Illusion in Empirical Macroeconomics, *Scandinavian Journal of Economics*, Vol. 93, pp. 129-148.

TEAGUE, P., 1987. *Beyond the Rhetoric: Politics, the Economy and Social Policy in Northern Ireland*, London: Lawrence and Wishart.

WHELAN, K. and J. BRADLEY, 1993. "Economic Growth and Regional Convergence", Dublin: The Economic and Social Research Institute, mimeo, August.

WRIGHT, J., 1993. "A Note on the Co-integrating Relationship between Irish and UK Unemployment Rates", Dublin: The Economic and Social Research Institute, mimeo.

CHAPTER 9

Profit Outflows Revisited

E. O'Malley and S. Scott[1]
The Economic and Social Research Institute, Dublin

1. Introduction

In a previous article, O'Malley and Scott (1987), we examined the trend in outflows from Ireland of profits, dividends and royalties in the period 1981-1986, and we attempted to identify the cause of the rapid growth in these outflows at that time. It was concluded that changes in outflows of profits, dividends and royalties (which we will simply call profits, for convenience) were closely related to changes in the sales of a rather small number of manufacturing sectors which were both highly profitable and predominantly composed of foreign-owned companies. Thus the growth of profit outflows primarily reflected the growth in the volume of business of the most profitable sectors of overseas industry in Ireland.

In the present chapter, we update the analysis of O'Malley and Scott (*ibid*), incorporating available data for the period since 1986 when the earlier analysis terminated. We also introduce some modifications to the previous analysis. The purpose of this chapter is thus to update the examination of the trends in profit outflows and to test whether outflows of profits have continued to be largely determined, in recent years, by the sales of the same group of industries which were identified previously. Furthermore, equations derived in estimating the relationship between profit outflows and sales of this group of industries have previously proved useful for short-term forecasting of profit outflows. Therefore we also include an estimate of profit outflows in 1993, for which official data are not yet published for the full year.

Outflows of profits, dividends and royalties are included among factor flows in the balance of international payments as part of the debit or outflow side of "trading and investment income". Data on profit outflows are shown here in Table 9.1. It can be seen that profit outflows, which had grown very substantially in the period 1980-86, have increased further since then, both in absolute terms and as a percentage of GDP. This is now a major factor accounting for the considerable difference between GDP and GNP.

2. Sources of Profit Outflows

Outflows of profits from Ireland come from foreign-owned companies operating in this country, and in O'Malley and Scott (*ibid*) it was shown that the large majority of profits of foreign-owned companies arose within manufacturing industry. More specifically, most of these profits arose in a small number of manufacturing sectors, namely Pharmaceuticals (NACE code 257), Office & Data Processing Machinery (NACE 33), Electrical Engineering (NACE 34), Instrument Engineering (NACE 37) and soft drink concentrates which is part of "Other Foods" (NACE 411, 414, 415, 417/8 and 423). It was shown in

Table 9.1: Outflows of Profits, Dividends and Royalties, 1980-92

	1980	1986	1987	1988	1989	1990	1991	1992
Profit Outflows (£ million)	258	1,320	1,307	1,954	2,447	2,507	2,377	2,735
Profit Outflows as % of GDP	2.8	6.8	6.3	8.7	9.8	9.4	8.6	9.3

Sources: CSO, *Balance of International Payments,* and *National Income and Expenditure* for GDP data.

1 Our appreciation is extended to our colleagues Patrick Honohan and John Fitz Gerald for helpful suggestions.

our previous article that, according to the IDA's "Irish Economy Expenditures Survey" of 1983, these sectors accounted for 86 per cent of profits of all foreign-owned manufacturing firms. Thus it was concluded that these sectors could be regarded as the source of most of the profits made in Ireland by overseas firms, and hence they would probably also be the source of most of the profit outflows from Ireland. Consequently, it seemed reasonable to hypothesise that trends in profit outflows would be quite closely related to trends in profits of overseas firms in the sectors mentioned above.

