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Medium-Term Review: 1989-1994

J. BRADLEY J. FITZ GERALD

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SUMMARY

MAIN FEATURES

We project a pattern of sustained growth of GNP for the next five-year period, 1989-94. The average annual growth rate should be in the region of 5 per cent, with higher growth in 1990 and 1991 followed by a slow-down in later years. As with all forecasts five years ahead, this projection is subject to great uncertainty. However, it represents our best estimate of the likely time-path for the economy in the period to 1994. Our central forecast takes account of the likely effects of both *1992* and of the substantial increase in payments to Ireland from the EC Structural Funds. It also allows for some limited reduction in direct taxes and increases in welfare benefits. Otherwise it assumes that there is no volume increase in government expenditure or real cuts in taxation. Any departure from such a strict regime, which did not match changes in expenditure and revenue, would affect the forecast.

On the basis of these assumptions we expect the balance of payments to remain in substantial surplus of between 2 and 3 per cent of GNP. The Exchequer borrowing requirement, having fallen from almost 13 per cent of GNP in 1986 to about 4 per cent this year, is set to go into surplus in 1991. Under present policies this surplus would reach almost 4 per cent of GNP by 1994. Consequently the debt/GNP ratio is likely to fall rapidly from its current level of 135 per cent of GNP to just under 85 per cent by the end of 1994.

The inflation rate, currently at 3.5 per cent, will rise by around 1 percentage point in the next two years and will only fall back to present levels towards the end of the forecast period.

Total employment will rise rapidly during the five-year period by almost 80,000 jobs. However, the rate of unemployment, presently at 16 per cent of the labour force, will only fall to just under 13 per cent by 1994.

FORECAST DETAILS

Table 1 gives details of the central forecast for certain key economic aggregates. The most striking feature is the very high growth rate projected for 1990. A key factor underlying this is the level of support from the EC Structural Funds. This stimulus will come on top of an already buoyant economy to give a record growth rate.

The growth of the economy slows appreciably in subsequent years so that by 1994 it is down to just over 3 per cent (Figure 1). The preparation for *1992* reduces growth by a small amount in 1990 and 1991 while it provides a substantial offset to the reduction in the underlying rate of growth in the period 1992-4.

Even without the effects of the EC Structural Funds and *1992* the pattern of growth of the economy would show a definite peak in 1990 with a slow-down thereafter. This underlying pattern reflects the fact that we are benefiting from the effects of *postponed* growth from the 1980s. In particular, the fall in the savings ratio which we forecast for the period 1989-91 represents a recovery of confidence by consumers, a confidence which was severely dented in the 1980s by the widespread fiscal cut-backs.

Over the three year period 1987-89 the rate of growth has been substantially reduced by the necessity of pursuing a restrictive fiscal policy. In 1987 and 1988 fiscal policy reduced the growth rate by between 1 per cent and 2 per cent a year. The underlying growth rate for those three years (under a hypothetical neutral fiscal policy), was thus around 4.5 per cent. We see this process of recovery reaching a peak in 1990, even without the benefit of the stimulus from the Structural Funds. The effects of the fall in the savings ratio represents the response of consumers to the postponement of normal consumption in the uncertain years of the 1980s.

The rate of inflation rises in 1990 and 1991 due, in part, to an acceleration in world inflation but also to the rapid growth in domestic demand (Figure 2). This rate of domestic inflation is initially stimulated by a rise in profit margins. However, by 1991 rising domestic costs play an increasing role. The rate of inflation falls from 1992 onwards, partly because of the effects of *1992* and partly due to the slow-down in the economy.

As a result of this economic resurgence, there is a substantial rise in employment over the period 1989-94 (82,000). However, the labour force also shows a large rise of 46,000 so that unemployment only falls by 37,000 (Figure 3). As a percentage of the increasing labour force unemployment falls from 16 per cent in 1989 to 12.7 per cent in 1994. The rise in the labour force reflects a reduction in emigration from its present exceptionally high level, due to the improved domestic labour market conditions.

The balance of payments surplus is boosted by the increase in transfers from the EC Structural Funds (Figure 4). This helps keep the surplus relatively unchanged over the five year period.

Finally, the Exchequer borrowing requirement moves into surplus in 1991 (Figure 5). This move into surplus occurs in spite of the assumption of moderate cuts in rates of direct taxation and limited overindexation of transfers and is hastened by the stimulatory effects of the Structural Funds. The result of the rapid

growth in the volume of GNP, combined with repayment of debt from 1991 onwards, is a fall in the debt/GNP ratio from the 1988 level of around 135 per cent of GNP to under 85 per cent in 1994 (Figure 6).

BACKGROUND ASSUMPTIONS

Underlying our central forecast are a set of assumptions concerning key external variables and the stance of domestic policy. In the case of the external variables we do not attempt to develop our own independent view of the medium-term prospects for the world economy. For this we rely on the work of a number of major international organisations.

World real growth over the 1990-94 period is assumed to be approximately 4 per cent per annum. The effects of *1992* account for around 1 percentage point of this growth in the latter part of our forecast period. After a world inflation rate of around 5 per cent this year, we assume inflation will fall, and will average 3 per cent in the medium term. We assume that the Irish pound maintains its parity in the EMS with the DM and that sterling and the US dollar depreciate slightly against the DM in 1990 and 1991.

With respect to the domestic economy there are certain key policy variables which can affect the forecast. Government expenditure and taxation instruments were generally indexed over the forecast period. This involves the maintenance of strict control on expenditure in the medium-term. However, the recently published *National Development Plan* departs from indexation of many public capital expenditures. Our assumptions reflect the details of the *Plan*. Since it is stated as government policy, we have also included some cuts in direct tax rates rather than strict indexation.

The details of our assumptions concerning the world economic environment and the likely stance of domestic economic policy are set out in Section 2 of this *Review*.

THE SOURCES OF GROWTH

The fact that a recovery has been underway in the economy for a number of years has, to some extent, been masked by the severe fiscal regime in force for much of the 1980s. With an end in sight to the cutbacks, a major stimulus to growth from the increased expenditure paid for by the EC Structural Funds, and a probable fall in the personal savings ratio, the underlying upward trend in GNP will be greatly accelerated in 1990. Thereafter, the rate of growth will fall gradually. Up to 1994 it will remain well above the trend growth experienced in the 1980s, more in line with the achievements of the 1960s and the 1970s.

From an average growth rate of 0.5 per cent a year in the period 1980-88 we forecast a growth rate of almost 5 per cent a year over the six years 1989-94. The primary factors underlying this turn-round of 4.5 percentage points are: the reversal in the outflow of debt interest due to the improvement in the public finances; the change in the fortunes of the building industry; the improved prospects for manufacturing industry. Underlying all these changes is the fall in real interest rates from their peak in the early 1980s. While these factors are, in many ways, interrelated, this decomposition helps explain some of the key mechanisms driving the economic recovery.

The turn-round in the balance of payments which is, in turn, largely due to the improvement in the public finances, will make a major contribution to the economic recovery forecast for the next five years. There will be a direct addition to growth of 1 percentage point a year from the slower growth in net factor income paid abroad, due primarily to the fall off in interest payments abroad.

The need for restrictive fiscal policy throughout most of the 1980s had an especially severe impact on the building industry. However, due to the improved domestic environment arising from the fall in real interest rates and the increased expenditure from the EC Structural Funds, the downward trend in building will be reversed. Instead of being a major factor reducing the growth of GNP, as in the 1980-88 period, building will contribute significantly to growth from 1989 onwards. This factor accounts for 1 percentage point of the increase in the growth rate compared to the 1980-88 period.

As a result of the improved competitive position of the economy, dating back to at least 1986, the manufacturing sector will grow more rapidly in the next five years than it did, on average, over the 1980-88 period. Even allowing for increased profit repatriations, this will contribute around 1 percentage point to the turn-round in the growth rate in the medium term.

The remaining 1.5 percentage points turn-round in the growth rate is due to the induced effects of the other changes on the market services sector of the economy. The increase in income and employment in the industrial sector increases domestic demand. The improvement in the government sector's accounts sees an end to the very restrictive fiscal policy stance pursued for much of the 1980s. This, in turn, allows more of the benefits of increased output to flow to the household sector, raising consumption.

The fall in the savings ratio, while adding 1.7 percentage points to the growth rate in 1990, only adds around 0.1 percentage points to the average growth rate over the period to 1994. This is partly due to the fact that the savings ratio rises again over the 1992-4 period. It is also partly due to the fact that the increase in consumption reduces investment and that this affects growth in the longer-term.

UNCERTAINTIES AND RISKS

The central forecast shows a robust economic recovery underway. However, it also highlights a number of new potential dangers any one of which could cause major problems in the medium term. It is important to stress that our central forecast is only one of a wide range of possible outcomes for the economy. While we feel that it is, on balance, the single most likely path for the economy in the medium term, it is vital to consider the range of other possible outcomes, both favourable and unfavourable.

TABLE 1. : Central Forecast - Major Aggregates

	1986	*1987*	*1988*	*1989*	*1990*	*1991*	*1992*	*1993*	*1994*
GNP % Change	-1.2	5.4	1.6	4.0	7.1	5.6	4.6	4.8	3.2
Balance of Payments, % of GNP	-3.1	1.3	2.3	3.0	2.6	2.4	2.8	2.4	3.1
Exchequer Borrowing Requirement, % of GNP	-12.9	-10.0	-3.3	-4.0	-1.3	1.2	2.3	2.9	3.9
Debt / GNP Ratio	139.0	139.4	134.1	130.4	119.4	108.7	99.9	91.3	83.7
Total Employment (000)	1081	1080	1086	1092	1112	1131	1145	1160	1174
Unemployment Rate %	17.3	17.7	16.6	16.0	14.6	13.4	13.0	12.8	12.7
Consumer Prices %	3.9	3.1	2.0	3.3	4.2	4.2	3.5	3.0	3.5

FIGURE 1
REAL GNP GROWTH RATE

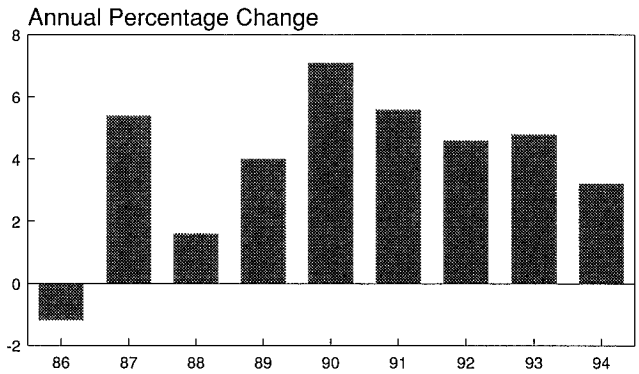


FIGURE 2
PRICE AND WAGE INFLATION

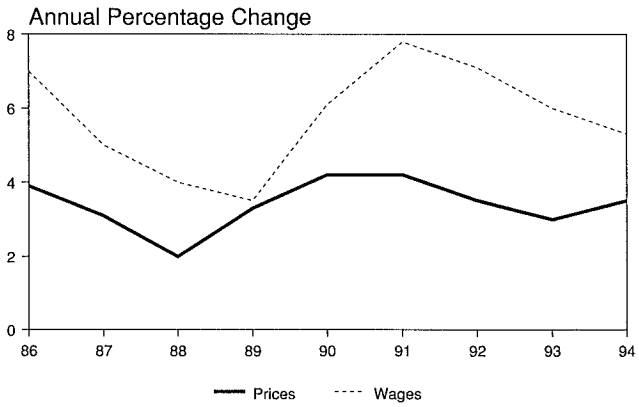


FIGURE 3
UNEMPLOYMENT RATE

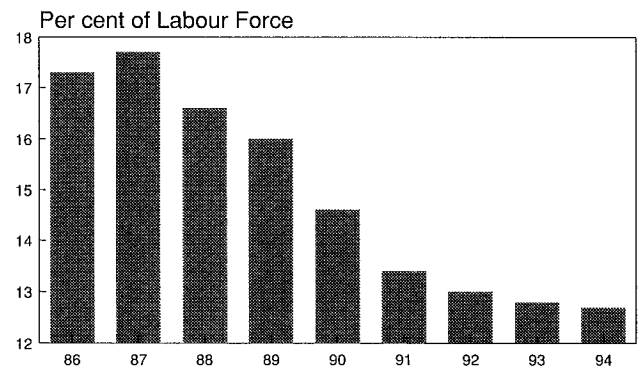


FIGURE 4
BALANCE OF PAYMENTS SURPLUS

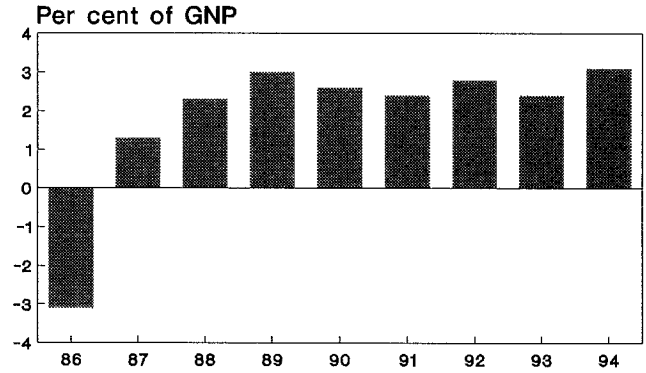


FIGURE 5
EXCHEQUER BORROWING REQUIREMENT

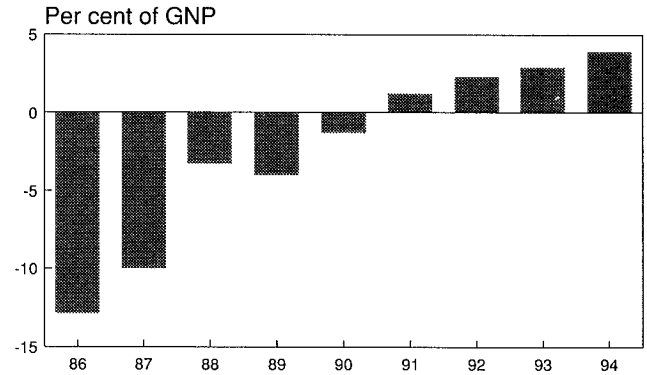
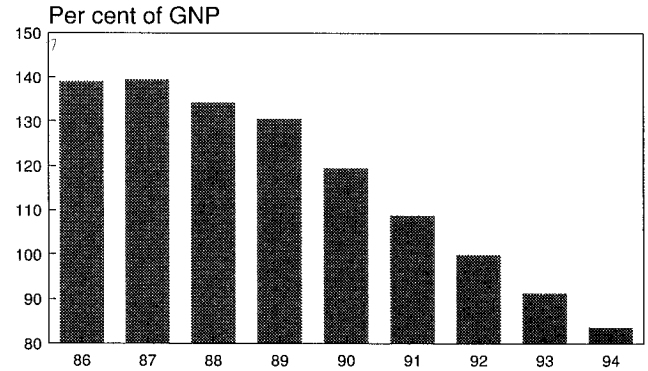


FIGURE 6
DEBT/GNP RATIO



The most obvious source of concern is the external environment on which our forecast crucially depends. Recent events, in particular the rise in international inflation and the related rise in interest rates is a cause for concern. However, there has not been a significant increase in real interest rates. However, any additional changes which served to raise German (and hence Irish) real interest rates could substantially reduce the growth rate in Ireland.

The possibility of a very high growth rate in 1990 must accentuate fears of domestic profit induced inflation in 1990 and 1991. This possibility is the most immediate domestic danger to the recovery of the economy in the medium term.

The timing and magnitude of the forecast rise in domestic inflation is uncertain. While the central projection assumes that wage and price formation behaviour over the next five years will be in line with the experience of the 1980s, a return to the pattern of behaviour of the 1970s could give a much stronger boost to domestic inflation. This would affect competitiveness and endanger our position within the EMS which would, in turn, further aggravate the problems of the economy. If the projected growth in employment in the central forecast is to be safeguarded it is essential that such a vicious circle of domestic inflation should be averted.

While it is quite possible that the savings ratio will not fall as far or as rapidly as we forecast, it is also possible that it will fall further or even more rapidly. In the central forecast the rise in consumption will add to inflationary pressures in the economy. A more rapid increase could be quite serious. On the other hand, a slower rise in the volume of consumption would represent *postponed* rather than *lost* growth, while, at the same time, reducing inflationary dangers. Thus the risks in the medium term of differing outcomes on the savings ratio are not symmetrical.

Our central forecast is very sensitive to alternative assumptions about profit repatriation. If domestic firms were to perform worse than we have assumed, with greater reliance on the contribution from multinationals, the growth rate in the medium-term would be significantly reduced. The uncertainty about the rate of profit repatriation highlights the potential benefit to be gained from a greater reliance on growth in domestic industry.

The possibility that the expenditure under the Structural Funds may be slower to build up and may turn out to be lower than envisaged in the *National Development Plan* must be recognised. The appropriate policy response and the need to consider the detailed provisions of the *National Development Plan* in this light, and in the light of the potential for domestically generated inflation, are discussed in detail in this *Review*.

Finally, there is uncertainty about the effects of *1992* on the EC and, hence, on the Irish economy. We estimate that the growth rate in the 1993-94 period would be approximately 0.75 per cent lower if this boost were not to materialise or if it were delayed. In addition, the magnitude of the boost to EC growth from this source is still very much a matter for debate. This highlights the uncertainty about the growth rate in the medium-term.

Taken together these uncertainties highlight the need for caution in formulating public policy. While a strong recovery is undoubtedly under way there are many dangers facing the economy in the medium term. The experience of the last ten years shows that mistakes in economic management tend to feed on themselves while the benefits of prudence also tend to multiply.

POLICY IMPLICATIONS

Facing into the 1990s the combination of the economic recovery with the increase in the EC Structural Fund payments will provide an opportunity to tackle the deep-seated structural problems of the economy. This combination of circumstances may not be repeated again and, as a result, it is vital that good use is made of them. Over the last eight years policy makers had to concentrate on the pressing problem of the debt. It is now time that horizons be broadened to consider how best to deal with the longer-term problems of the economy, in particular unemployment. The improved environment does not mean that immediate or easy answers are possible but it lays the foundations for steady progress up to the end of the decade.

In the short term it is clear that the economy is growing very rapidly and does not need any stimulus from fiscal policy. In fact there is an urgent need to prevent a build-up in domestic inflationary pressures. In Section 6.3 of this *Review* we deal with this issue in detail.

In the medium-term it is vital that the opportunities presented by the economic recovery are not wasted. Policies are needed to deal with the major structural problems facing the economy. In Section 6.4 we discuss some of the key issues. The EC Structural Funds must be used to fund investment which will produce a lasting growth in domestic output. There is a need to reconsider policies for industrial development, education and training, tax reform, and tackling unemployment and poverty.

Until now the objective for the public finances was quite straightforward. However, with the EBR moving into surplus in 1991 or, at the latest, in 1992, the need for a longer-term policy on the public finances is pressing. While it is of considerable importance to cut our level of national debt to reduce the potential exposure of the economy to world financial problems, it is important to view the public finances in a wider context. While there is no prospect that increasing debt will be a profitable policy in the future, there is an issue as to how rapidly the debt should be repaid.

These issues provide our present *Review* with its main themes: preparing for *1992* and tackling the unemployment problem and its accompanying maldistribution of income. The policy dilemma will be the reconciliation of the need for economic *efficiency* with the desirability of social *equity*.