However, in O'Malley and Scott (*ibid*), it was not possible to test directly whether in fact trends in profit outflows were related to trends in profits of overseas firms in these sectors, because of the absence of a series of the necessary data on these firms' profits. Instead, it was noted that a very large majority of the output of this group of sectors comes from foreign-owned rather than indigenous firms. Therefore data for the group of sectors as a whole, without distinguishing by nationality of ownership, could serve as a proxy for data on overseas firms in the group of sectors. Then, on the assumption that profitability — i.e., profits as a percentage of sales — would be fairly stable over time, it was suggested that trends in sales of the group of sectors would be similar to trends in their profits. Hence it was hypothesised that trends in profit outflows would be related to trends in the combined sales of the group of sectors referred to above.

Thus in our previous analysis it seemed reasonable to take trends in the combined sales of the group of sectors as an indicator of trends in the sales of the foreign-owned companies which would be the source of most of the profits made in Ireland by overseas firms, and hence would also be the source of most profit outflows. And econometric testing of the relationship between profit outflows and the combined sales of the group of sectors established that changes in profit outflows did, in fact, closely reflect changes in the combined sales of these sectors in 1980-86. In the present chapter, we test whether this has continued to be the case in the period since then.

It would be more satisfactory to examine the relationship between profit outflows and profits of foreign-owned firms in Ireland, if that were possible. But an adequate data series on profits of foreign-owned firms is not readily available. The *Census of Industrial Production* does provide various types of data which distinguish between Irish indigenous and overseas firms for years since 1983, but the latest available year for this source is 1990. Also, the *Census of Industrial Production* does not actually provide data on *profits*. Rather it provides data on "remainder of net output", which is gross output *less* industrial inputs, fuel and power, and labour costs. "Remainder of net output" therefore includes some costs, such as some purchased services and financial costs, as well as profits.

The IDA's "Irish Economy Expenditures Survey" (which is not actually published) is a potential source of data on estimated profits of overseas manufacturing firms, for years since 1983. But the latest available year for this source is 1991 (with preliminary data for 1992 which would be subject to significant revision). Also, this survey produces annual data only. More up to date data, on a quarterly basis, are desirable for econometric testing, particularly when a significant objective is to produce a model suitable for short-term forecasting. However, the IDA's survey data are of value in confirming that the same five sectors mentioned above continued to be the source of the large majority of profits of overseas manufacturing firms throughout 1983-91.

In the present chapter, therefore, we again assume that trends in the combined sales of the group of five sectors concerned can serve as a proxy for trends in the bulk of profits of overseas firms in Ireland, and we test whether changes in profit outflows have continued to be related to changes in those combined sales.

3. Data Sources

To test this, we regress quarterly profit outflow data since 1981 (from the CSO's *Balance of International Payments*), with a time lag, on quarterly combined sales of the specified sectors. Two different data series are used for sales, the first of which is the CSO's Industrial Turnover Index series which is available by sector on a quarterly basis. (Note that both the profit outflow and turnover figures are in current values.) These

turnover data — for Pharmaceuticals, Office & Data Processing Machinery, Electrical Engineering, Instrument Engineering and Other Foods combined — can serve as one indicator of the sales of predominantly foreign-owned and highly profitable industries.

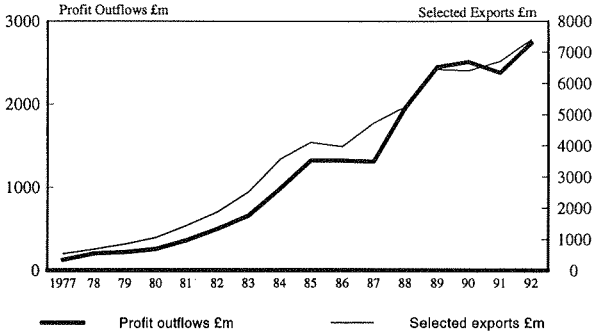
Alternatively, we can use corresponding categories of exports (again in current values) for this purpose, since foreign firms in the industries referred to export virtually all of their output. One advantage of using export data was that, at least until 1993, they were somewhat more up to date than the turnover indices, but since changes were made in the method of collecting export data this is no longer the case. In addition, since foreign firms in the sectors concerned export virtually all their output, while the minority of Irish indigenous firms in these sectors do not, exports could be a better indicator of the activity of foreign firms than turnover data for the whole sector.

Export data are classified quite differently from industrial production data, but it is reasonably clear that the following export categories can be taken as corresponding quite closely to the exports of the industrial sectors mentioned above: Miscellaneous Edible Products & Preparations (SITC 09), Organic Chemicals (SITC 51), Inorganic Chemicals (SITC 52), Medicinal & Pharmaceutical Products (SITC 54), Office Machinery & Automatic Data Processing Equipment (SITC 75), Telecommunication & Sound Recording, Reproducing Equipment (SITC 76), Electrical Machinery, Apparatus & Appliances n.e.s. (SITC 77), and Professional, Scientific & Controlling Apparatus n.e.s. (SITC 87). In practice, the sum of the value of these export items has been close to the combined turnover of the specified industrial sectors, but it is worth using each in turn to see which explains the profit outflows best.

Figure 9.1 shows the trend in the selected exports compared with profit outflows (drawn to a different scale) since 1977, with the data presented on an annual basis. The trends look sufficiently similar throughout the period to justify the suggestion that there has been a relationship between the two, and hence also between the turnover of the selected industries and profit outflows. For econometric testing of this relationship, however, we use quarterly data which are available since 1981.

Figure 9.1

Profits and exports 1977 to 1992



4. Modifications in the Analysis

In this chapter, unlike O'Malley and Scott (*ibid*), we include some modifications or variations on the original analysis. One modification is to include the change in the dollar or other exchange rates in the recent past as independent variables influencing profit outflows. The reasoning behind this is that many of the foreign-owned companies concerned would be selling products in export markets at prices which are denominated in dollars. Consequently, if the value of the dollar increases, their sales valued in Irish pounds would tend to rise relative to their Irish production costs which are measured in pounds. For this reason, their profit margins, measured in pounds, would tend to rise making larger amounts available to be withdrawn from the country as profit outflows. There could also be another effect, working in the same direction, if a rising dollar causes companies to convert their profits into dollars sooner rather than later, which would mean that they would seek to withdraw their profits with minimal delay, thereby temporarily boosting profit outflows for the period concerned.

Another modification is to regress profit outflows on the individual sectoral components of turnover rather than on the combined turnover of the sectors concerned. This is prompted by the concern that there may be changes in sectoral composition, with different sectors having different profitability or different propensities to expatriate profits.

A third modification is to combine profit outflows with imports of "Other Services" and to regress

this combined variable on turnover of the selected sectors. The reasoning behind this is that the distinction between profit outflows and payments for services imported from parent or other affiliate companies may sometimes be rather blurred. Many foreign-owned companies in Ireland would be receiving services from affiliates abroad. If these services are paid for, they would be part of services imports. But if they are not explicitly paid for, this would boost profits of the company in Ireland and could thus contribute to higher profit outflows than would otherwise occur. (To the extent that this happens, the "profit" outflows would represent a larger amount than the true profits accruing to the firm as a whole from its Irish operation.)