SECTION 1

GENERAL INTRODUCTION AND REVIEW

1.1 GENERAL INTRODUCTION

The Role of the *Medium-Term Review*

This *Medium-Term Review* fulfils a number of different roles. First, it aims to provide a guide to how the Irish economy will develop over a longer time horizon than is normal for economic forecasts. Such forecasts are needed by those who have to plan for more than a single year ahead. Secondly, it permits us to explore the implications of current economic policies within a wider time frame than is usual. This is especially important when examining the effects of policies which affect the supply side of the economy, such as the recently published *National Development Plan*. Thirdly, it provides a testbed to evaluate how policy might be changed to meet evolving economic problems and needs. In the case of this *Review*, we have pushed our forecasts forward to 1994, covering the first years of the completed EC internal market (*1992*). While the full effects of *1992* will take a long time to work through, the first consequences are already being felt in Ireland.

In preparing such a forecast we are conscious that events rarely turn out exactly as forecast. As a result, it is useful to explore the sensitivity of our central projection to alternative assumptions concerning key economic variables. This serves to highlight the importance of initial assumptions in determining the final forecast, and also allows readers to evaluate the extent to which the forecast may be disproved by the changing scene at home and abroad. In addition, we have separated out the effects of the *National Development Plan* and of *1992*, two crucial new factors affecting the Irish economy over the next five years.

The ESRI economic model, HERMES, was used to carry out this analysis in a consistent manner[1]. In preparing the central forecast we have experimented with a range of different assumptions concerning variables such as the savings ratio and the rate of profit repatriation. The results of some of these tests are described in the text.

Background

The Irish economy is in a period of transition. To date in the 1980s there has been a pressing need for drastic fiscal measures to stem the outflow of interest payments arising from the evergrowing foreign debt. The initial response to this problem was to raise tax rates and to cut the rate of increase in public expenditure. In spite of the severe impact of the rise in world interest rates in the first half of the 1980s, this policy response effected a reduction in the Exchequer borrowing requirement up to 1985. By early 1986, when the ESRI's first *Medium-Term Outlook* was published, we foresaw a turn-round in the public sector fiscal imbalance. However, fiscal policy faltered that year in the face of an unexpected decline in the world rate of inflation. This postponed the eventual recovery in the public finances by twelve months.

Against the background of a minority government since March 1987, public policy has proceeded with fairly broad support from across the main political parties. The need for a continuation of the policy of fiscal retrenchment was recognised and wide-scale cuts in public expenditure and in the level of publicly provided services in health and education were passed by Dail Eireann. When we published our second *Review* at the end of 1987 we forecasted that the public finances would come under control by 1989 and that there would be less need for further cuts. As these fiscal problems are coming under control, the agenda of public policy has widened and now embraces issues which, of necessity, were neglected during the last few years. This *Review* takes up some of these issues.

While the prospects for the medium term appear better now than they did even in our last *Review*, the central forecast presents both a number of new problems for policy and the seeds of new opportunities for future growth. In the light of our analysis, we discuss in detail in Section 6 of the *Review* how current policy needs to be changed and how, looking to the end of the century, new policy initiatives will be required. In particular, the problems posed for the economy by *1992* and the opportunities provided by the increase in EC Structural Fund payments are considered.

While the problem of the public finances is coming under control we are still left with the primary underlying problem in the Irish economy, the high level of unemployment and of renewed emigration. Here the solutions are not so obvious and opinions differ as to how public policy should face up to a scale of emigration not previously encountered since the late 1950s. The recently published *National Development Plan 1989-1993* comments that the Irish labour market is "not particularly encumbered by regulation" and identifies the problem of unemployment as arising from a low

1 See *HERMES-IRELAND : The EC Medium-Term Policy Model of the Irish Economy: Structure and Performance*, by Bradley, J., J. Fitz Gerald, D. Hurley, L. O'Sullivan and A. Storey, forthcoming, ESRI, for a complete description of this economic model and its use in an EC-wide economic modelling exercise.

TABLE 1.1: Comparison of Forecasts for GNP Growth Rate

	1986	*1987*	*1988*	*1989*	*1990*	*1991*	*1992*	*1993*	*1994*
Review 1986	2.5	3.3	3.5	3.0	3.0				
Review 1987			-0.4	3.0	3.3	3.7	3.6		
This *Review*				4.0	7.1	5.6	4.6	4.8	3.2
Latest Estimate	-1.3	5.1	1.6						

Source: 1986 and 1987 are National Income & Expenditure data from the CSO. The data for 1988 are from the April 1989 issue of the *QEC*.

demand for labour due to "inadequate output growth and to structural characteristics of the economy". Consequently, if in the future the economy is to generate a demand for labour sufficiently great to reduce numbers unemployed to the levels of the 1970s then in addition to boosting growth, these "structural characteristics" must be altered.

Ireland's future economic environment is now paradoxically characterised at once both by great certainty and uncertainty. The certainty concerns the knowledge that the completion of the internal European market is under way and scheduled to take full effect by end 1992. The Irish economy will by then have emerged perforce from behind what little shelter remains from the rigours of international competitive forces and will be fighting for its place in the post-1992 market place. The uncertainty concerns the performance of our economy when faced with these new forces even though the transition to the new competitive environment will be assisted by large-scale transfers of investment capital from expanded Structural Funds.

These issues provide our present *Review* with its main themes: preparing for *1992* and tackling the unemployment problem and its accompanying maldistribution of income. The policy dilemma will be the reconciliation of the need for economic *efficiency* with the desirability of social *equity* or, in the phrase of Alan Blinder in his recent analysis of US policy options, the need for "hard heads and soft hearts".

The Organisation Of The *Review*

Following a review of past developments in the remainder of this Section, Section 2 sets out the baseline assumptions which underlie our central forecast. There is a remarkable and untypical unanimity among the international forecasting agencies upon which we have based our view of the world economy. In addition, we have incorporated the findings of the Cecchini Report on the impact of the completion of the European internal market. The domestic policy assumptions are made in the light of the stated views of the Government on future fiscal actions and on the recently published *National Development Plan*. For both 1988 and 1989, the projected outturns are broadly aligned with those published in the April 1989 *Quarterly Economic Commentary*.

Section 3 presents and discusses our central forecast for the period 1989 to 1994 on the basis of the above assumptions. The preparation of this forecast has been based on the use of the ESRI's medium-term model of the Irish economy.

In Section 4 we carry out a detailed analysis of the recently published *National Development Plan*. This document describes the use to which the expanded EC Structural Funds will be put and provides our key assumptions for handling public sector capital expenditure over the coming years.

The effects of completing the EC internal market (*1992*) are examined in Section 5. Here we attempt to provide a preliminary analysis of how the *1992* process will impact on the Irish economy, an analysis already performed by Cecchini for the larger EC economies.

Finally, in Section 6 we consider whether our forecast warrants changes in current policy and we attempt the very hazardous task of looking beyond our self-imposed five-year time horizon of 1994. This is not something we have done before but the advent of *1992* and the long-tailed consequences of the Structural Fund projects makes it necessary to look further than 1994, albeit in a qualitative fashion.

1.2 REVIEW

The 1986 and 1987 *Medium-Term Reviews*

Before reviewing the progress of the Irish economy over the recent past it is useful to consider how our view of the prospects for the economy has evolved over time. In the first *Review*, published at the beginning of 1986[2], and again in the second issue at the end of 1987[3], we consistently expressed the view that, while painful in the short term, fiscal retrenchment would pay dividends within two or three years. As shown in Table 1.1, as long ago as 1986, we forecast a return to growth of over 3 per cent in 1989 and 1990. Again in our 1987 issue we foresaw an average growth in the medium term of around 4 per cent. This picture was generally characterised at the time of publication as being overoptimistic. However, the outturn suggests that we were unduly pessimistic and in this *Review* we have further revised upwards our estimate of the medium-term growth rate to around 5 per cent.

2 *Medium-Term Outlook: 1986-90*, by Peter Bacon.

3 *Medium-Term Review: 1987-92*, by J. Bradley, J. Fitz Gerald and A. Storey.

Where we have been less successful has been in forecasting the turning point. Identifying turning points is made even more difficult by events such as the recent tax amnesty. At the end of 1987 we greatly underestimated the growth in 1987 and 1988, expecting the recovery to begin in 1989. It now appears that the turning point occurred in 1987 and the underlying growth in the economy has continued at a high level since that date. These problems in forecasting the turning point in economic growth have been repeated by all the other forecasts prepared at the same time.

This highlights some of the problems facing policy makers. It is dangerous to make plans which depend too heavily on a specific economic outcome in the short term. What is necessary is first, to formulate plans to deal with the structural problems of the economy which only change slowly over time and secondly, to formulate policy in a flexible way so that it can adapt to rapidly changing short-term conditions. With this in mind we review the past performance of the economy to help identify what are the key problems which will arise over the next five years.

A Retrospective View

In the real world there is always a pressing need to focus on the "here-and-now" at the expense both of the past and the future. Any economic commentary carries with it an implicit time frame over which relevant changes occur. For example, when talking about exchange rates, interest rates or the valuation of equities, this time frame may be as short as a few days, hours, or even minutes. Movements in commodity markets are usually discussed in a frame of weeks or months. The effects of fiscal policy, ignoring instantaneous announcement effects, operate over months or a couple of years. However, when examining the process of economic growth, the appropriate time frame can be decades.

In this section we take a look at some aspects of the evolution of the Irish economy over the period 1966 to 1989, i.e., up to the start of our medium-term forecasting period of 1989-1994. The data up to 1987 are compilations from the CSO, while for the last two years we use the most up-to-date short-term forecasts available at the time of writing. Our purpose in presenting this material is to set the central forecast for the period 1989-1994 (treated in detail in Sections 2 and 3 below) in context since our projections for the future behaviour of the economy depart considerably from the pattern which characterised the last few years. Needless to say history seldom repeats itself exactly so such a retrospective examination can at best be suggestive as to future possibilities and, at worst, could be grossly misleading.

The Pattern of Aggregate Growth

It is well known that the pattern of growth in Ireland (Figure 1.1) tends to track the pattern of growth in the international economy, particularly in the economies of our main trading partners.

FIGURE 1.1
REAL GROSS NATIONAL PRODUCT

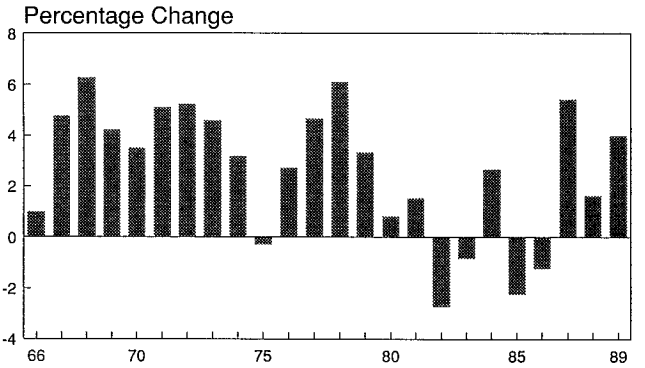
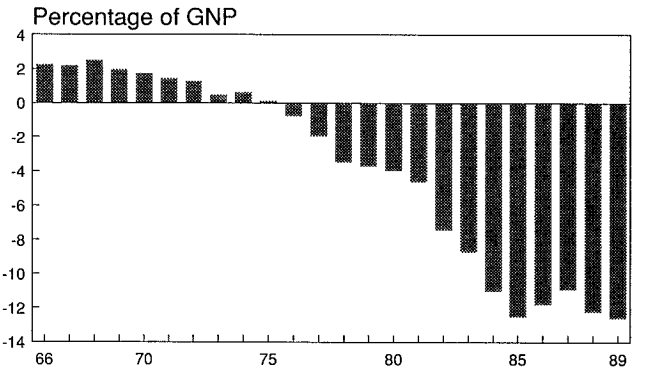


FIGURE 1.2
NET FACTOR INCOME FROM ABROAD



High growth characterised both the world and the Irish economies in the pre-OPEC era. A strong recovery after 1975 peaked in a growth rate of 6.1 per cent in 1978 (equal to the previous highest level attained in 1968). With the on-set of the OPEC-II oil price rises in 1979 and the subsequent world recession, the economy faltered and a period of unstable, mainly negative, growth followed for the years 1982 to 1986. Some of the reasons for the recovery of 1987-89 were treated in the last issue of the *Review* and in Section 3 below we consider the issue of how sustainable this recovery is likely to prove.

However, movements in GNP concealed two patterns in its subcomponents, namely Gross *Domestic* Product (GDP) and net factor payments from abroad. The latter moved steadily towards a large outflow (Figure 1.2) driven by large-scale repatriation of profits by foreign multinational firms and by rapidly escalating foreign debt interest payments.

The former was a natural consequence of the dominant position that the foreign multinationals had come to hold in Irish industry. The latter was a direct consequence of the large fiscal deficits and foreign borrowing undertaken by the public sector, the results of which have overshadowed economic policy making in Ireland for the last decade.

Living Standards

In many ways the pattern of real household consumption (Figure 1.3) mirrored movements in GNP, the period of high and sustained growth from 1967 to 1972 culminating in the recession of 1975.

FIGURE 1.3
REAL PERSONAL CONSUMPTION

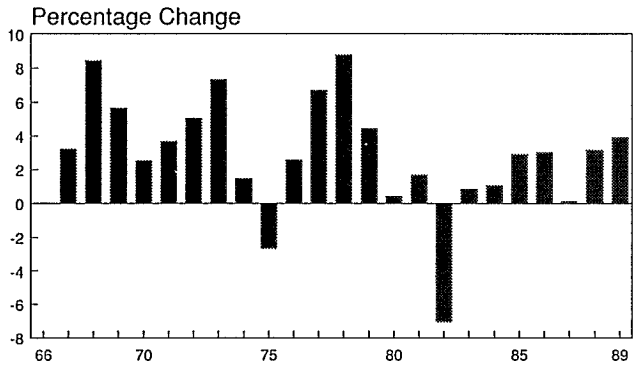
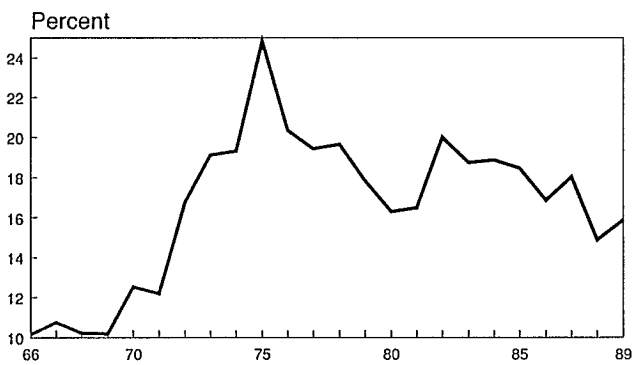


FIGURE 1.4
PERSONAL SAVINGS RATIO



There followed four years further growth, the highest being the record 8.8 per cent achieved in 1978. This came to an abrupt halt in 1979 and, thereafter, growth has been at an historically low level[4].

Movements in the personal savings ratio are shown in Figure 1.4.

The ratio rose sharply in the early 1970s to a temporary peak in 1975. There was a subsequent fall during the boom years of the late 1970s with a rise to a new high-point in 1982 at the onset of a recession in the domestic economy. Since then there has been a limited reduction to its current level.

Behind these somewhat anodyne national accounting aggregates there were significant shifts in the distribution of income. A recent study by the ESRI[5] found that the percentage of people below a wide range of relative income poverty lines increased between 1980 and 1987. The marked rise in unemployment over the period was a key factor in explaining the changes in the incidence and composition of poverty. Thus the low or negative aggregate consumption growth over the 1980s appears to have been distributed in an uneven fashion.

The Role of the Public Sector

In Figures 1.5 and 1.6 we show the pattern of growth in real public consumption (mainly wages and salaries in public administration, health and education) and the share of public consumption in overall GNP.

FIGURE 1.5
REAL PUBLIC CONSUMPTION

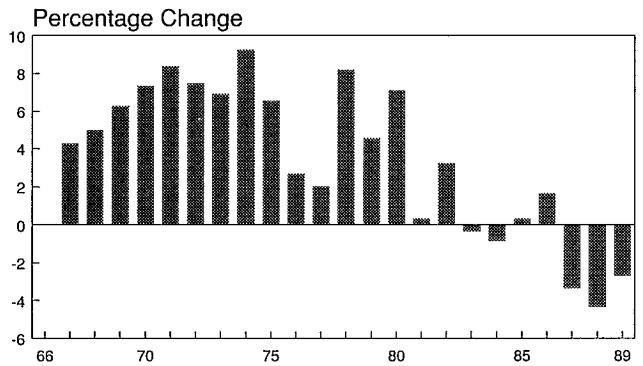
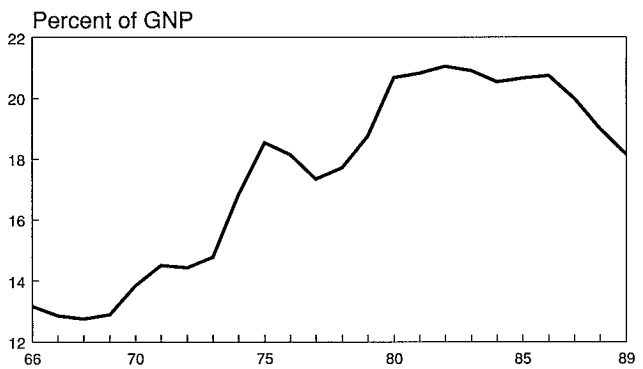


FIGURE 1.6
SHARE OF PUBLIC CONSUMPTION IN GNP



The robust growth of the years before 1980 is apparent, when the public sector's share of GNP rose from 13 per cent to a peak of 21 per cent in 1982. The main explanation for this pattern was the rise of public sector employment numbers (Figure 1.7), from the 1966 level of under 11 per cent of total employment in the economy, to a peak of just under 19.5 per cent in 1985[6].

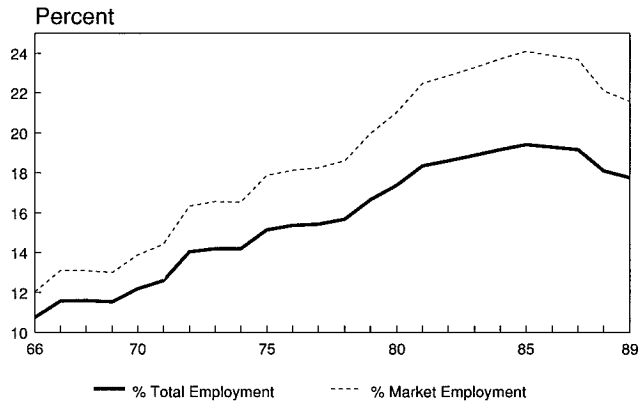
The subsequent decline after 1985 followed explicit policy decisions to shed labour in the public sector as part of a general package of fiscal cut-backs.

4 It should be noted that the consumption data are derived as a residual in the Irish National Accounts and carries the brunt of revisions and errors in other categories. The years 1975 and 1982 are particularly suspect.

5 *Poverty and the Social Welfare System in Ireland*, published by the Combat Poverty Agency, 1988.

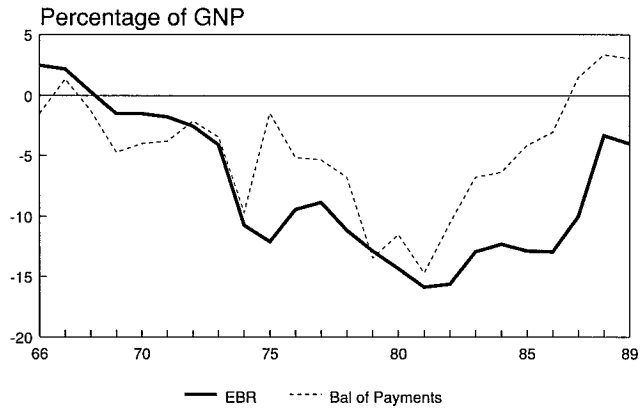
6 As public services employment becomes a larger fraction of total employment in the 1970s, the comparison with total employment is biased downwards.