5. Regression Results

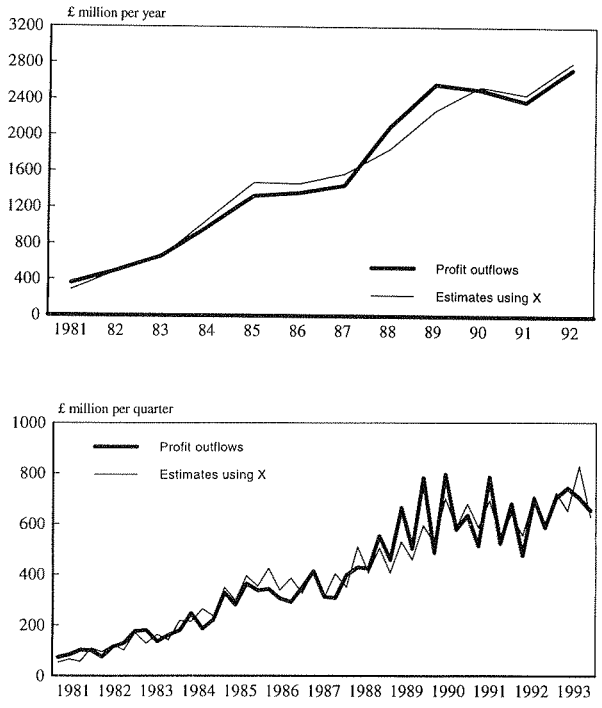
The two updated equations giving profit outflows explained by turnover, denoted TO, and then by exports, denoted X, are shown below. The equations are estimated using Ordinary Least Squares. The variables Q_1, Q_2 and Q_3 are seasonal effects representing the first, second and third quarters respectively. (The t values are given in parentheses below the coefficients.)

$$\text{Profit outflows} = -66.1 + TO_{-2}(0.42 - 0.02Q_1 - 0.01Q_2 - 0.06Q_3) \quad (1)$$
$$(2.83) \quad (20.32) \quad (0.68) \quad (0.25) \quad (3.20)$$
$$\text{Adj } R^2 = .91 \quad SE = 65.1 \quad DW = 2.01$$

$$\text{Profit outflows} = -55.8 + X_{-2}(0.45 - 0.04Q_1 - 0.01Q_2 - 0.06Q_3) \quad (2)$$
$$(2.50) \quad (20.77) \quad (1.65) \quad (0.23) \quad (3.01)$$
$$\text{Adj } R^2 = .92 \quad SE = 63.4 \quad DW = 2.09$$

Figure 9.2

Actual and Estimated profit outflows, annual and quarterly



Generally speaking the results are still good[2]. Graphs of the actual and fitted points, annual and quarterly, are given in Figure 9.2 for the second of these equations. This model performs most poorly in 1988 and 1989. In these years the second equation, which is marginally better than the first, underestimates by 12 per cent and 11 per cent respectively and in 1985 it overestimates by 11 per cent. It has been very satisfactory during the three years up to and including 1992, overestimating by under $2\frac{1}{2}$ per cent on average. Overestimation of the order of 6 per cent occurs with the first equation during 1991 and 1992.

A comparison of the model's coefficients and diagnostics from this run with those from the original run undertaken 6 years ago is given in Table 9.2, referring again to the version using exports as the explanatory variable.

The main changes are a lower intercept and higher coefficients. The fourth quarter still shows the highest propensity to expatriate though the order of the other quarters has changed. Now, the third quarter shows lowest expatriations

2 Though, it should be said, not very much better than a crude relationship with time, along with seasonal dummies and seasonal dummies multiplied by time. This yields an adjusted R^2 of 0.9, a standard error of £71 millions and a DW of 1.7.

rather than the second quarter, in the original version, however the first two quarters were not and are still not significantly different from the fourth.

Table 9.2: Comparison of this Run with the Original Run

	This Run 1981 to 1992	Original Run 1981 to 1986 Q_2
Intercept	−55.78	−18.13
X_{-2} in 1st quarter	0.41	0.35
X_{-2} in 2nd quarter	0.44	0.33
X_{-2} in 3rd quarter	0.38	0.34
X_{-2} in 4th quarter	0.45	0.37
Adj R^2	0.92	0.93
SE	63.45	27.51
DW	2.09	2.0

Over the past few years several revisions have been made to the figures of profit outflows so that some changes in the fitted equation are to be expected. There have, however, been some other important events that also explain the changes. For example, there has been a relative growth in the financial services sector which would be contributing to the profit outflows. No quarterly figures of turnover in this sector being available for inclusion in the model, our manufacturing sectors are being made to account for all the profit outflows. This would cause the model to show a higher propensity to expatriate, as we have seen. The higher standard error simply reflects the fact that the values for profit outflows have doubled in the meantime.