FIGURE 1.7
PUBLIC SERVICES EMPLOYMENT



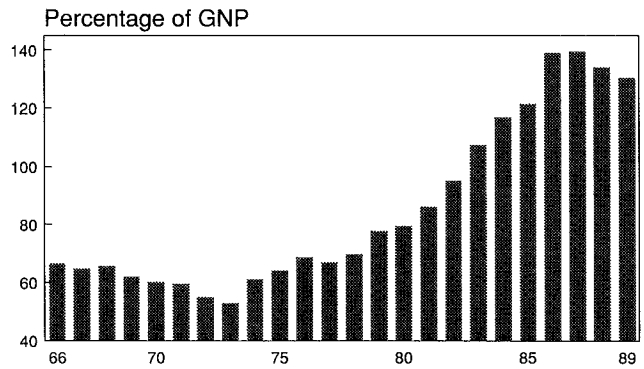
The Exchequer borrowing requirement (EBR) moved into deficit in 1969 and this deficit rose to almost 16 per cent of GNP in 1981 (Figure 1.8)[7].

FIGURE 1.8
EBR AND BALANCE OF PAYMENTS



In fact, most of the period was characterised by twin deficits on the public and international accounts. Driven by the burgeoning EBR, the debt/GNP ratio (Figure 1.9) rose inexorably under the influences of high interest rates and exchange rate devaluations.

FIGURE 1.9
DEBT/GNP RATIO



An increasing portion of the national debt was denominated in foreign currencies (Figure 1.10), the interest payments on which were a direct outflow from the domestic economy (Figure 1.11).

FIGURE 1.10
FOREIGN & DOMESTIC DEBT/GNP RATIOS

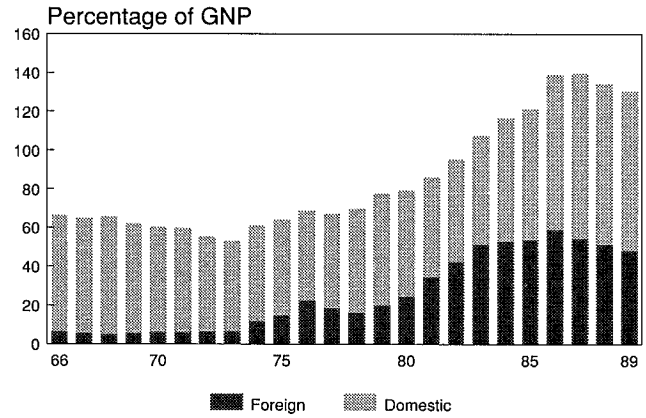
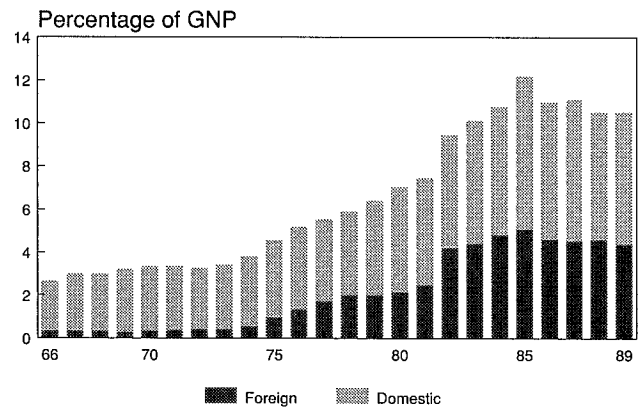
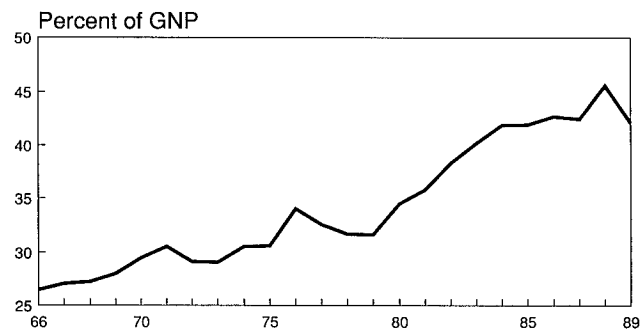


FIGURE 1.11
FOREIGN & DOMESTIC DEBT INTEREST



As Figure 1.12 shows, in addition to expanding the EBR and accumulating debt, the total tax take rose inexorably as a percentage of GNP.

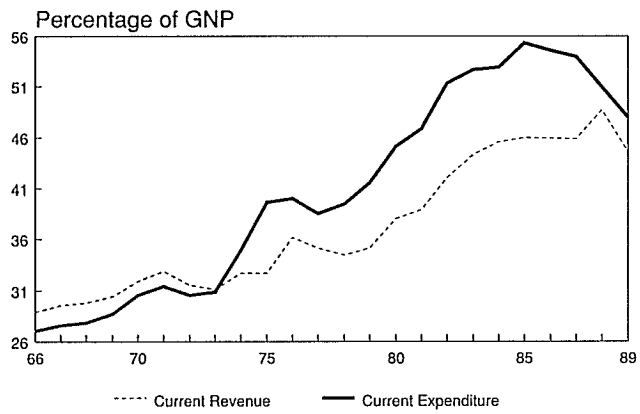
FIGURE 1.12
SHARE OF TOTAL TAX REVENUE IN GNP
(Direct Plus Indirect)



7 The EBR is measured as a *surplus*. Hence, a negative sign means *higher* borrowing.

This was a result of explicit increases in direct and indirect tax rates as well as a failure to index the direct tax system when it was buffeted by the high and unstable inflation of the late 1970s and early 1980s. The actual curtailment of tax increases, facilitated by the reduction in total public sector current spending (i.e., public consumption as well as transfer payments) did not come until the mid-1980s, driven by explicit fiscal cuts and assisted by falling world interest rates (Figure 1.13).

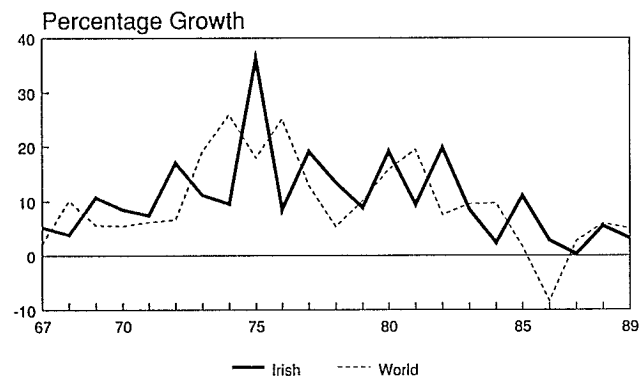
FIGURE 1.13
TOTAL CURRENT GOV REVENUE & EXPENDITURE



Inflation Here and Abroad

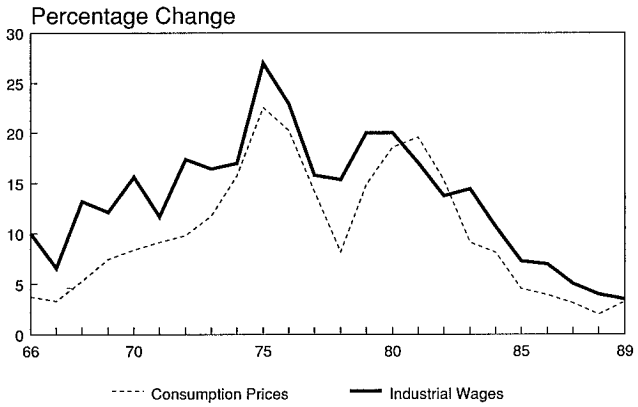
In seeking explanations for the erratic performance of the economy an obvious question to ask is "did we inflict a major loss of competitiveness on ourselves through inflating faster than the rest of our trading partners"? In Figure 1.14 we show the inflation rates of the price of Irish consumption goods together with a weighted average of world producer price inflation (in Irish currency terms).

FIGURE 1.14
IRISH AND WORLD INFLATION
(Industrial Output Prices)



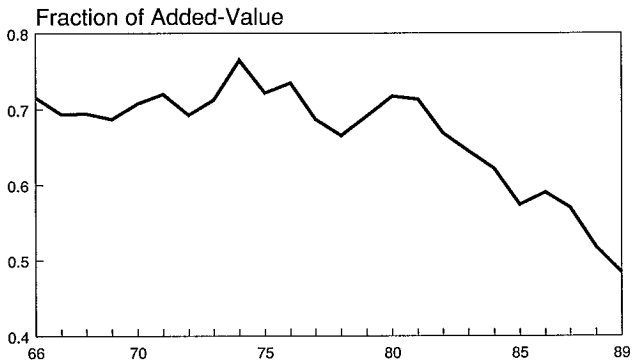
With some differences in timing following on the OPEC price shocks, no significant deviation between Irish and world inflation is apparent[8]. Given that purchasing power parity (or the "law of one price") holds in the long run for open economies like Ireland, this highlights the fact that it is not price competitiveness but rather cost competitiveness that is important for the Irish trading sector. In Figure 1.15 we compare Irish consumption price inflation with industrial wage inflation.

FIGURE 1.15
PRICE AND WAGE INFLATION IN IRELAND



Although running higher than price inflation for most of the period since 1966, the share of added-value in industry (the exposed trading sector) remained relatively static (with an upward blip in 1974) and has declined steadily since 1980 (Figure 1.16).

FIGURE 1.16
LABOUR SHARE OF ADDED-VALUE IN INDUSTRY



Part of the explanation lies in the changing composition of the industrial base (as capital and R&D intensive modern firms displace labour intensive traditional firms)[9]. However the low level of pay awards in recent years has contributed as well. Such a decline in labour's share is mirrored by an equivalent rise in the profit share of added-value, and serves to explain some of the phenomenally high industrial export growth of recent years. This is a point to which we will return in the discussion of our central forecast in Section 3 below.

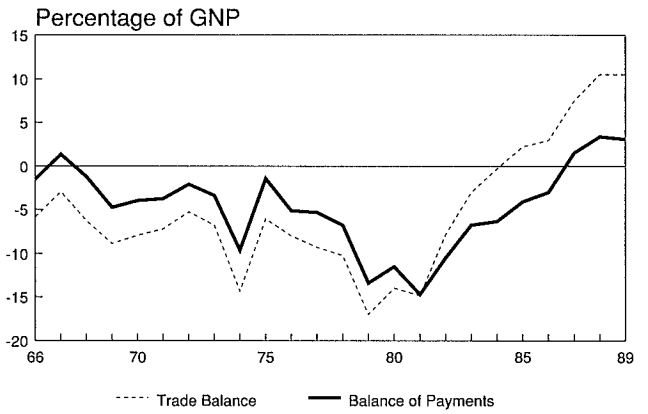
8 See T. Callan and J. Fitz Gerald, "Price Determination in Ireland: Effects of Changes in Exchange Rates and Exchange Rate Regimes", *The Economic and Social Review*, Vol. 20, No. 2, January 1989, for a detailed study of price transmission mechanisms.

9 The *Quarterly Economic Commentary*, October 1988 gives details (Appendix article by T. Baker on "Industrial Output and Wage Costs, 1980-87").

The External Account

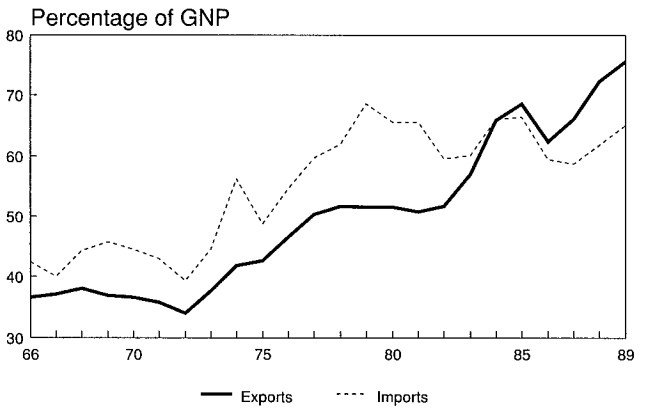
For the period up to 1986 the Irish balance of international payments was in deficit (Figure 1.17).

FIGURE 1.17
BALANCE OF TRADE & INT PAYMENTS



The years 1979 to 1982 saw these deficits reach almost 14.5 per cent of GNP, but from 1983 the deficit reduced rapidly and passed into a surplus in 1987, for the first time since 1967. This surplus is now at around 3 per cent of GNP, driven mainly by a strongly growing surplus on the balance of trade which more than offsets the rising profit repatriations and foreign debt interest flows abroad. Since 1966 both exports and imports have been growing as a share of GNP (Figure 1.18), reflecting the increasing openness of the economy, particularly since Ireland became a member of the EC in 1973.

FIGURE 1.18
SHARES OF EXPORTS & IMPORTS IN GNP

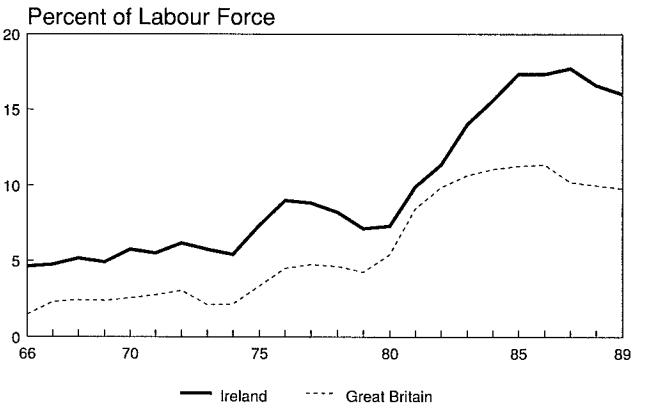


We return to this issue, i.e., the emergence in recent years of what could almost be termed a "structural" surplus on the international account, in our discussion of our central forecast in Section 3.

The Labour Market

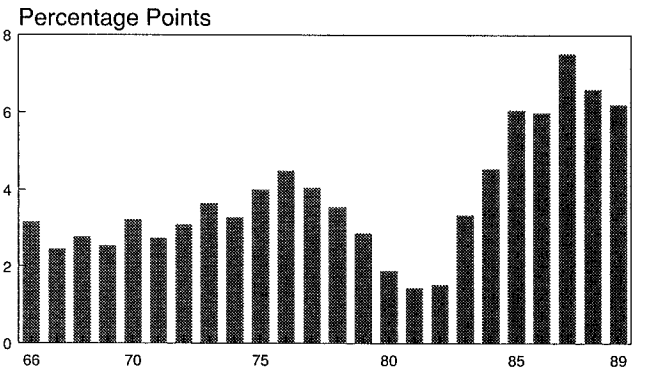
It is well known that the Irish and UK labour markets are closely linked through migration flows and, at least prior to the break with sterling in 1979, through wage and price inflation transmission. Figure 1.19 shows that the evolution of the Irish and British rates of unemployment followed each other closely prior to 1976.

FIGURE 1.19
IRISH & BRITISH UNEMPLOYMENT RATES



Other things being equal, the difference between these rates should be relatively stable. As Figure 1.20 shows, advances were made in closing the unemployment "gap" during the period 1975 to 1981 but the "gap" has widened sharply since then, reaching an historical high of over 7.5 percentage points in 1987, but falling to 6.2 points by 1989[10].

FIGURE 1.20
IRISH-BRITISH UNEMPLOYMENT DIFFERENTIAL



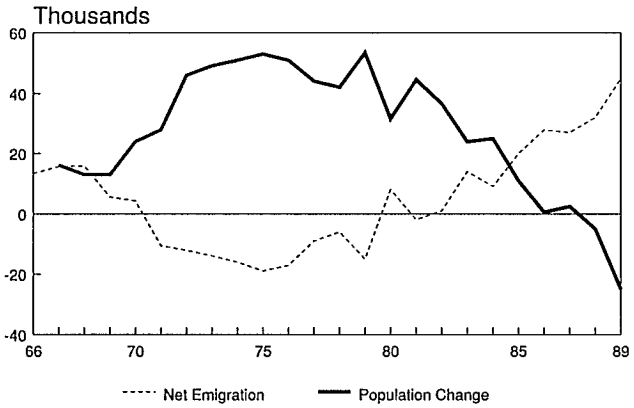
The corresponding movements in emigration flows and population growth are shown in Figure 1.21.

After a period of net inward migration from 1971 to 1979, outward migration has resumed in the 1980s and has now reached levels similar to the period preceding *The First Programme for Economic Recovery* of the 1950s and early 1960s.

The migration mechanism lies at the centre of any discussion of functioning of the Irish labour market. If outward migration flows to the UK had not been facilitated in recent years by high growth in the UK, then the behaviour of the labour market would have been very different. In the presence of a weak demand for labour in industry and marketed services, the structural decline of employment in agriculture, the cessation of

10 To an increasing extent, the actual numbers unemployed can be altered by public policies such as reclassification due to training schemes, the tightening of eligibility criteria, etc. This *caveat* applies particularly to the British data in the early 1980s.

FIGURE 1.21
EMIGRATION & POPULATION CHANGE



employment growth in public services and the relatively high natural growth in population have served to keep the rate of unemployment at a high level. A further serious aspect of the composition of unemployment is the increasing proportion of the long-term unemployed[11].

Sectoral Issues

In the period since 1966 the relative importance of the main sectors of the economy has changed dramatically. Figures 1.22 and 1.23 illustrate how the agricultural sector has declined in importance as an employer of labour (down from 32 per cent of total employment to 14.5 per cent) and as a producer of goods for export.

FIGURE 1.22
SECTORAL EMPLOYMENT NUMBERS

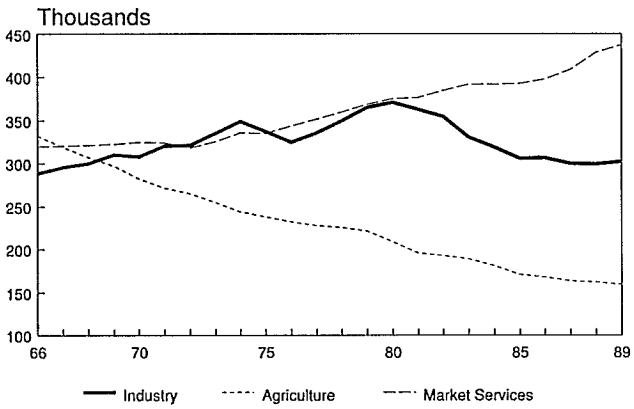


FIGURE 1.23
SECTORAL EXPORT SHARES

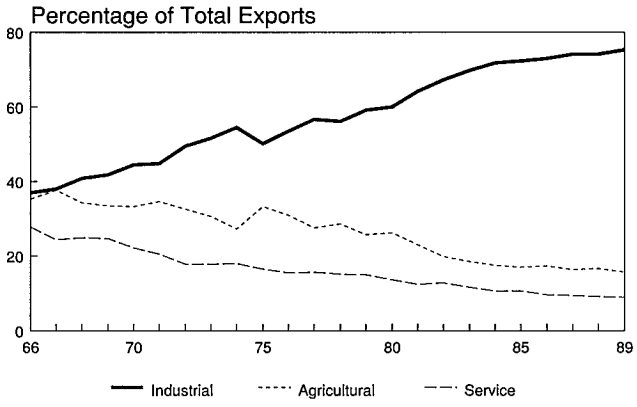


FIGURE 1.24
CAPITAL INTENSITY & REL. FACTOR PRICES

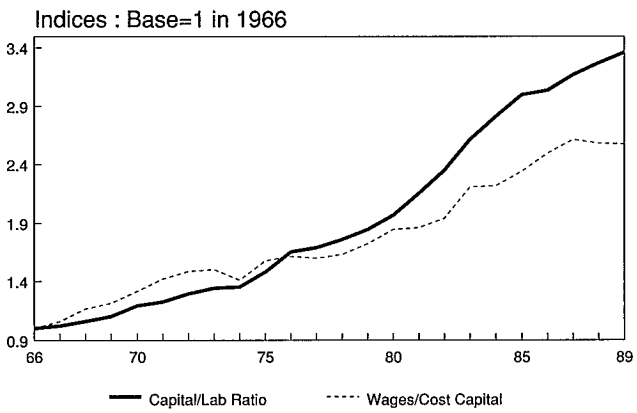
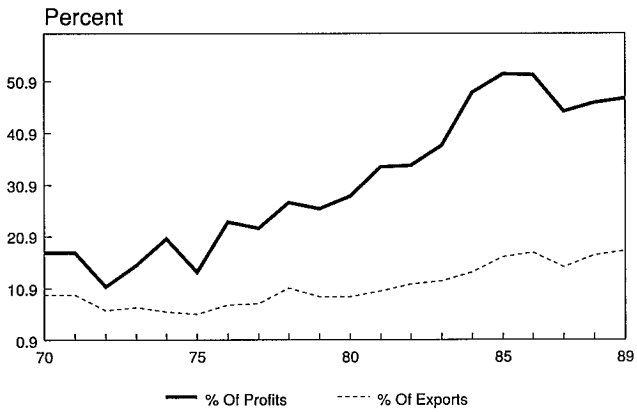


FIGURE 1.25
INDUSTRIAL PROFIT REPATRIATION



11 Refer to B. M. Walsh, "Why is Unemployment so High in Ireland Today?", paper presented to the IEA Conference, Kilkenny, May 8-10, 1987.

FIGURE 1.26
EARNINGS:INDUSTRY & AGRICULTURE
(Average Annual Per Employed Person)

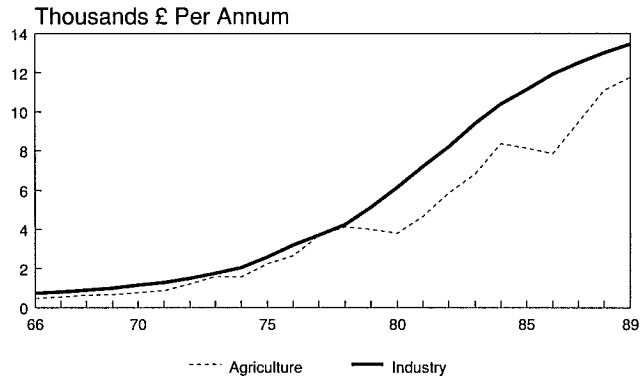
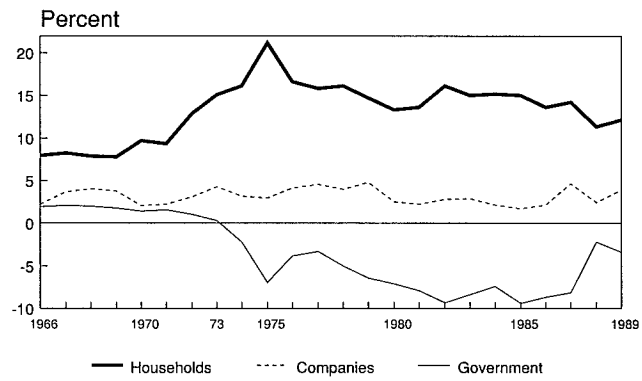


FIGURE 1.27
SAVINGS RATES
(Households, Companies & Government)



Industrial employment has fluctuated between a low of 27 per cent and a high of 32 per cent under the influence of cycles in the world economy. The predominance of industrial exports is apparent from Figure 1.23 and, when taken with the employment data, indicates massive rises in labour productivity over the period. The share of marketed services employment shows a pattern of fairly stable growth, from 30 per cent of the total in 1966 to its current 1989 share of over 40 per cent.

The employment behaviour of the industrial sector can be partly explained by Figure 1.24.

The steady rise in the cost of labour relative to the cost of capital was reflected in a corresponding increase in the capital intensity of production. This came about to some extent as a result of the Irish industrial policy of attracting multinational firms to the country by a combination of generous capital incentives and low corporate tax rates. One of the results of the gradual dominance of the industrial sector by foreign multinationals was the rapid rise in outflows of repatriated profits through the balance of payments (Figure 1.25, but refer also Figure 1.2 above).

In the agricultural sector, income per capita increased over the period but in a more erratic fashion than for industrial earnings (Figure 1.26).

The diminishing size of the agricultural sector and its progressive curtailment through quantity restrictions under the EC CAP, was a serious impediment to national growth because of the very high added-value generated within the sector and its links with the food processing sector of industry.

Finally, turning to the financial aspects of the economy, Figure 1.27 shows the evolution of savings by the household sector, the corporate sector and the public sector, all expressed as a percentage of GNP.

The relative constancy of the corporate share is apparent, while the rise in the household share is mirrored by public sector dissaving.

BASELINE ASSUMPTIONS

Underlying our central forecast for the Irish economy are a set of assumptions concerning key external variables and the stance of domestic policy. In the case of the external variables we do not attempt to develop our own independent view of the medium-term prospects for the world economy. For this we rely on the work of a number of major international organisations. With respect to the domestic economy there are certain key policy variables which can affect the forecast. These include fiscal and monetary policy. Generally, the other domestic forces driving the economy, such as prices, output growth and employment, are jointly determined by the external assumptions, by the behaviour of the millions of individuals who make up the economy, and by domestic policy. This section sets out our assumptions concerning the world economic environment over the next five years and the likely stance of domestic economic policy.

2.1 THE WORLD ECONOMIC OUTLOOK

In preparing our forecasts for the rest of the world we have relied heavily on a number of different sources: the OECD *Economic Outlook* published in December 1988; the *National Institute Economic Review*, February 1989; the London Business School *Economic Outlook 1988-1992*, February 1989. In deriving our assumptions we have been handicapped by the fact that these sources do not forecast directly certain variables of importance to us in forecasting the behaviour of the Irish economy[1]. As a result, it was not possible to take any one set of external forecasts. Rather we had to blend the many different sources in order to develop our own set of assumptions with care to ensure their internal consistency.

Output

The last three years have seen a sustained high rate of growth in a number of major world economies, principally the UK and the United States. The rate of growth has consistently exceeded the expectations of the major forecasters. However, due to capacity constraints in a number of key economies, it is clear that this favourable set of circumstances cannot continue indefinitely. These capacity constraints have manifested themselves in increasing inflationary pressure.

In addition to the problems posed by capacity constraints, a major factor overhanging the future prospects for the world economy is the problem of the fiscal and balance of payments problems of certain countries. The size of the US balance of payments and government deficits is such as to put major strain on world financial markets. In a smaller economy the deficits might be readily manageable. However, their absolute magnitude, as distinct from their share of US GNP, involves a continuing major transfer of world savings to the US. While current proposals for the US budget for the next fiscal year do involve a significant reduction in government borrowing, the optimism of the underlying forecasts on which the proposed budget is based gives cause for concern. In the past, we have seen in Ireland how overoptimistic forecasts contributed to major budgetary overshoots.

For the future, we have assumed that the US does in fact make slow progress towards correcting its fiscal imbalance and that this will contribute towards a solution of its balance of payments problem. This *soft landing* scenario is widely adopted in other international forecasts. The slow improvement in the balance of payments will involve continued growth in US exports and industrial output[2], while domestic demand grows much more slowly than in the recent past.

In the case of the UK it is the size of the balance of payments deficit, together with the rising rate of inflation, which is worrying. The policy action taken to deal with these twin manifestations of overheating is aimed at reducing domestic demand. When combined with the recent loss in competitiveness, it implies a much slower growth in UK industrial output in the immediate future.

Elsewhere we follow the international forecasters in assuming a slowdown in world growth in the short term. For the medium term, from 1991-94, we have adopted the forecast of NIESR of an underlying 3 per cent a year growth in industrial output in the OECD countries. As discussed in Section 5, we have adjusted this growth rate for 1992 and subsequent years to take account of the effects of the completion of the EC market. This results in a forecast growth in world industrial output in 1994 of approximately 4 per cent. This forecast for the rise in world output over the 1990-94 period is broadly in line with the forecast of the London Business School.

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1 For example, the ESRI model used in this exercise sees the profit rate in the UK, Germany, and the USA as an important determinant of domestic industrial output.

2 Bradley, J. *et al*,1989, "HERMES-IRELAND : The Medium-Term Policy Model of the Irish Economy: Structure and Performance", show that an increase in the activity of the US industrial sector has beneficial effects on the domestic economy because of the physical location of US multinational firms in Ireland.

This represents a similar world environment for the Irish economy to that experienced, on average, in the 1984-88 period.

Prices

Following on a period of very low inflation there has been a change in trend over the past year. The price of oil, which fell drastically in real terms in 1986, has risen considerably in recent months. To some extent, this change in trend is due to special factors in the North Sea and Alaska. However, we have adopted a forecast growth in oil prices, in dollar terms, of 7 per cent a year from 1990 onwards, well above the rate of inflation for other goods.

The consequence of the fall in oil prices was a significant deflationary stimulus to world prices in 1986 and 1987. The opposite is the case with the recent rise in oil prices. However, there are many other factors affecting the world price level, not least the level of capacity utilisation, discussed above. Together these factors will result in a rate of growth of the world price for manufactured goods, measured in EMS currencies, of around 5 per cent this year. In line with the latest international forecasts for the world economy, we have assumed an underlying 3 per cent rate of inflation for manufactured goods in the medium term. Current trends suggest that this may be unduly optimistic for 1990, but the need to adopt a consistent set of forecasts for the rest of the world means that it is not desirable to vary the assumption for prices in one year without recalculating the assumed growth in other key international variables.

As discussed later in Section 5, we have modified the underlying rate of inflation in the medium term to take account of the effects of *1992*. This imparts a downward bias to prices from 1991 onwards.

The rate of inflation implied by these global assumptions will obviously vary from country to country. In the case of the UK, the current relatively high rate of inflation, compared to the EMS countries, is partly due to overheating but is also a result of a lagged adjustment of the UK price level to the depreciation of sterling in 1986. With an assumed renewed depreciation of sterling by the end of 1991, discussed below, the medium term world rate of inflation of 3 per cent is consistent with a somewhat higher trend in the UK over the next two years.

We have assumed that agricultural prices grow at the same rate as the price of world manufactured goods. While the pressures emanating from the GATT negotiations for a freeing of trade in agricultural produce should tend to reduce prices, we have assumed that this will be counteracted by internal forces within the EC. In particular, the need to abolish MCAs, consequent on *1992*, will impart an upward bias to agricultural prices affecting Irish farmers. The net result is a 3 per cent a year increase in prices to 1994.

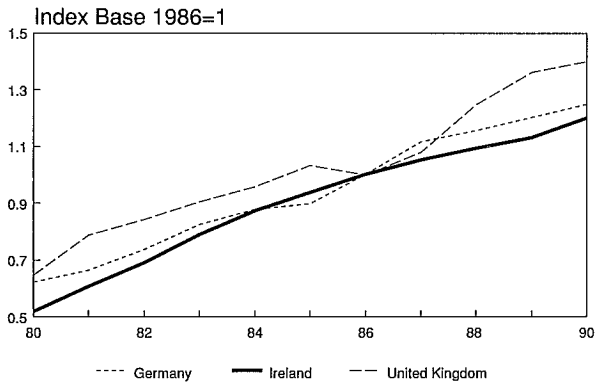
Competitiveness

The future prospects for the Irish economy will depend not just on world growth, but also on the trend in domestic costs compared to costs in other competing countries. Research has shown that Irish industry tends to be a price taker on world markets. As a result, firms do not normally compete on price. Instead, whether firms grow or decline depends on how profitably they can produce at the going world price. Many factors affect competitiveness and, as a result, it is difficult to make suitable international comparisons.

The most readily available variable for international comparison is wage costs in the major economies. As shown in Figure 2.1, Ireland improved its competitive position compared to both Germany and the UK in the 1986-87 period. The improvement *vis-à-vis* the UK will continue until 1990. However, international forecasts suggest a slow down in the rate of growth in wage rates in the UK thereafter, while we see wage rates rising more rapidly in Ireland in 1991. Thus, on the yard stick of wage rates, the improving competitive position of the late 1980s will be reversed in the early 1990s.

FIGURE 2.1

TRENDS IN INTERNATIONAL WAGE RATES



However, wage rates are only one factor in the competitiveness calculus. In terms of wage costs per unit of output the trend in the medium term will be more favourable. In addition, there has been a major improvement in the competitiveness of the Irish economy over the last five years due to the fall in real interest rates. The improvement in this aspect of Ireland's cost structure has had indirect benefits in terms of lowering the cost of state services provided by heavily indebted semi-state companies. Among the other factors affecting competitiveness, the substantial improvement in telecommunications has brought the business infrastructure closer to international standards.

Exchange Rates

The assumptions about exchange rates are intimately related to the assumptions about interest rates which are, in turn, closely related to assumptions about rates of inflation. While short-term forecasts normally assume unchanged exchange rates, such a simplification is not realistic when dealing with a forecast over a five-year time horizon. The overhang of deficits (and surpluses) in major economies suggests that the bilateral current rates of exchange cannot remain unchanged indefinitely.

In the case of the UK we have assumed that sterling depreciates by about 5 per cent compared to EMS currencies in 1990 and by a further 3 per cent in 1991. We assume the UK joins the EMS at the end of 1991 resulting in an unchanged bilateral exchange rate between the EMS currencies (the Irish pound) and

sterling from 1992 to 1994. The current rate of exchange in the UK is being maintained by means of a big interest rate differential between sterling and DM deposits.

This high interest rate policy is designed to control inflation in the UK in two ways. Over time, it directly reduces the level of demand and the degree of overheating. Indirectly, by keeping the exchange rate parity high *vis-à-vis* the DM, it squeezes profitability and operates directly on the UK price level. When the rate of inflation comes under control it will be possible to ease this tight monetary policy, resulting in our assumed limited depreciation in sterling *vis-à-vis* the DM. While we are uncertain as to the precise timing of this change, the likelihood of such a depreciation in the medium term increases with the continuation of balance of payments deficits.

In the case of the dollar we have assumed a very similar pattern of depreciation *vis à vis* the EMS currencies. The need to control inflation and depress domestic economic activity has resulted in US interest rates being consistently higher than DM rates in the last few years. The need for a tight monetary policy has been accentuated by the failure to take radical action on the problem of the continuing US government deficit. However, if US domestic demand slows as expected, and if the Administration is successful in reducing the deficit, it should be possible to relax monetary policy in 1990 or 1991. The resulting depreciation of the dollar will help speed the adjustment in the US balance of payments.

We have assumed that the Irish pound maintains its current parity in the EMS *vis-à-vis* the DM up to the end of our forecast period. The continuation of a balance of payments surplus, and the radical improvement in the public finances forecast for the Irish economy, should make such a policy readily sustainable. While there will be some limited loss of competitiveness, especially in 1991 and 1992, the effects of the EC Structural Fund payments and the spin off effects of *1992* will help offset the resulting loss of output.

Interest Rates

As outlined above, the assumptions about exchange rates are closely related to our interest rate assumptions. While we have seen a significant rise in world nominal interest rates in recent months, the rise has only mirrored the rise in the expected rate of inflation. As a result, there has been little or no change in the underlying real rate of interest which is so important in determining the rate of economic activity. For Ireland, with an assumed fixed exchange rate *vis-à-vis* the DM, the German rate of interest is now crucial in determining domestic rates. When we were preparing our last *Medium-Term Review* and we made such an assumption it may have appeared unrealistic. However, within months of publication the inevitable detachment of the Irish rate of interest from UK rates occurred and recent trends have only served to confirm this new monetary regime.

The prospects for German interest rates obviously depend in the short term on the rate of inflation in Germany and the rates of interest elsewhere. With tight monetary policies in place in the UK and the US it has proved necessary to tighten monetary policy in Germany to limit the import of inflation through changes in the exchange rate. In this sense the German rate of interest is not independent of economic policies and problems elsewhere. However, as we have assumed a gradual improvement in the world rate of inflation and a reduction in world financial imbalances in the medium term, we have also assumed that German interest rates will fall in nominal terms from 1990 to 1994. This reduction in real terms is assumed to be small.

The experience of the Netherlands, which has maintained a fixed exchange rate with the DM since the early 1980s, has been that their rates of interest have converged to DM rates. With time, and increasing confidence in the economic recovery, we would expect to see a similar process in Ireland. By 1994 we assume that the interest differential compared to the DM will be down to around 0.5 percentage points. With a long term world rate of inflation of around 3 per cent the yield on government bonds in Ireland is assumed to be between 6 per cent and 6.5 per cent in 1994, well below the current level of 9 per cent. The implied real rate of interest of over 3 per cent would be significantly above the Irish experience prior to the 1980s, though it would approximate more closely to the long-term norm in Germany.

European Labour Market

A further important set of international assumptions which will determine our economic progress over the next five years relates to the European labour market. The fact that the development of the domestic labour market has been closely related to that of the UK has been known for many years. However, demographic changes may mean that developments in the Irish economy should be viewed in a wider European context over the next five years.

Labour market conditions in the UK are likely to disimprove over the next two years as a result of the economic downturn there and the deflationary monetary policy currently being pursued. Other things being equal, this would significantly reduce Irish emigration to the UK. However, demographic changes mean that, in the forecast period, the number of school leavers will fall rapidly in the UK. The same process is underway already in Germany. The net result may be that whatever fall in demand for Irish labour occurs in the UK will be offset by a rise in the demand from other EC countries. For the forecast period we have assumed that these pressures will cancel out leaving the opportunities for young Irish emigrants to find employment elsewhere in the EC roughly unchanged. We have assumed also that the US will continue to be a major destination for Irish emigrants in spite of the difficulties obtaining work permits there.

2.2 DOMESTIC ASSUMPTIONS

In this section we set out the assumptions made in relation to the domestic economy over the medium term. The assumptions can be divided into three major areas - the fiscal policy stance, the underlying labour force and demographic projections and our forecast for the savings ratio. The fiscal policy stance was built up in three stages - basic indexation, the additional effects of the *National Development Plan* (NDP) and the Cecchini Report and the appropriate means of handling special

cases. The labour force and demography projections are based on the most recent CSO Census of Population. Our assumptions on the savings ratio are based on other countries' experiences during the recovery phase of the cycle and are necessitated by the absence of a satisfactory econometric equation for the consumption function.

Fiscal Policy

The area most affected by our assumptions for the domestic economy is the public sector. In deciding our assumptions concerning the public finances, we were guided, first, by the accepted principle in medium-term forecasting of indexing all nominal instruments to an appropriate deflator and leaving real instruments unchanged. The model we used to develop the forecast has a comprehensive set of indexation rules designed to facilitate such an assumption. The second factor underlying our approach to the fiscal assumptions was the publication of the NDP. This document includes detailed estimates of capital expenditure up until 1993 for the public sector, as well as the private sector and the EC. The third major factor to be considered was whether the tax cuts and overindexation (to consumer prices) of social welfare transfers which are on the political agenda, should be included in our assumptions.