6. Modification: (a) Exchange Rate

In an attempt to improve the model's performance and in particular to capture some of the suspected effects of currency changes, the dollar and the effective exchange rate were included. The effective exchange rate is a weighted sum of the currencies in which Ireland trades, the weights being the share of trade carried out in each currency. Of the two measures, the dollar and the effective exchange rate, it is the latter which is the most significant, expressed in terms of either its percentage rise in the current quarter compared with the same quarter of the previous year or, better still, in terms of the percentage rise comparing the last quarter with the previous quarter, denoted $\triangle x_{-1}$. A positive value of $\triangle x$ indicates a rise in *foreign* currencies, and vice versa. The following regression shows the addition of this variable. This is calculated for the equation having Turnover as the explanatory variable, the version which we will be using from here on. This is not the version we would concentrate on through choice — the equation using exports performed slightly better — but from the beginning of 1993 on, the regular releases from the Central Statistics Office giving Turnover were, and will probably continue to be, available to us at an earlier date than the Exports releases. Another consideration is that the export figures will possibly not be comparable with previous ones. Some consideration was given to the manner in which the exchange rate should be incorporated in the model. A given alteration in the exchange rate, rather than affecting profit outflows linearly over the period, is more likely to affect profit outflows relative to turnover. To allow for this, the exchange rate term is multiplied by turnover.

The coefficient on $\triangle x_{-1}\, TO_{-2}$ suggests that when foreign currencies rise such that last quarter's effective exchange rate increases by 1 per cent, the profit outflows as a proportion of Turnover of two quarters ago increases by 1.5 per cent. Other time lags were less satisfactory. Ideally one would have liked to capture the effect of an increase in foreign currencies relative to home based costs giving rise to higher export prices relative to costs and hence to higher profitability. These higher profits would then contribute to the following quarter's increased outflow.

$$\text{Profit outflows} = -88.2 + TO_{-2}(0.43 - 0.006Q_1 - 0.008Q_2 - 0.077Q_3) + 0.015\triangle x_{-1}TO_{-2} \qquad (3)$$
$$(4.03) \quad (22.74) \quad (0.28) \quad (0.45) \quad (4.28) \quad (3.43)$$
$$\text{Adj } R^2 = .93 \qquad SE = 58.2 \qquad DW = 1.91$$

Unfortunately, without a readily available measure of these relative costs, a shortcut is used in Equation 3 above. A graph of this model is given in Figure 9.3 (a) near the end of this chapter.

7. Modification: (b) Components of Turnover

Another refinement is to break down the components of turnover. This is prompted by the concern that there may be composition changes which the model has ignored heretofore. Thus what the model does so far is to estimate the relationship between profit outflows and the combined sales of five predominantly foreign-owned and profitable sectors. But it is quite possible that sales of the five sectors may grow at different rates, while they may also have different profit rates (profits as percentages of sales) as well as different propensities to withdraw their profits from Ireland. If so, this could tend to weaken the relationship between profit outflows and the combined sales of the five sectors, even if the individual sectors behave quite consistently over time as regards their propensities to withdraw their profits from Ireland. Therefore one might find that there is a stronger relationship between profit outflows and sales of the five individual sectoral components than there is between profit outflows and sales of the five combined.

Data from the IDA's annual "Irish Economy Expenditures" survey can help to shed some light on this. The data from this survey show that profits as percentages of sales for foreign-owned firms in the five sectors concerned do indeed vary significantly, from 11 per cent in Electrical Engineering to 39 per cent in Chemicals in 1990. In addition, profits as percentages of sales of foreign-owned firms vary over time in individual sectors, e.g., between 26 and 42 per cent in Chemicals in the period 1983-91, and between 25 and 36 per cent in Office & Data Processing Machinery in the same period. In other sectors, however, profit rates have tended to be more stable. Growth rates of sales of foreign-owned firms have also differed between sectors, e.g., 67 per cent in Instrument Engineering in 1983-91 (in current values) compared with over 100 per cent in Chemicals.

Thus there seems to have been real scope for changing composition effects to have affected the relationship between profit outflows and combined sales of the five sectors concerned. Nevertheless, if we use the IDA survey data to estimate combined profits of foreign-owned firms in the five sectors as a percentage of combined sales of all firms in the five sectors, this has proved to be quite stable over time, in the range 20-24 per cent in 8 out of 9 years in the period 1983-91. Thus despite the potential for significant composition effects, total profits of overseas firms in these sectors have in fact shown quite a stable relationship with combined sales of the sectors; this has made it possible for changes in profit outflows to be closely related to changes in combined sales of these sectors. However, it seems that it would be worthwhile to test whether profit outflows might show a closer relationship with the five individual sectoral components of Turnover.

It is worth reporting that an analysis was undertaken with the five individual sectoral components of Turnover included in the model, with seasonal dummies, various time lags and so on[3]. However, when one checks the significant explanatory variables, it is clear that the meaning of the actual coefficients is questionable, though the model operates well over an 11 year period.

8. Modification: (c) Combining Profit Outflows and Imports of Other Services

A further variant is to consider the imports of Other Services (Item 5, debit item on the current account of the balance of payments). In so far as

[3] $$\text{Profit outflows} = -93.6 + .85PH_{-2}Q_3 + .72OD_{-2} + .37EE_{-2} - 1.0EE_{-2}Q_3 + .73OF_{-2} + 11.7\Delta x_{-1}$$
(4.25) (2.62) (5.89) (2.09) (3.51) (2.66) (3.02)
Adj R^2= .94 SE = 52.5 D.W. = 2.03

where the components of turnover are:
PH = pharmaceuticals
EE = electrical engineering
OD = office and data processing machinery
OF = other foods.

profit outflows and payment for services imported from affiliate companies may be difficult to distinguish, there is some logic in combining the two, so that the variable to be explained becomes:

PROFSERV = profit outflows + imports of Other Services.

The residuals of the estimated relationship tend to cluster more, on one side or the other of the observed line, overestimating by about 24 per cent in 1985 and underestimating by some 12 per cent in 1988 and 1989. This is indicated in the lower DW statistic, in equation 4.

$$PROFSERV = -166.8 + TO_{-2}(0.66 + 0.008Q_1 + 0.032Q_2 - 0.078Q_3) \quad (4)$$
$$(5.30) \quad (23.68) \quad (0.29) \quad (1.17) \quad (2.93)$$
$$\text{Adj } R^2 = .94 \quad \text{S.E.} = 87.6 \quad \text{DW} = 1.41$$

However at other times the equation has performed well and if used with caution it can serve as a means of estimating Other Service imports as well. The graph of this model is given in Figure 9.3 (b) at the end of the next section, below.

9. Estimating Profit Outflows in 1993

At the time of writing, figures of profit outflows have been released for the first two quarters of 1993 only. Information on exports is complete for the first half of the year for extra-EU trade, but figures for intra-EU trade have been published up to May only. The Central Statistics Office warn furthermore that these trade figures may be subject to revision, so that, as mentioned, we will resort to the use of equations in which Turnover rather than Exports is the explanatory variable. Applying Equations 1 and 3 in turn we obtain the following estimates of profit outflows in 1993, shown in Table 9.3.

There is an unfortunately wide margin, which is nearly 1.7 per cent of GNP, between the two estimates. Currency movements, including the successive rises in foreign currencies in the first three quarters of 1993, contribute £357 million of the £466 million discrepancy between the first and second estimate for 1993. The higher coefficient on Turnover in Equation 3 accounts for another £91 million. The choice of which estimate to prefer would hinge on one's views on whether the exchange rate effects have been successfully captured.