The fiscal stance we finally adopted was influenced by all three factors outlined above. The fiscal instruments have been indexed (to prices only in the case of the nominal instruments) in all but two cases and increments to expenditure and revenue implied in the NDP and the Cecchini Report are superimposed subsequently. The only other instruments which are not indexed are the average direct tax rate and social welfare transfers. Direct tax cuts are a stated aim of public policy while indexing transfer payments to consumer prices would mean that the share of transfer income in GNP would decline dramatically in our forecast. It would imply a rapid disimprovement of the relative position of social welfare recipients over the next five years. Such a policy would be out of line with our experience of the last ten years. We now present the details of our fiscal policy assumptions, taking in sequence those variables affected by NDP programmes, variables treated as special cases, tax harmonisation variables and finally the remaining fiscal instruments.

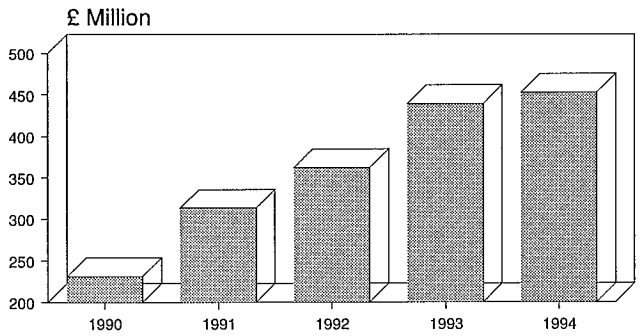
The implications of the NDP for the forecast in general are discussed in detail in Section 4. At this stage, we give only a brief outline of what is involved in order to put the NDP in context for our central forecast. Our assumption that the *Plan* estimates of government expenditure and EC Structural Fund Transfers are realised is open to risk, both because Ireland may not receive the full amount of the planned transfers and also because the timing of specific programmes may be altered. However, as it sets out in detail the timepath of major areas of public authorities' expenditure over the next four years it provides a solid basis for examining the impact of the Structural Funds on the economy in general. The details of the Structural Funds package have a major impact on the public authorities' capital expenditure and revenue instruments, while some items on the current side of the government accounts are also affected.

Both capital expenditure and capital revenue are almost £300 million higher than they would be in the case of indexation reflecting the impact of the major infrastructural, industrial and tourism programmes detailed in the *Plan*. The current side is affected, *inter alia*, by the need to hire additional employees to carry out the training and education programmes included in the *Plan*. This is financed by increased current transfers from abroad and is reflected in an increase in the public sector wage bill as well as a rise in transfer payments to take account of the subvention paid to trainees. The increase in current spending and revenue implied in the *Plan* is of the order of £160 million.

Therefore, the *ex-ante* effect (i.e., the *planned* change in expenditure and revenue, before account is taken of the effect of increased activity in the economy) of the NDP on the Exchequer borrowing requirement is neutral. It does, however, raise the level of expenditure and receipts quite considerably, both in real and in nominal terms. This is reflected in Figure 2.2 which shows the *ex-ante* expenditure changes which indicate a significant departure from recent fiscal policy.

FIGURE 2.2

PUBLIC EXPENDITURE
Plan Increases



Our next set of assumptions relates to the policy variables treated as special cases. The average direct income tax rate is specifically reduced, in line with frequently-stated public policy. Our assumption of a reduction of 0.66 per cent a year in the direct tax rate means a reduction of about £150 million annually in direct taxes on top of fully-indexed tax bands and allowances. As regards social welfare payments other than unemployment and pay-related benefits, we assume a rate of increase between price and wage inflation in order that recipients participate in the economy's growth.

The EC tax harmonisation proposals are handled in a technically neutral manner in our forecast in so far as we assume that the government makes up for the loss in excise and VAT revenue by increasing other expenditure taxes. This stance is the only one we can realistically adopt given that it is still unclear whether formal harmonisation will be imposed or whether the necessary adjustments will be left to market forces. As regards the magnitude of the changes involved in tax harmonisation, we assumed that the cost of implementing the proposals would be about £400 million, including a £20 increase in transfer payments to compensate for the increase in VAT rates on essential commodities.

We now discuss the fiscal policy variables which are not greatly affected by the measures contained in the *Plan* and are therefore treated under our indexation rules. As regards public sector employment, our assumption implies no underlying change in the numbers employed over the medium term (although some minor changes are implied by the *Plan* and the effects of *1992*). The rate of increase in public sector wage rates is determined through inbuilt relativities with the wage inflation rate in the industrial sector determined within the model. Increases in pay rates arising from special claims are included in the underlying 1989 figures. Non-pay public consumption is indexed to the GDP deflator. Rates of subsidy are indexed to prices, in most cases consumer prices. As regards the current revenue instruments at the government's disposal we assume no change in rates of social insurance while the level of farmers' income tax is indexed to the rate of increase in agricultural prices. DIRT (Deposit Interest Retention Tax) receipts are determined as a function of interest rates and the trend in deposits. The rate of corporation tax is unchanged in real terms and the implications of ending export profit tax relief in 1990 are handled by explicitly boosting corporation tax revenue from 1991 onwards. Finally, government trading and investment income is indexed to the GDP deflator.

The Labour Force

The basis for our projections of the population and labour force is the CSO's most recent Census. The slowdown in the birthrate will not have fed through to the labour force by the end of our forecast period. There is a continuing rise in the labour force participation rate over the forecast period which adds a further 3,000 annually to the labour force. The participation rate in further education is also assumed to increase which offsets some of the pressure generated by the rate of natural increase and labour force participation.

However, when we take into account the effect of emigration, the labour force rises only marginally each year. We have estimated emigration to be of the order of 45,000 in 1989, by far the highest recorded figure since the 1950s, declining progressively to 10,000 by 1994. This assumption is based on the underlying level of unemployment in the economy which econometric evidence suggests is a major influence on emigration. The growth in the economy over the medium term, in addition to the effects of the NDP and *1992*, lead to a reduction in unemployment, which underlies our emigration forecast.

The Savings Ratio

A further important assumption we have made regarding the domestic economy is a fall of five percentage points in the savings ratio between 1989 and 1991 with a slow increase resuming in the 1992-94 period. The implications of this assumption are explored in detail in Section 3. The basis for our assumption is the pattern of savings in other economies in the recovery phase : it represents the counterpart to the precautionary element in savings during periods of recession. The fall in the savings ratio has been evident for some years (see Figure 1.4).

SECTION 3

THE CENTRAL FORECAST

In this Section we set out our central forecast for the economy for the years 1989-1994. The assumptions on which it is based have been discussed in detail in Section 2. It builds on the forecasts contained in the latest ESRI *Quarterly Economic Commentary*, April 1989, for 1989 and projects the pattern of growth of the economy over the following five years. While we present a single forecast for the next five years it must be recognised that considerable uncertainty surrounds many of the assumptions which underlie it. We discuss the major factors which give rise to this uncertainty at the end of the Section and indicate how alternative sets of assumptions might affect the central forecast.

The central forecast takes account of the likely effects of both the completion of the internal EC market and of the substantial increase in payments to Ireland which are to be made from the Structural Funds over the 1989-93 period. As with all such projections it is very sensitive to the underlying assumptions and we identify a number of areas of special uncertainty and discuss at the end of this Section how changing the assumptions would affect the underlying forecast. The effects of the level of payments from the Structural Funds envisaged in the *National Development Plan* are considered in Section 4 while the effects of the completion of the EC market (*1992*) are discussed separately in Section 5.

This Section begins by giving a brief overview of the central projection for the economy over the next five years. Because we see the economy being driven in the long term by developments on the supply side of the economy we begin our detailed analysis by examining the prospects for output in the different sectors of the economy. We then go on to look at developments in prices and wages and at how the benefits of this output are distributed as income. The expenditure side of the account is considered in some detail. A major issue examined here is the likely pattern of the savings rate over the next five years. We then consider the development of the balance of payments and employment and unemployment, given the expected level of domestic output over the period.

Finally we examine the implications of our central forecast for the public finances and the monetary sector of the economy. The importance for the real economy of financial developments, both within the country and in the outside world, only came to the fore in the 1980s. The interaction of the balance of payments surplus and the balance on the public finances has been an important factor in determining developments in the monetary sector over the 1980s. Given the importance of the monetary sector to developments in the real economy in recent years, we examine in some detail the pattern of developments in this sector in the period up to 1994.

Detailed tables are given in Appendix 1 containing the data underlying the central forecast discussed in this Section.

3.1 OVERVIEW

Table 3.1 gives details of the central forecast for certain key economic aggregates. The most striking feature of this forecast is the very high growth rate envisaged for 1990. As discussed later, an important factor underlying this very rapid growth in GNP is the level of support from the EC Structural Funds. This stimulus will come on top of an already buoyant economy to give a record growth rate.

TABLE 3.1. : Central Forecast - Major Aggregates

	1986	*1987*	*1988*	*1989*	*1990*	*1991*	*1992*	*1993*	*1994*
GNP % Change	-1.2	5.4	1.6	4.0	7.1	5.6	4.6	4.8	3.2
Balance of Payments, % of GNP	-3.1	1.3	2.3	3.0	2.6	2.4	2.8	2.4	3.1
Exchequer Borrowing Requirement, % of GNP	-12.9	-10.0	-3.3	-4.0	-1.3	1.2	2.3	2.9	3.9
Debt / GNP Ratio	139.0	139.4	134.1	130.4	119.4	108.7	99.9	91.3	83.7
Total Employment (000)	1081	1080	1086	1092	1112	1131	1145	1160	1174
Unemployment Rate %	17.3	17.7	16.6	16.0	14.6	13.4	13.0	12.8	12.7
Consumer Prices %	3.9	3.1	2.0	3.3	4.2	4.2	3.5	3.0	3.5

The growth of the economy slows appreciably in subsequent years so that by 1994 it is down to just over 3 per cent. The preparation for *1992* reduces growth by a small amount in 1990 and 1991 while it provides a substantial offset to the reduction in the underlying rate of growth in the period 1992-94.

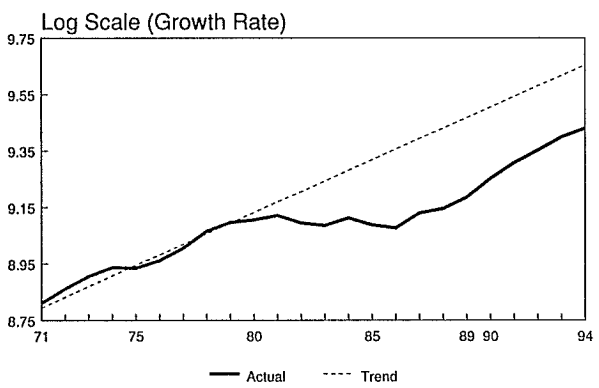
Even without the effects of the EC Structural Funds payments and *1992* the pattern of growth of the economy would show a definite peak in 1990 with an appreciable slow-down thereafter. This underlying pattern reflects the fact that we are benefiting from the effects of *postponed growth* from the 1980s. In particular, the fall in the savings ratio which we forecast for the period 1989-91 represents a recovery of confidence by consumers, a confidence which was severely dented in the 1980s due to the imperative of controlling the national debt.

This performance must be viewed in the context of the economic record of the 1987-89 period. Over the three year period the rate of growth has been substantially reduced by government fiscal policy. In 1987 and 1988 fiscal policy reduced the growth rate by between 1 per cent and 2 per cent a year. The underlying growth rate for those three years, assuming neutral fiscal policy, was thus around 4.5 per cent. We see this process of recovery reaching a peak in 1990, even without the benefit of the stimulus from the Structural Funds. The effects of the fall in the savings ratio, discussed in more detail later in this Section, represents, in a sense, the response of consumers to the postponement of normal consumption in the uncertain years of the 1980s. However, as shown in Figure 3.1, even this bounce back of the economy will still leave the absolute level of GNP well below the level it would have achieved if the trend growth of the 1960s and 1970s had been maintained in the 1980s.

The rate of inflation rises in 1990 and 1991 due, in part, to the rapid growth in demand. This rate of inflation is initially stimulated by a rise in profit margins. However, by 1991 rising domestic costs play an increasing role. The rate of inflation falls from 1992 onwards, partly because of the effects of *1992* and partly due to the slow-down in the economy.

FIGURE 3.1.

ACTUAL VERSUS TREND GNP



As a result of this economic resurgence, there is a substantial rise in employment over the period 1989 - 1994 (82,000). However, the labour force also shows a large rise of 46,000 so that unemployment only falls by 37,000. As a percentage of the increasing labour force unemployment falls from 16 per cent in 1989 to 12.7 per cent in 1994. The rise in the labour force reflects a reduction in emigration from its present exceptionally high level, due to the improved domestic labour market conditions.

The balance of payments surplus is boosted by the increase in transfers from the EC Structural Funds[1]. This helps keep the surplus relatively unchanged over the five year period. The increase in consumption and investment in 1990 and 1991 adds considerably to the volume of imports but this growth does not outweigh the positive effects of the continuing growth in industrial output and exports.

Finally, the Exchequer borrowing requirement moves into surplus in 1991. This move into surplus occurs in spite of the assumption of moderate cuts in rates of direct taxation and limited overindexation of transfers. The move into surplus is hastened by the stimulatory effects of the expenditure funded by the EC Structural Funds. However, it would have occurred in any event as a result of the underlying buoyancy in the economy. The result of the rapid growth in the volume of GNP, combined with repayment of debt from 1991 onwards, results in a fall in the debt/GNP ratio from the 1988 level of around 135 per cent of GNP to under 85 per cent in 1994.

3.2 THE SUPPLY SIDE OF THE ECONOMY

The Industrial Sector

The industrial sector consists of a wide range of diverse activities. It includes manufacturing operations by foreign multinationals as well as manufacturing by smaller Irish firms. It also includes the activities of the utilities (electricity, gas, and water) and building. The factors affecting the development of the building and non-building (largely manufacturing) sectors are very different and, as a result, we treat them separately in our discussion.

The growth in the output of the aggregate industrial sector in the 1980s conceals a very different pattern of development in the building and non-building components. As can be seen from its negative contribution in Figure 3.2, output of the building industry fell consistently from 1983 to 1988. The average fall in output for the period 1981-88 was -5.2 per cent. As the Figure makes clear, this had a strong negative effect on the performance of the aggregate industrial sector. The rest of the industrial sector, primarily manufacturing industry, grew by 6.2 per cent per year over that period. Clearly, without the decline in the building industry, the overall growth in industrial output would have been well above the 3.8 per cent per annum actually experienced.

1 The balance of payments figures for 1987 and 1988 have been arbitrary adjusted to take account of the latest CSO data.

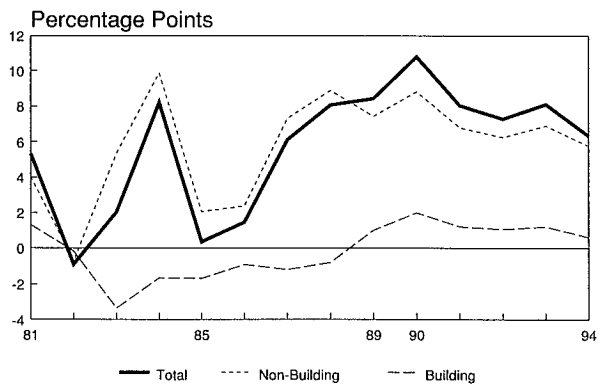
TABLE 3.2. : Output: GDP at Factor Cost
Constant Price % Changes

	1986	*1987*	*1988*	*1989*	*1990*	*1991*	*1992*	*1993*	*1994*
Agriculture	-8.4	5.1	2.0	0.0	0.5	0.5	0.5	0.5	0.5
Industry - Total	1.4	6.1	8.1	8.4	10.8	8.0	7.3	8.1	6.3
- Building	-5.1	-7.1	-5.4	7.6	15.2	9.0	7.8	8.8	4.3
- Non-Building	2.9	8.8	10.4	8.6	10.1	7.9	7.2	8.0	6.7
Market Services	0.1	5.5	-2.1	5.2	7.2	5.5	4.3	5.1	3.2
Health + Education	0.7	-0.5	-6.7	-1.4	0.8	0.8	0.0	0.0	0.0
Public Admin.+ Defence	0.5	0.2	-3.0	-2.2	0.0	0.0	0.0	-0.4	0.0
Adj For Financial Services	-0.3	4.9	10.1	4.5	10.4	8.3	7.1	8.0	6.0
GDP At Factor Cost	-0.3	4.7	1.4	4.9	6.9	5.3	4.6	5.3	4.0
Taxes On Expenditure	-1.0	0.1	6.3	-2.3	8.1	5.9	3.7	4.1	1.3
Subsidies (-)	-2.1	-1.5	-8.9	-0.5	3.8	2.9	2.0	2.3	1.3
GDP At Market Prices	-0.3	4.6	2.8	4.3	7.3	5.5	4.7	5.3	3.8
Net Factor Income from Abroad	6.4	-1.1	11.3	6.0	8.4	4.9	5.3	8.5	7.4
GNP At Market Prices	-1.2	5.4	1.6	4.0	7.1	5.6	4.6	4.8	3.2

For the next five years, as shown in Figure 3.2 and Table 3.2, the pattern of growth will be very different. Due to the improvement in competitiveness, we envisage that the manufacturing sector will grow on average by 8.1 per cent a year compared to the 6.2 per cent achieved in the 1981-88 period. Given that there was a major recession in the first half of the 1980s and that we expect a more favourable world and domestic climate over the next five years, this increase in growth is not surprising.

FIGURE 3.2.

CONTRIBUTION TO INDUSTRIAL GROWTH



The manufacturing sector, through its exports, provides the single most important economic link with the rest of the world[2]. As a result, the development of this sector holds the key to the long-term growth of the economy. We see the manufacturing sector being driven by the growth in world output and by the competitiveness, widely defined, of the Irish economy. The effects of world financial disturbances, such as the high interest rates of the early 1980s, affects the sector both by reducing world output and by affecting Irish competitiveness. As outlined in the previous Section, we have assumed a continuation of moderate growth in world output into the medium term. While this growth will be well below the record performance of 1987 and 1988, it will still be sufficient to drive a continued growth in Irish industrial output.

One area of concern is the prospect for the UK economy. This market has greater significance for the domestic firms operating in the industrial sector than for the foreign firms which have established in Ireland to supply a wider European market. Because of the higher value-added in Ireland of the domestic firms, developments in the UK economy remain important to the Irish industrial sector. However, as discussed below, recent improvements in competitiveness will go some way to offset the negative impact of this slow-down in UK growth.

For any given rate of growth in world output, Irish market share is affected by competitiveness *vis-à-vis* our major competitors. Research shows that competitiveness comprehends a wide range of factors, not just wage costs. Any cost which affects profitability will affect Irish competitiveness. However, because of the ready availability of data, it is easiest to compare movements in wage rates between different countries. Figure 3.3[3] shows how wage rates have moved in the 1980s[4]. This shows how there was a major improvement *vis-à-vis* EMS countries (Germany) since the devaluation of 1986, an improvement which has been sustained to date. In the case of the UK the competitive position of Ireland has continued to improve and relative wage rates are almost back to their favourable position in 1980. These data take no account of the growth in

2 While the services sector, through tourism and financial services and agriculture also sell to a wider world market, the industrial sector still accounts for the bulk of Irish trade.