Table 9.3: Estimates of Profit Outflows in 1993 (£ million)

From Equation 1 (using turnover only):	3,375
From Equation 3 (using turnover and effective exchange rates):	3,841

Table 9.4 : Actual and Estimated Profit Outflows in 1992 and 1993, £ millions

	1992			1993		
	Quarter 1	Quarter 2	Year	Quarter 1	Quarter 2	Year
Actual Profit Outflows	586	704	2,735	653	962	
Estimates — Equation 1	615	742	2,912	675	836	3,375
Equation 3	615	759	2,849	622	1,034	3,841
Profit Outflows + Imports of Other Services						
Actual	952	871	4,336	997	1,364	
Estimates — Equation 4	956	1,147	4,462	1,055	1,300	5,207

The discrepancy between estimates is not the only dilemma posed. Compared to the actual figure for 1992, the 1993 estimates imply a rise of between 23 and 40 per cent. Part of this huge rise probably derives from the fact that the model is overestimating in recent years anyway. A summary of actual and estimated figures for 1992 and 1993 is shown in Table 9.4. (Results from Equation 4 for combined profit outflows and imports of Other Services are added at the base of the table for completeness). The estimates for profit outflows are furthest away from the actual figures in the second quarter of 1993, when one equation undershoots by 13 per cent and the other overshoots by over 7 per cent. Graphs with projections for 1993, using Equation 3 and Equation 4 are given in Figures 9.3, (a) and (b) respectively.

Figure 9.3a

(a) Profit Outflows

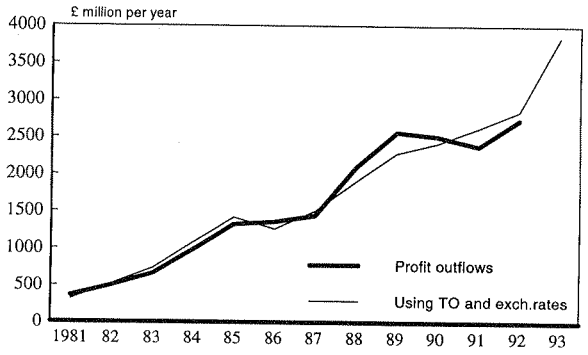
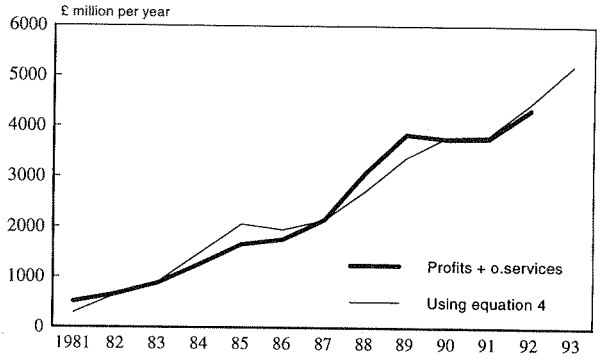


Figure 9.3b

(b) Profit Outflows + Imports of Other Services



10. Conclusion

To conclude, our previous analysis (O'Malley and Scott, *ibid*) showed that, in the period 1981-86, trends in profit outflows were closely related to trends in the sales of a number of selected industrial sectors which were both relatively profitable and predominantly foreign-owned. The present chapter indicates that this has continued to be the case throughout the period 1981-92. A modification to the original analysis indicates that changes in the effective exchange rate also influence profit outflows. Another modification shows that trends in the combination of profit outflows plus imports of "Other Services" have also been closely related to trends in sales of the same group of selected industrial sectors. All versions of the model which are presented in this paper suggest that profit outflows, and profit outflows plus imports of "Other Services" combined, will show a large increase in 1993 when official figures for the full year become available.

References

O'MALLEY, E. and S. SCOTT, 1987. "Determinants of Profit Outflows from Ireland", in J. Bradley, J. Fitz Gerald and R. A. Storey (eds.), *Medium-Term Review: 1987-1992*, Dublin: The Economic and Social Research Institute, Report No. 2.