3 The forecasts for 1989 and 1990 are taken from the OECD *Economic Outlook* of December 1988.

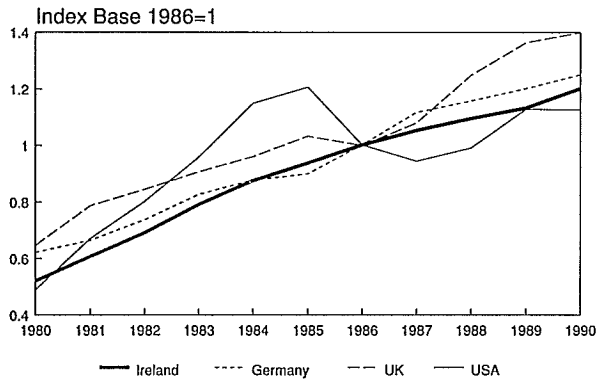
4 The comparison is made in terms of wage rates because of the difficulties in using unit wage costs for Ireland derived from an industrial sector with a rapidly growing high technology component.

productivity in the different countries due to the problems with the data for Ireland[5]. If this factor were taken into account it is likely that it would further improve the picture for the most recent three years.

A comparison of the movement in the cost of borrowing in the different countries since the mid-1980s prompts similar conclusions to the data on wage costs. The cost of certain services provided by major state companies, while still remaining above those of certain of our trading partners, have significantly improved compared to the position in the early and mid-1980s. There has been a marked improvement in the quality of telecommunications services. The fall in the cost of borrowing has eased the cost pressures for many state firms.

FIGURE 3.3.

INTERNATIONAL COMPARISON OF WAGE RATES



While the competitive position of the Irish economy improved markedly in recent years it takes some time for such an improvement to be translated into increased output. For example, when the devaluation took place in 1986 there was some doubt as to whether the benefits in terms of reduced costs compared to our competitors would be sustained. On the basis of past experience, prices and costs might have been expected to adjust rapidly to the change in parity. As a result, manufacturers were slow to react and shift output to Ireland or to expand existing capacity. However, the special circumstances associated with the devaluation, in particular, the very high rate of unemployment and the fiscal deflation undertaken in the subsequent budget, meant that Irish inflation did not rise. It is only after a few years, when the improvement is seen to be sustained, that the benefits, in terms of increased output, begin to flow. The reduction in relative costs will continue to affect the industrial sector up to at least 1990. As discussed above, the substantial improvement in competitive position *vis-à-vis* the UK will be especially beneficial for firms dependent on that market.

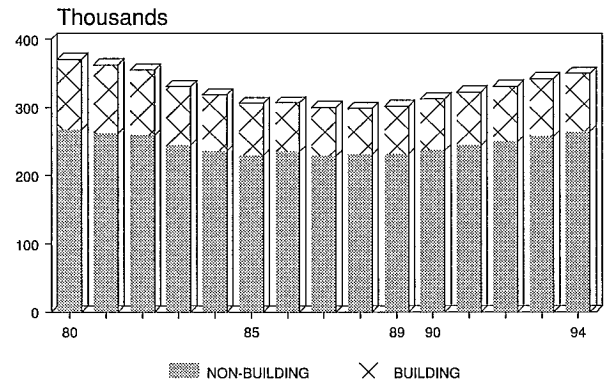
On top of these effects there will be some growth in industrial capacity arising from the increased EC Structural Fund expenditure on industry. From 1992 onwards the effects of the completion of the EC market in stimulating the EC economy will result in an improved world environment. This will directly affect the Irish industrial sector. As discussed later, the effects of 1992 will be broadly favourable for the industrial sector while the costs will be borne more by the market services sector. Taken together, *1992* and the Structural Funds will raise capacity growth in industry by around 0.75 per cent a year over the period.

However, with the very rapid growth anticipated over the 1989-1991 period there will be a change in conditions in the labour market. As discussed later, we envisage an acceleration in wage inflation in 1990 and 1991 which will put pressure on our competitive position. In spite of the advantageous effects of *1992* and the Structural Funds, the lagged response of industrial capacity to this deterioration in competitiveness will result in a slow-down in the rate of growth of manufacturing output to 6.7 per cent in 1994. The fact that output does not slow down further is due to the positive effects of *1992*.

As shown in Figure 3.4, the effect of the boom in manufacturing output will be to raise employment in manufacturing and utilities by 33,000 between 1989 and 1994. The growth in employment will be relatively even over the period. This rate of growth involves an average rise in productivity of around 5.6 per cent a year compared to the 8.2 per cent experienced in the earlier 1981-88 period. The fall in the rate of productivity increase chiefly reflects the improved environment for domestic labour intensive firms. To a lesser extent it is affected by the change in relative factor prices which slows the substitution of capital for labour.

FIGURE 3.4.

INDUSTRIAL EMPLOYMENT



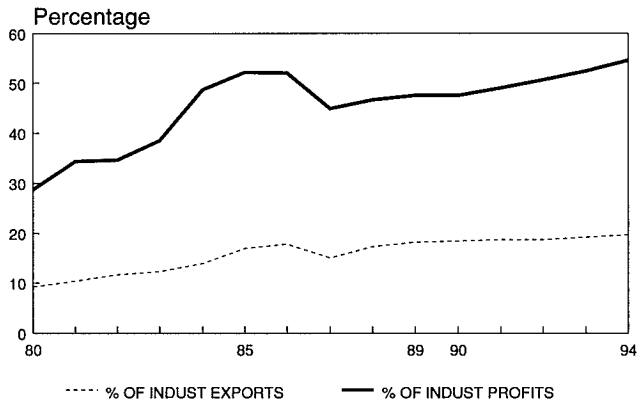
Profits are projected to rise slightly faster over the five years to 1994 than will the wage bill. This is in spite of the significant increase in real wage rates in 1991 and subsequent years. We estimate that a substantial part of the increased profits will accrue to foreign firms, as they have done in the past. As a result, there will be a continuing rapid growth in the rate of profit repatriation. In Figure 3.5 we show profit repatriations as a share of total industrial profits and as a share of the value of industrial exports[6]. The proportion rises over time reflecting a continuing growth in the importance of multinational firms. Moreover, with approximately 20

5 Baker, T., 1985. "Trends in Manufacturing Output and Wage Costs 1980-1984", Appendix to *Quarterly Economic Commentary,* April, pp. 26-35.

6 O'Malley, E., and S. Scott, 1987, "Determinants of Profit Outflows from Ireland", in *Medium-Term Review: 1987-1992*, show that profit repatriations are closely related to the value of exports of certain categories of goods.

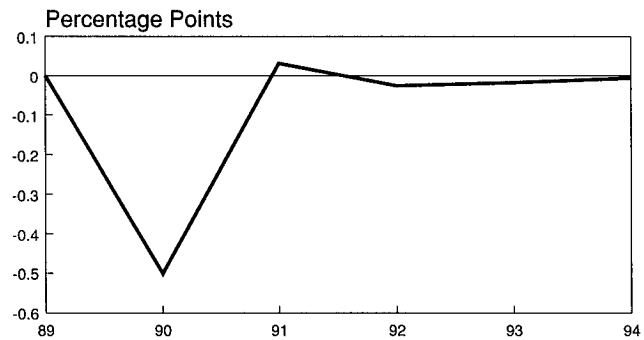
per cent of increased exports being repatriated as profits and an import content of 50 per cent[7] the value added remaining in the Irish economy is relatively low.

FIGURE 3.5.
PROFIT REPATRIATIONS



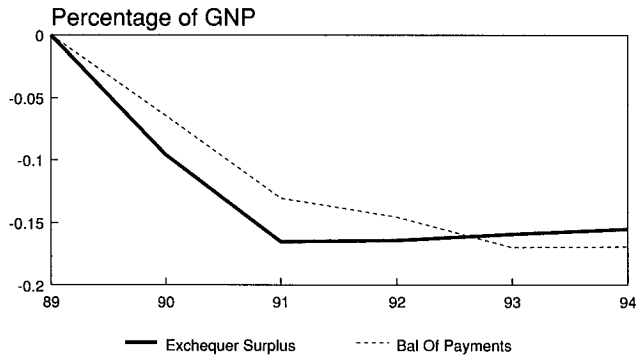
The rate of growth of the economy is very sensitive to the rate of profit repatriation. Set out in Figures 3.6 to 3.7 we show the effect of a once off increase in the rate of profit repatriation out of value added by 1 percentage point over the rate assumed in the central forecast for the period 1990-94. As can be seen from Figure 3.6, this would be sufficient to reduce the growth of GNP immediately by 0.5 per cent and reduce the balance of payments surplus and government surplus by almost 0.2 per cent of GNP in the longer term. Clearly if the final outcome on profit repatriation proved very different from our central projection it would substantially alter the prospects for the economy. While the contribution of multinational firms continues to be of vital importance to the Irish economy, this means that resources spent developing domestic firms are likely to produce a greater return for both the Exchequer and for the whole economy.

FIGURE 3.6.
HIGHER RATE OF PROFIT REPATRIATION
Change in GNP Growth Rate



The pattern of growth projected for the building sector over the period 1989-94 is very different from that experienced in the period 1980-1988. As shown in Figure 3.2, the output of that sector fell by a third over that period contributing in no small part to the recession in the economy. It went a long way towards offsetting the, albeit erratic, contribution to the economy from the growth of manufacturing industry. As a result, the building industry in 1989 is operating very far below the capacity level experienced at the beginning of the 1980s. The decline in output has been associated with the disappearance of many firms and the emigration of skilled personnel.

FIGURE 3.7.
HIGHER RATE OF PROFIT REPATRIATION
Change in Exchequer Surplus & Balance of Payments



The loss of capacity over the 1980s is an important consideration when examining the prospects for the building industry over the next five years. As shown in Figure 3.2 and Table 3.2, we expect that, following on a volume increase in 1989 of over 7 per cent, there will be very rapid growth in the building industry in 1990. The rate of growth will continue at quite a high level up till 1993, tending to fall after that date as the rate of growth of the economy generally slows.

There are a number of reasons for this turn-round. The economy generally is recovering and the resumption in consumer confidence has already boosted the price of houses well above their level last year. This mirrors the experience in the UK and Denmark where the recovery phase of the economic cycle was also associated with a rapid rise in house prices. Some rise in prices was necessary to make it profitable for builders to start building again. There are signs that they are now beginning to react to the return to profitability by increasing output. However, in the medium term, demographic factors will have a greater role in determining demand. The high rate of emigration will tend to reduce demand while higher rates of household formation will tend to increase it. Overall, the effects of demographic factors will mean that demand for houses will not rise as rapidly as in the halcyon days of the 1970s. Even so, the recovery in confidence, the rise in real disposable incomes, and the fall in real interest rates from the mid-1980s will all result in the volume of investment in housing rising by over 15 per cent in 1990 and averaging growth of over 10 per cent a year in the period to 1994.

7 Fitz Gerald, J., 1987, *The Determinants of Irish Imports*, Dublin: ESRI General Research Series, Paper No.135.

The pattern of growth in demand for other building investment is likely to be rather similar with growth peaking in 1990 at 15 per cent and continuing at a high level till 1993. The rapid expansion of the economy and the resulting growth in investment in the industrial and market services sector will provide a major stimulus to growth. Even without the effects of the Structural Fund expenditure, growth in building output would be around 10 per cent in 1990. However, the effects of the major injection of Structural Fund expenditure will add about 5 per cent to the volume growth of the industry in 1990. Having raised output to a new higher plateau, the effects of the completion of the internal EC market at the beginning of 1993 will provide a further stimulus to the growth in investment in 1992-94, with consequential effects on the output of building in those years.

By 1994 the cumulative effect of all these factors should be to restore the output of the building sector to the level of the early 1980s. As shown in Figure 3.4 the growth in output over the next five years should raise employment in the sector by around 15,000, or almost one third of the total increase in industrial employment to 1994.

However, there are a number of dangers inherent in this central forecast. Apart from the uncertainties concerning the prospects for the economy generally, there must be major doubts about the capacity of the building industry to respond to the very rapid increase in demand over the next 18 months. While it is easier to increase capacity in building than in manufacturing, many builders went out of business during the prolonged recession of the 1980s and skilled personnel emigrated. Though unemployment is still very high, shortages of skilled personnel may occur early in the recovery. While a pool of emigrants may be potentially available to return and work in Ireland they will not respond until the recovery is well under way and their prospects on returning are more secure. As a result, an explosive recovery in demand for building could result in shortages of supply. The effect would be increased inflation, followed by sustained upward pressure on wage rates with consequences for the economy as a whole. Already in the central forecast we see the price of building sector output rising by over 5.25 per cent in 1990, well above the forecast rise in other prices of 4 per cent (Table 3.3).

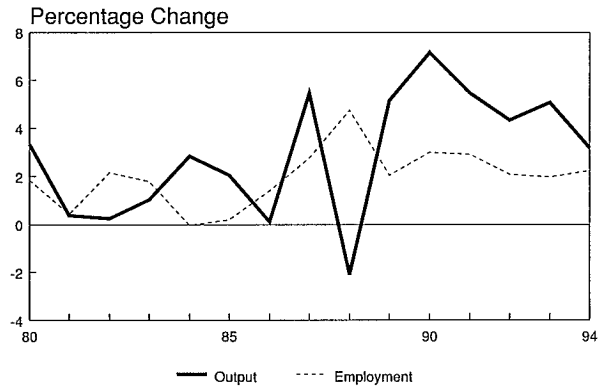
The Market Services Sector

The market services sector is largely driven by developments in other sectors of the economy, particularly by the volume of personal consumption. The rapid growth anticipated in the industrial sector over the next five years has obvious consequences for market services. In addition, the expected fall in the savings ratio between 1989 and 1991 will give a major temporary boost to demand. Finally, both the effects of *1992* and the EC Structural Funds have implications for the market services sector. These effects are already being felt and will result in an increase in productivity in the sector between now and 1994.

Figure 3.8 shows the anticipated pattern of growth in the sector between now and 1994. Following on a very rapid increase this year of around 5.2 per cent, output will rise by 7.2 per cent next year. This peak occurs because of the very rapid growth in the volume of consumption. The rapid rise in consumption will result in further growth in 1991 of 5.5 per cent. However, as the fall in the savings ratio is reversed and the economy slows, the rate of increase in market services will fall to 3.2 per cent in 1994. Judged by the standards of the 1980s, this will still represent a major turn-round.

FIGURE 3.8.

MARKET SERVICES : OUTPUT & EMPLOYMENT



This sector showed very rapid growth in measured employment in 1988 and 1989. To some extent this may be due to an increase in low-paid part-time working rather than in full time jobs. However, it does reflect considerable buoyancy. As shown in Figure 3.8, with the very rapid increase in output forecast for 1990 and 1991, employment will show a continued upward trend, rising by over 13,000 a year. While the rate of growth will slow slightly in subsequent years, it will still rise by about 10,000 a year.

This sector is at least as heterogeneous as the industrial sector and the overall rise in output masks diverse trends in specific subsectors. In the case of the distribution sector the rationalisation of importing and distribution will, as discussed later, result in a substantial loss of employment in preparation for *1992*. The output effects of these changes may not be as great, resulting in a considerable rise in productivity. In the case of financial services, anticipation of *1992* may also cause significant losses of employment. However, these losses are more than offset by gains in the medium term in other areas.

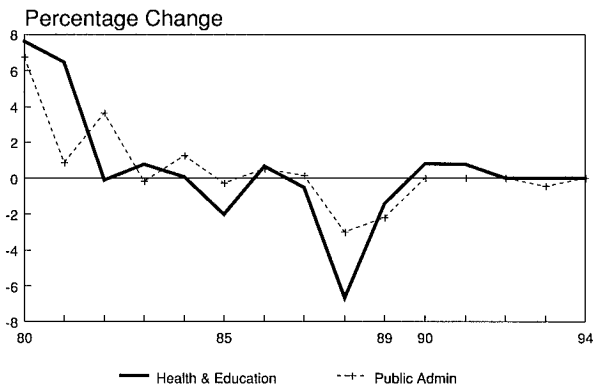
The Public Sector

For the public sector, current policy envisages continued restrictions with no rise in employment or output. While we see cutbacks coming to an end in 1989, the absence of any increase in the sector will contrast strongly with the experience of the 1960-80 period when rising growth was associated with a rising demand for public services. The absence of any volume increase, defined as no change in employment in the sector, may result in changes in the implied levels of certain services. In the case of education, falling enrollments, combined with our assumption of fixed teacher numbers, will result in improving pupil teacher ratios.

Two factors which will result in minor deviations from the no volume change assumption are the effects of the EC Structural Fund increases and *1992*. As shown in Figure 3.9, the increase in expenditure financed by the EC Social Fund will result in a small increase in output in the health and education sector in 1990 and 1991. The abolition of customs barriers are assumed to result in minor savings in public administration in 1993.

FIGURE 3.9.

PUBLIC SERVICES OUTPUT



The Agricultural sector

The environment for the agricultural sector will remain unfavourable over the next five years. Restrictions on production effectively prevent any increase in the volume of output of certain products, especially milk. These quota restrictions not only affect the agricultural sector, but also seriously affect the potential for growth in food processing. The continuing negotiations under the auspices of the GATT between the EC, the US and other interested parties on world trade in agricultural products cast a continuing cloud of uncertainty over the Common Agricultural Policy. The pressure to reduce current subsidies and restrictions on trade will continue to grow in the medium term. As a result of this unfavourable environment, we see agricultural output rising by an average of only 0.5 per cent a year.

While the Structural Fund payments may benefit agricultural incomes, they will not result in a major addition to output growth. In the case of *1992* there will be some benefits through the removal of MCAs. While they have effectively disappeared for Irish exports this may not always be the case as sterling changes *vis-à-vis* the EMS currencies. In addition, the abolition of MCA subsidies, which are still paid to German farmers, will improve the competitive position of Irish farmers. As a result, we envisage a small rise in prices in 1993 above their long-term trend.

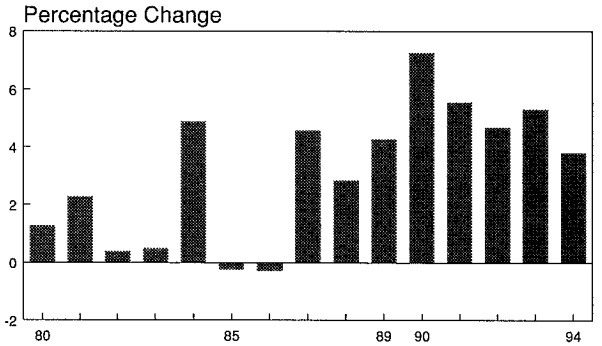
Employment, which has fallen steadily in the sector for decades, will continue to decline in the period to 1994. Nearly 5,000 a year will leave between 1989 and 1994. The improving employment situation in the rest of the economy will facilitate this trend.

Total Output

These detailed forecasts for the individual sectors, summarised earlier in Table 3.2, give rise to a forecast of a very rapid rise in GDP at factor cost in 1990 and 1991. While the rate of increase is expected to fall off in subsequent years, it remains over 3 per cent till at least 1994. GDP at market prices shows a rather similar pattern with the growth rate averaging just under 5 per cent for the six years 1989 to 1994. As shown in Figure 3.10, this would represent a major improvement on the performance of the economy in the 1981-88 period when the rise in GDP at market prices averaged only 0.5 per cent.

FIGURE 3.10.

GDP AT MARKET PRICES



3.3 PRICES AND WAGE RATES

Prices

The major factors determining the Irish rate of inflation in the long run are the rate of inflation in the outside world and the rate of exchange of the Irish pound. As discussed in Section 2, we have assumed that the Irish pound maintains a fixed parity with the DM over the period to 1994. We have also assumed an underlying long-run world rate of inflation of around 3 per cent. In the period after 1991, as the effects of the completion of the internal market are felt, the rate of inflation for the EC will temporarily fall below the world rate, averaging around 2.5 per cent from 1992 onwards.

While due to domestic inflationary pressures there may be some deviation in the short term from this EC inflation rate, we assume that these pressures are brought under control relatively rapidly. Failure to do so would put at risk the exchange rate commitment. Given this environment it would be difficult for the Irish inflation rate to depart permanently from that of our EMS partners[8].

The key price of world manufactured goods is forecast to rise by 5 per cent in 1989 (see Table 3.3). However, with deflationary measures in place in Germany and the UK and with the assumed depreciation of sterling and the dollar *vis-à-vis* the EMS by the end of 1990, this rate of inflation should fall to 3 per cent next

8 See 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. 2, January.

TABLE 3.3. : Price Deflators and Wage Rates, % Changes

	1986	*1987*	*1988*	*1989*	*1990*	*1991*	*1992*	*1993*	*1994*
Consumption:									
Personal	3.9	3.1	2.0	3.3	4.2	4.2	3.5	3.0	3.5
Public	4.6	7.1	4.2	6.3	5.7	7.1	6.4	5.4	5.0
Investment:									
Housing	4.6	3.0	3.2	3.0	5.4	4.8	4.3	3.5	3.1
Building	4.7	3.0	3.2	3.0	5.3	4.5	4.0	3.4	3.0
Machinery + Equipment	-5.8	-0.9	2.8	3.3	4.1	3.7	3.3	3.0	2.8
Exports:									
Agricultural	-4.8	4.6	6.4	2.9	3.0	2.7	2.4	3.5	2.4
Industrial	-8.1	-0.8	6.2	6.2	3.2	2.8	2.4	2.3	2.4
Services	4.0	3.2	2.1	2.8	4.2	4.2	3.5	3.0	3.5
Imports:									
Energy	-45.5	-3.7	-13.3	11.5	1.0	4.5	7.0	7.0	7.0
Non-Energy Goods	-6.5	0.5	6.6	4.7	3.0	2.7	2.4	2.3	2.4
Services	3.9	3.3	1.6	3.5	3.0	2.7	2.4	2.3	2.4
Industrial Output:									
World	-8.4	2.7	5.9	5.0	3.0	2.7	2.4	2.3	2.4
Transportable Goods Ind.	-3.0	-3.9	4.9	3.8	3.0	2.7	2.4	2.6	2.4
Value Added	2.8	0.2	5.5	3.1	2.5	2.5	1.9	2.2	1.8
Average Annual Earnings:									
Industry	7.0	5.0	4.0	3.5	6.1	7.8	7.1	6.0	5.3
Market Services	1.9	3.5	4.2	3.1	5.5	7.2	6.5	5.5	4.7
Public Sector	10.1	6.7	3.9	6.7	6.1	7.8	7.1	6.0	5.3
Industry:Real	3.0	1.8	2.0	0.2	1.8	3.5	3.6	2.9	1.7
Tax Wedge	5.5	7.6	0.3	-3.1	0.3	0.5	0.2	-0.5	0.3

year. Further limited depreciation of the dollar and sterling in 1991, combined with the anticipatory effects of *1992*, should reduce it further in 1991 and 1992 to 2.7 per cent and 2.4 per cent respectively. This will translate into a similar rate of inflation for Irish industrial output prices[9]. The fact that energy prices in dollar terms are assumed to rise more rapidly than other world prices means that the price of value-added in industry will rise slightly slower than output prices[10].

In the short run the trend of consumer prices is affected by a number of different factors. The rate of increase in world output prices and agricultural prices feeds into consumption through domestic output prices. However, a significant part of all consumers' expenditure goes on services and there is also a substantial domestic margin on all goods purchased by consumers. As a result, the price of services which is, in turn, partly determined by domestic wage costs, affects consumer prices too. Finally, indirect tax rates can result in the domestic rate of inflation differing from the foreign rate for a number of years.

For 1990 we see a significant danger of inflationary pressure affecting domestic consumer prices. Unlike many such occasions in the past, these pressures will come more from increasing profit margins on non-tradable goods than from abnormal increases in wage costs. For example, the price of building sector output will rise substantially faster than the output price of the rest of the industrial (tradable) sector. However, the effects of this profit led inflation will rapidly translate into wage cost pressures in 1991 and 1992. These in turn will feed back into consumer prices. Because industrial output prices are effectively fixed externally, this will adversely affect the competitiveness of the tradable sector.

Thus we see the rate of increase in consumer prices rising to 4.2 per cent in 1990. The combined effects of *1992*, a moderation in the rate of growth of the economy, and a consequent fall in pressures on domestic costs, will result in consumer price inflation falling to 3.5 per cent in 1992 and 3 per cent in 1993. The assumption that the loss of revenue from tax harmonisation is funded within the indirect tax system means that there is no direct effect on prices. However, because of the elimination of VAT on imports there is a temporary reduction in the inflation rate in 1993 below what it would otherwise have been and a similar temporary increase in 1994. Adjusting for this factor, the underlying rate of inflation of consumer prices in 1994 is around 3 per cent and declining.

9 The rates of inflation differ for 1993 because of the effects of the abolition of MCAs on output prices of food processing industries.

10 This is because higher energy prices raise the cost of industrial inputs and, given output prices, reduce value-added.

TABLE 3.4. : Personal Income (percentage changes)

	1986	*1987*	*1988*	*1989*	*1990*	*1991*	*1992*	*1993*	*1994*
Agricultural etc. Income	-5.2	17.4	15.8	4.0	5.8	3.3	3.0	5.1	2.8
Non-Ag. Wage Income	6.5	4.8	4.2	5.0	8.5	10.2	8.8	7.8	6.9
Transfer Income	9.3	6.3	1.4	-1.2	3.7	4.8	6.0	5.1	4.6
Domestic	10.1	3.8	2.9	-2.4	3.7	5.0	6.4	5.4	4.8
Foreign	0.9	36.7	-12.7	11.7	3.0	2.7	2.4	2.3	2.4
Other Personal Income	3.7	4.3	-1.5	18.1	21.3	7.4	3.6	6.8	-1.7
of which:									
Non-Ag. Profits etc.	6.8	11.2	2.9	17.2	20.1	11.1	8.4	12.1	6.7
National Debt Interest	-4.4	8.6	-0.8	8.4	3.1	-0.6	-0.6	-2.3	-3.2
Net Factor Income	-0.4	-0.6	17.7	11.6	11.9	7.9	7.9	11.1	10.0
Other Private Income	9.7	18.4	-9.9	23.8	19.3	7.7	4.4	7.6	0.4
Undistributed Profits(-)	35.9	64.9	-27.3	40.0	14.4	8.4	6.5	9.5	5.4
Personal Income	5.6	6.0	3.9	5.3	9.1	8.2	7.0	7.0	4.9
Taxes On Personal Income	8.1	10.9	12.8	-5.3	9.3	9.0	6.2	5.0	4.5
Disposable Income	5.0	4.7	1.4	8.6	9.0	7.9	7.3	7.5	5.0
Personal Consumption (-)	7.1	3.3	5.3	7.3	12.8	10.4	7.0	7.0	4.7
Personal Savings	-4.1	12.0	-16.2	15.9	-10.8	-8.7	9.2	11.4	7.7
Tax Ratio (% Pers.Income)	21.2	22.2	24.1	21.7	21.7	21.9	21.7	21.3	21.2
Savings Ratio (% Disp. Income)	16.9	18.0	14.9	15.9	13.0	11.0	11.2	11.6	11.9

Wage Rates

Wage rates in the industrial sector are affected by the rise in prices, by the effects of changes in taxes on disposable income, by changes in unemployment and by trend productivity. The rate of increase in wage rates in other sectors is influenced by the increase in the industrial sector. Thus inflationary pressures affecting wage rates in one sector can affect the economy as a whole.

Table 3.3 shows the central forecast for the rate of increase in industrial wage rates in the medium term. We anticipate that the fall in unemployment together with the inflationary pressures, in particular in the building industry, will result in a significant acceleration of wage inflation in the private sector from 3.5 per cent in 1989 to over 6 per cent in 1990. This is in spite of the assumption of some reduction in rates of direct taxation in each year beginning with 1990. The rate of increase in wage rates will peak in 1991 at nearly 8 per cent as the full effects of the fall in unemployment are felt. It will also be affected by the rise in the domestic rate of inflation to over 4 per cent in 1990 and 1991.

After 1991 there will be some tendency for the rate of wage inflation to fall off. This will arise from a number of factors. The decline to more normal levels in the rate of growth of the economy will ease domestic inflationary pressures. The effect of a substantial reduction in emigration in slowing the fall in unemployment will also ease pressures. There will be a greater supply of skilled workers available in certain key industries, such as the building industry, than in the initial stages of the upswing. The continuing reduction in tax rates and the downward pressure on prices arising from the completion of the EC market will all contribute to an easing in wage inflation.

However, the timing and magnitude of the pick-up in wage inflation remains uncertain. A more moderate development of wage rates in 1990 and 1991 could lead to even more rapid growth in those years and add to the rate of increase in employment. For example, if wage rates rose by 4.1 per cent and 5.8 per cent respectively in 1990 and 1991 (2 percentage points below the forecast rate of increase in those years) it would raise the level of GDP by 0.15 per cent and 0.45 per cent in 1990 and 1991. The long-term effects would be even greater, resulting in the level of GDP in 1994 being around 0.7 per cent higher than in our central forecast. The effect on the growth rate of GNP would be somewhat smaller as some of the benefits of lower wage costs in the short term would flow out as profit repatriations. By 1994 total employment would be 7,500 above the level in the central forecast.

Conversely a more rapid growth in wage costs than envisaged in the central forecast would have serious consequences for growth and employment in the medium term. It would reduce competitiveness and, consequently, the level of industrial capacity. The resulting loss of industrial output and employment would also affect the market services sector through the fall-off in domestic demand.

3.4 INCOMES

The growth in output in the medium term will give rise to a much more buoyant trend in real income. However, the effects in the short term of these increased incomes will depend very much on how they are distributed between the different factors of production in the economy. The central forecast for incomes is summarised in Table 3.4.

Because of the minimal rise in agricultural output and the continuing downward pressure on agricultural prices from the pressure to liberalise trade in agricultural produce, the growth in agricultural incomes will be

limited. Over the 1989-94 period they will just about keep pace with inflation. They will benefit in 1990 from the increase in transfers from the EC Structural Funds and, to a lesser extent, in 1993 from the abolition of MCAs due to the completion of the EC internal market. However, with employment in the sector falling at 3.2 per cent a year there will be an increase in real income per head of around 3.5 per cent a year. This will be over 0.7 per cent higher than the rate of growth forecast for real wage rates in industry.

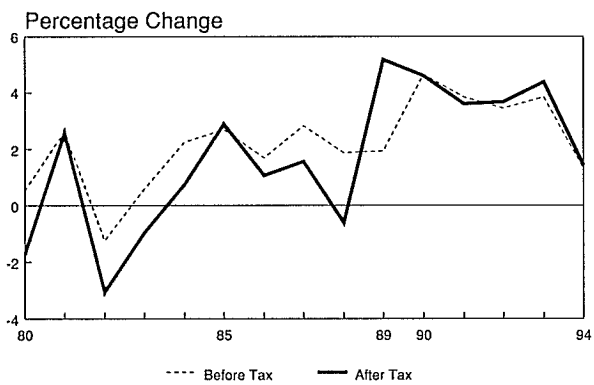
Non-agricultural wages will be much more buoyant than in the last three years. This turn-round stems from a forecast of significant increase in real wage rates combined with growth in employment. However, this rate of growth will be surpassed by that of non-agricultural profits. With the improving competitive position of the Irish economy since 1986, profits have risen quite rapidly for three years in a row[11]. The inflationary effects of the rapid increase in 1990 will allow a further rise in margins, especially in those sectors most affected by domestic demand. While the effects of *1992* in bringing about some further rationalisation will help maintain profit growth, the longer-term trend will be for growth to slow as the recovery phase of the economic cycle ends and domestic cost pressures build up.

In spite of the assumption that social welfare transfers are increased slightly faster than inflation, total transfer income will grow slowly. The effect of the fall in numbers unemployed will tend to reduce expenditure. The biggest turn-round will occur in national debt interest where expenditure will fall each year from 1991 onwards due to the move into surplus by the government sector.

Figure 3.11 shows the trend of real personal income before and after tax over the period 1980-1994. The recovery in the economy will result in an average rise in real personal income over the next five years of double that experienced in the 1981-88 period. The difference is even more marked in the case of real personal after tax income. While in the 1981-88 period the rise in rates of direct tax resulted in an average growth rate of only 0.5 per cent, in the 1989-94 period the increase in personal income after tax will be further boosted by moderate reductions in tax rates to 3.8 per cent.

FIGURE 3.11.

REAL PERSONAL INCOME



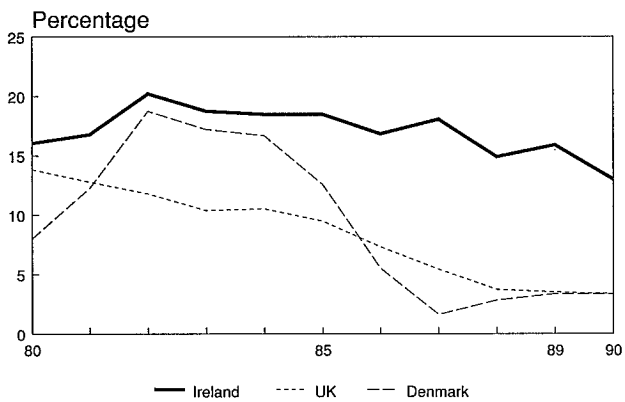
3.5 THE SAVINGS RATIO

A major issue which will greatly affect the path of growth in the medium term will be the behaviour of the personal savings ratio. While the normal approach to forecasting this item would be to rely on econometric analysis of the behaviour of consumers, the past results for the Irish economy have proved rather unsatisfactory. The experience of prolonged recession and high real interest rates in the 1980s has yet to be analysed. In the absence of a satisfactory consumption function, the experience in other countries, in particular the UK and Denmark, may prove useful in forecasting the future trend in personal savings and consumption.

As shown in Figure 3.12, both these countries experienced a very rapid and marked drop in the savings ratio coinciding with the recovery phase of the economic cycle. In both cases the change in savings pattern was associated with a rapid rise in house prices. Analysis for the UK in the latest London Business School *Economic Outlook*, as well as identifying the importance of demographic factors, pointed to the significance of house prices in the consumption boom which is only now coming to an end. It would appear that following on severe recessions in the UK and Denmark, where fears for the future stimulated precautionary saving, consumers first recognised the economic upturn by buying houses, and thereby bidding up prices. Whether or not there was a causal relationship between the rise in house prices and the rise in consumption is still not clear. It may well be that both phenomena reflect a change in consumer sentiment about the future. The rise in house prices in Ireland may presage a similar change here.

FIGURE 3.12.

INTERNATIONAL COMPARISON OF SAVING RATES



The drop in the savings ratio in Denmark, shown in Figure 3.12, amounted to around 12 percentage points of disposable income. The fall in the UK was slightly lower. For Ireland demographic factors will limit the possible fall in the savings ratio. However, the other factors driving the fall in the savings ratio in the UK and Denmark are present in Ireland and we expect a sizeable fall in the ratio in 1989, 1990 and 1991[12]. Between 1987 and 1991 we see the savings ratio falling by about 7

11 The figures for 1988 and 1989 are distorted due to the effects of the tax amnesty.

12 The figure for 1988 is seriously distorted by the effects of the tax amnesty.

percentage points. This would leave the ratio at an historically very low level in 1991 and we forecast a small rise in subsequent years towards an historically more normal level.

Given the uncertainty about this key variable it is important to consider the sensitivity of our central forecast to alternative assumptions. In Figures 3.13 to 3.15 we show the effects of assuming a constant savings ratio of 15.9 per cent from 1989 to 1994. This would leave the savings ratio 4 percentage points above the central forecast in 1994. As can be seen from Figure 3.13 there would be a reduction in the growth rate in 1990 of 1.7 per cent to around 5.4 per cent. There would be a further reduction in the growth rate in 1991 of 0.7 per cent. This slow-down would, however, only be temporary. By 1994, the growth rate would be higher than in the central forecast as the higher balance of payments surplus (Figure 3.14) and related foreign investment, shows dividends in terms of increased profit inflows. While the level of real GNP in 1994 would still be 0.6 per cent below that in the central forecast, the eventual effect on GNP of the higher savings ratio would be positive.

As shown in Figure 3.15, the lower volume of consumption would considerably reduce the tax take and reduce the government surplus (increase the deficit). In 1990 the deficit would be 0.9 percentage points of GNP above the central forecast. The move into surplus on the government account would be postponed until 1992.

FIGURE 3.13.
HIGHER SAVINGS RATIO
(Change in GNP Growth Rate)

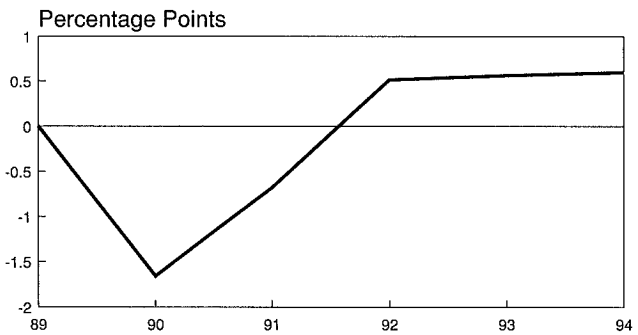


FIGURE 3.14.
HIGHER SAVINGS RATIO
(Change in Bal of Payments Surplus)

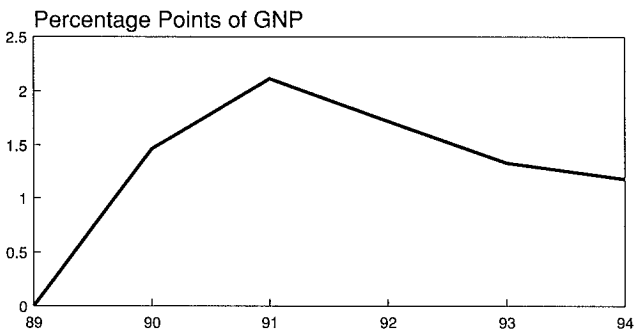
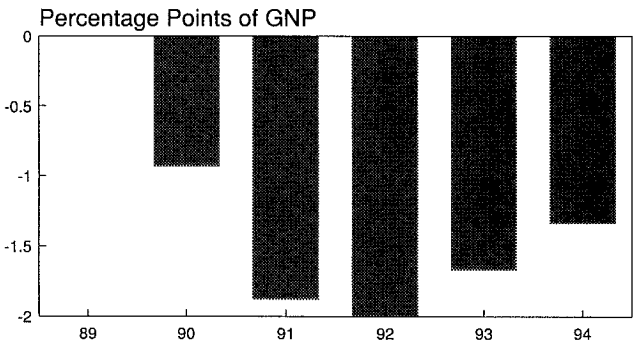


FIGURE 3.15.
HIGHER SAVINGS RATIO
(Change in Government Surplus)



The effect of very much lower consumption on the economy in the long term would be even greater. It would seem unlikely that the economy could sustain a balance of payments surplus of 4.3 per cent of GNP indefinitely. If the volume of consumption did not rise as in the central forecast then the only other channels for reducing the surplus would be for the Irish pound to float upwards, reducing competitiveness, or, much more likely in the post-*1992* context, for investment to rise.

It would clearly be in the long-term interest of the Irish economy if such a substitution of private investment for consumption were to take place. It would result in higher employment and output in future years at the expense of the current standard of living, measured in terms of consumption. However, the precise manner in which the surplus could increase investment is not well defined. The government has no power to directly influence the savings rate. As a result, on the basis of available evidence and assuming current policies, we expect that the key balances in the economy will develop along the lines suggested in the central forecast.

3.6 EXPENDITURE ON GNP

Personal Consumption

The anticipated fall in the savings ratio, when combined with a considerable rise in real after tax income, results in a very rapid growth in consumption. As shown in Table 3.5, the central forecast shows real consumption rising by over 8 per cent in volume in 1990, almost equal to the record increase in 1978. With a further fall in the savings ratio in 1991 the rise in volume is 6 per cent. Thereafter, while the downward pressure of EC market completion on prices benefits consumers and sustains the volume growth in consumption, the effect of the general slow-down in growth and a rising savings ratio sees an end to the consumer boom by 1994. As can be seen from Figure 3.16, this pattern of growth contrasts markedly with the experience of decline and stagnation during the 1980s.

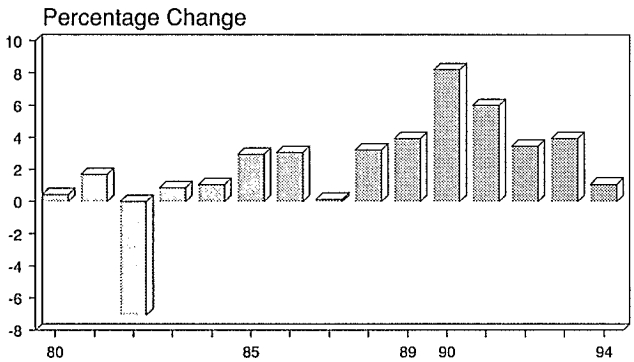
The explosive nature of this consumer boom gives rise to concern about inflation. As discussed above, there is already likely to be a growth in inflationary pressure within certain sectors of the economy over the next two years. A consumer boom will aggravate these

TABLE 3.5. : Expenditure on GNP (constant price percentage changes)

	1986	*1987*	*1988*	*1989*	*1990*	*1991*	*1992*	*1993*	*1994*
Personal Consumption	3.1	0.1	3.2	3.9	8.2	6.0	3.5	3.9	1.1
Public Consumption	1.7	-3.3	-4.3	-2.7	0.4	0.4	0.0	-0.1	0.0
Fixed Investment	0.7	-1.1	-1.3	7.7	14.0	7.9	7.0	7.9	5.0
Building	-3.6	-6.4	-5.4	7.6	15.2	9.0	7.8	8.8	4.3
Machinery	4.7	3.4	1.7	7.7	13.1	7.1	6.5	7.2	5.5
Total Domestic Demand	1.4	-1.5	0.2	4.6	8.5	5.9	4.0	5.2	2.0
Total Exports	2.9	13.3	8.4	7.5	9.7	8.0	7.6	7.4	6.7
Merchandise	4.2	13.5	8.8	7.7	10.0	8.3	7.8	7.6	7.0
Services	-7.4	11.1	4.7	5.5	6.5	5.3	5.6	5.4	4.0
Total Demand	2.0	4.4	3.7	5.9	9.0	6.9	5.7	6.3	4.3
Total Imports	5.5	4.9	5.1	8.3	11.7	8.7	7.1	7.6	5.0
Merchandise	5.4	3.9	4.3	8.2	11.8	8.5	6.8	7.3	4.6
Services	6.5	15.2	12.5	9.0	10.4	10.6	9.9	9.4	7.9
Gross Domestic Product	-0.4	4.1	2.8	4.2	7.1	5.4	4.6	5.2	3.7
Net Factor Income	6.4	-1.1	11.3	6.0	8.4	4.9	5.3	8.5	7.4
Gross National Product	-1.3	4.8	1.6	3.9	6.9	5.5	4.4	4.7	3.1

pressures. There will undoubtedly be a substantial increase in margins in the non-tradable sector in the face of such growth.

FIGURE 3.16.
PERSONAL CONSUMPTION



Public Consumption

The pattern of development of public consumption is the same as that for the output of the public sector discussed in Section 3.2. Following on three years of substantial volume cuts in 1987-89, there is a small volume increase in 1990 and 1991 fuelled by the increased expenditure from the EC Structural Funds. Thereafter there is assumed to be no volume growth. Whether such an absence of growth in public services, such as health and education, is desirable in the face of a rapid rise in other forms of consumption is not considered here. Demographic factors will allow some improvement in educational services within this overall volume constraint. However, public preferences for a more balanced increase in public and private consumption may result in a limited resumption of growth in this aggregate in the mid-1990s.

Investment

The pattern of growth of investment mirrors the economic cycle. Figure 3.17 shows the expected volume increase in investment by sector. Industrial investment, which grew rapidly in 1988, will continue to rise at over 10 per cent a year till 1990. This reflects the desire to increase the capacity of the sector arising from its improved competitive position. While the increase in costs in the early 1990s will tend to reduce competitiveness and, therefore, investment[13], the effects of *1992* will partly offset this. The need to increase the capital stock to take advantage of potential economies of scale arising from the single market and the desire to exploit the more liberal public procurement regime after 1992 will sustain investment until at least 1994.

In market services the growth in the volume of investment will peak in 1990 at over 14 per cent. There are a number of factors underlying this very rapid increase. The rapid rise in the volume of consumption and in the economy generally will result in an increase in desired capacity output. The effects of the EC Structural Fund expenditure in the tourism area will contribute to this. Office accommodation has been in surplus supply for a number of years. This situation is coming to an end. Developments in the transport sector will also account for a significant chunk of the investment through purchases of aircraft. Unlike the situation in the industrial sector, the direct effects of the completion of the market on market services investment will be small.

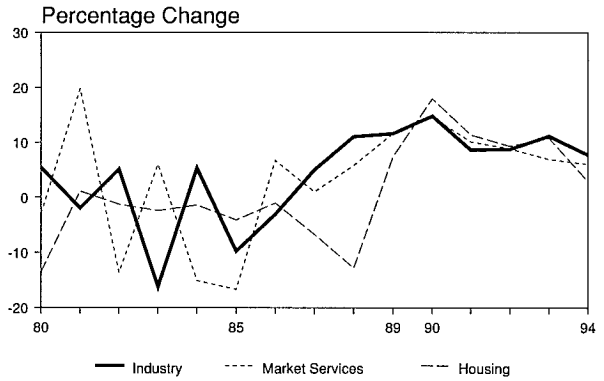
The growth in the volume of investment in health, education, roads, and public administration is largely determined by the *National Development Plan*. The changes set out in the *Plan* will result in a major growth in volume in 1990, following on a small volume increase in 1989. Thereafter, having lifted public investment in infrastructure to a higher plateau, there is little further

13 While higher labour costs results in some substitution of capital for labour, this effect is swamped by the substitution of foreign output for domestic output. As a result, a rise in labour costs can adversely affect investment. See 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.

rise in subsequent years. The volume of public investment in areas not covered by the *Plan* is assumed to remain constant over the forecast period.

FIGURE 3.17.

INVESTMENT BY SECTOR



With the virtual disappearance of the public housing programme, the growth of housing investment will be driven by private demand. Private demand is determined by a number of factors: the growth in real personal disposable income, the cost of borrowing, demographic factors and, related to all of these, expectations about the future of the economy. All of these factors have combined to produce a very rapid rise in demand in late 1988 and early 1989. With supply of housing reacting slowly, this has initially resulted in a rapid rise in prices. However, there are signs that supply is beginning to grow and we anticipate a volume increase next year of almost 18 per cent. With the general turn-round in the economy and a fall off in emigration, investment in housing will continue to grow quite rapidly until 1993. However, by 1994 the impact effect of the Structural Fund expenditure and the beneficial effects of *1992* will have worn off and the growth rate of housing investment will fall. As with the pattern shown for investment by other sectors, the precise timing of housing investment could differ from the central forecast. However, the overall pattern will still be one of rapid increase followed, eventually, by a cyclical slow-down. The objective of policy should be to promote a smoother development over time.

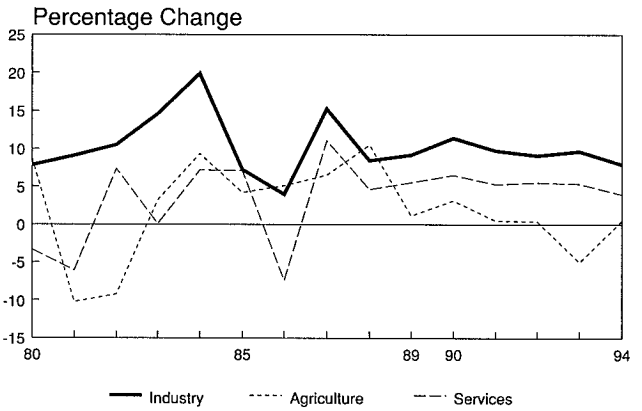
As shown in Table 3.5, the combined effects of the investment in the different sectors of the economy will result in a very rapid growth in the volume of investment in both building and machinery and equipment in 1990. The tendency for the rate of increase to fall off in subsequent years will be temporarily offset by the impact effects of the completion of the EC market in 1993. However, the long-term effects of the decline in competitiveness in the early 1990s will result in a slow-down from 1994 onwards.

Exports

Industrial exports in the medium term are driven by the growth in supply (industrial output) which is, in turn, determined by the trends in world output and in the competitiveness of the domestic economy. In the short term their volume is directly affected by world demand, raising (or reducing) capacity utilisation. This sets in train a series of adjustments which eventually result in new capacity being installed. As shown in Figure 3.18, beginning with a very rapid rise in volume in 1987, industrial exports have continued to increase in 1988 and 1989 at a high rate. We see this trend continuing until 1990 as a result of the increase in output capacity in that sector which is already in train. Once the effects of the improvement in competitiveness in the second half of the 1980s had worn off one might have expected a fall off in growth. However, the run up to *1992* and its implementation within the EC will sustain growth at a high level until 1994.

FIGURE 3.18.

EXPORTS BY SECTOR

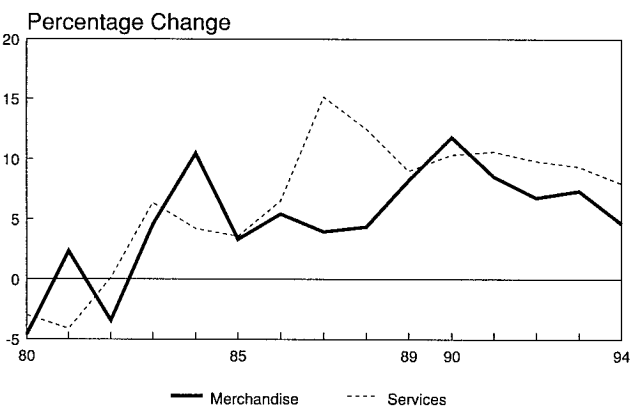


The volume of exports of services, including tourism, is generally assumed to follow the growth in the world economy. With a slower rise in world output than in the 1987-88 period one would expect a consequential slow-down in tourism exports in the early 1990s. However, the increasing stock of recent emigrants abroad, combined with the assumed benefits from the increased infrastructural investment funded by the EC, will result in significant growth throughout the forecast period.

Imports

FIGURE 3.19.

IMPORTS



Imports are a major input into the goods produced in the industrial sector. At the margin, approximately 50 per cent of all industrial exports consists of imported materials. In addition, imports ensure that the supply of goods in the economy equals demand. Thus if, as we anticipate, the volume of consumption rises faster than the volume of goods produced in the economy, imports will rise to make good the difference. As a result, as shown in Table 3.5, the volume of imports is forecast to increase more rapidly than the volume of exports in each of the three years 1988-1990. With the slow-down in the growth of domestic demand, particularly in consumption, the capacity of the economy to meet domestic demand rises after 1990 and the rate of increase of imports falls below that of exports.

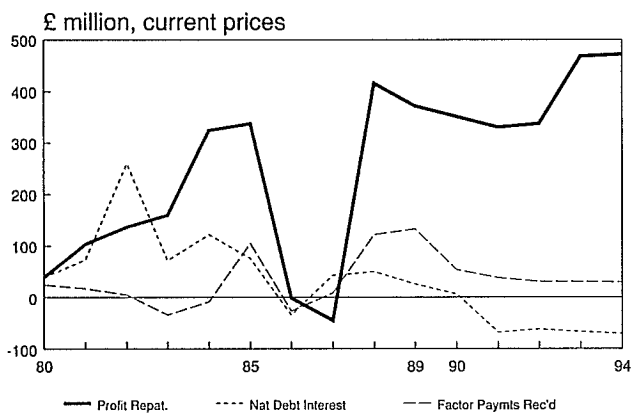
Figure 3.19 gives a breakdown of the growth of imports. It shows a very rapid rise in imports of services in 1987 and 1988. While tourism imports (expenditure abroad by Irish residents) were reasonably buoyant, the major factor behind the growth was the start-up of certain multinational enterprises. For the future, the increase in services imports will owe more to very buoyant tourism imports than to *other* imports related to a few multinational enterprises.

Net Factor Income

The increase in net factor income payments abroad has been a major factor reducing the growth of GNP over the 1980s. The three components of net factor income are national debt interest paid abroad and profits repatriated, both of which are outflows, and other factor income received from abroad which is an inflow. This latter item represents the return on private foreign investment. With a very considerable private capital outflow in recent years this inflow of interest and dividends from abroad rose rapidly in 1988 and is set to rise again in 1989 (Figure 3.20). The existence of a continual balance of payments surplus and a related private capital outflow means that this item rises up to 1994.

FIGURE 3.20.

NET FACTOR INCOME : CHANGE



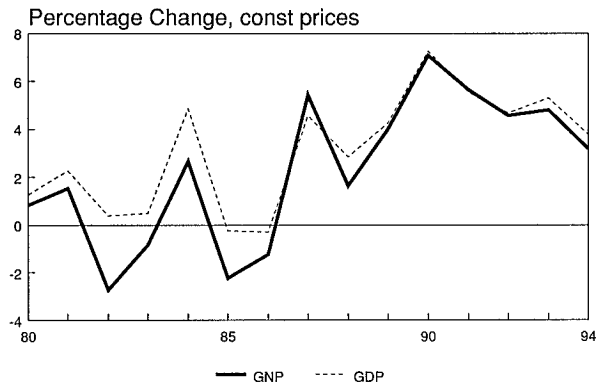
National debt interest paid abroad actually falls from 1991 onwards due to the repayment of debt by the government and also due to a small decline in foreign interest rates. Together the decline in debt interest payments and the increase in factor inflows go a considerable way towards reducing the net factor outflow in the period 1989 to 1994.

GNP

The burgeoning debt played a vital role in bringing about the prolonged recession of the 1980s. Between 1981 and 1988 the increase in national debt interest paid abroad, together with rising profit repatriations resulted in the growth of GNP being well below that in GDP. As shown in Figure 3.21, net factor income reduced the average rate of growth by over 1.3 percentage points over the period 1981-88. For the five year period 1989-94 this negative contribution will be reduced to an average of under 0.3 per cent a year. Thus the turn-round in this key variable, primarily due to the fall off in foreign debt interest payments, will raise the growth rate in the medium term by 1 percentage point over that experienced in the 1981-89 period.

FIGURE 3.21.

GAP BETWEEN GNP & GDP GROWTH RATES



3.7 THE BALANCE OF PAYMENTS

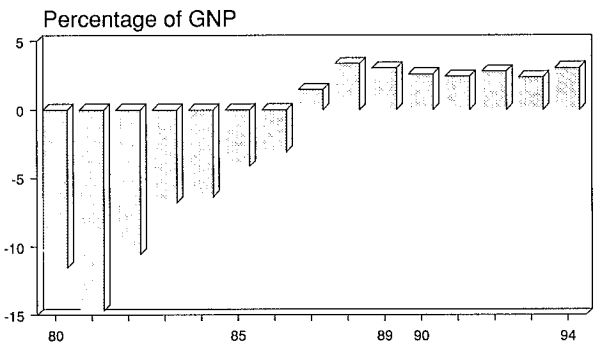
A crucial factor in the crisis in the Irish economy in the early 1980s was the rise in the balance of payments deficit to nearly 15 per cent of GNP in 1981 (see Figure 3.22). The problems of financing this deficit reflected themselves in the need for the government to borrow abroad extensively with the inevitable result in terms of rising foreign debt interest payments. It required five years of severe fiscal policy to eliminate it. The rise in tax rates deflated domestic demand and halted the rapid rise in imports. With capacity in the industrial sector continuing to rise, the gap between exports and imports closed rapidly. The net effect of the deflationary fiscal policy and the continuing growth in the industrial sector was to bring about an even greater turn-round in the balance of trade than in the Exchequer borrowing requirement. Between 1981 and 1986 it improved by 17 percentage points of GNP.

The turn-round in the balance of trade was partly offset by the effects of the rapid rise in interest payments abroad consequent on the rising foreign debt. Having moved into surplus in 1987 for the first time since 1966, the surplus rose to 2.3 per cent of GNP last year and will

remain at 3 per cent in 1989[14]. Even the very rapid rise in the volume of consumption and, therefore, in imports in the period 1989-91 will not be sufficient to eliminate the surplus. The big increase in EC transfers from the Structural Funds will ensure that there will be a continuing surplus till 1994 of between 2 per cent and 3 per cent of GNP.

FIGURE 3.22

BALANCE OF PAYMENTS SURPLUS



The reason for the move of the economy into surplus on the balance of payments, and for the continuation of a surplus of this magnitude, lies in the nature of the factors driving the economy in the 1980s and early 1990s. The bulk of the stimulus to growth has come, and will continue to come, from outside the domestic economy. When growth comes through increased exports, by definition, the balance of payments must improve. It is only if domestic factors change to drive domestic demand up faster than domestic supply that the balance will move into deficit.

In the longer term the factors which could result in a return to the chronic balance of payments deficits of the past would be: a fall in domestic supply due to a major loss of competitiveness; a permanent fall in the personal savings ratio to historically unprecedented levels; a return to the era of fiscal extravagance; or a major rise in investment. Even in the case of a major rise in investment, it could only produce a sustained return to balance of payments deficits if it were unproductive in nature. Investment which produces a permanent increase in output in the market services or industrial sectors would only increase the surplus.

Since the early 1980s fiscal policy has been reducing demand, not increasing it. We project a limited reversal of the restrictive stance of fiscal policy over the next five years through moderate tax cuts. However, even when combined with a substantial fall in the savings ratio, this will not be enough to offset the positive effect from abroad on the balance of payments. As discussed above, if the savings ratio were to remain constant at the 1989 level the balance of payments surplus would, in fact, rise to 4.3 per cent of GNP in 1994.

The continuation of a balance of payments surplus has important implications for the economy in the medium term. By definition it requires an equal outflow of foreign investment or repayment of foreign debts. While such an outflow may put little pressure on the financial markets in the short term, in the longer term it will tend to put downward pressure on interest rates. As the proportion of foreign assets in the portfolios of financial institutions rises they will become more exposed to exchange rate risks and underexposed to the development of the market in which they are selling. It is generally considered unsatisfactory if the assets and liabilities of such institutions show very different currency compositions and such a development would increase pressure to find suitable investment opportunities in the domestic economy.

The continuing surplus is the major factor behind our assumption of a narrowing in the differential between Irish and German interest rates over the period to 1994. The build up of foreign assets or the fall in foreign debt, in turn, reduces the net factor outflow helping maintain the surplus.

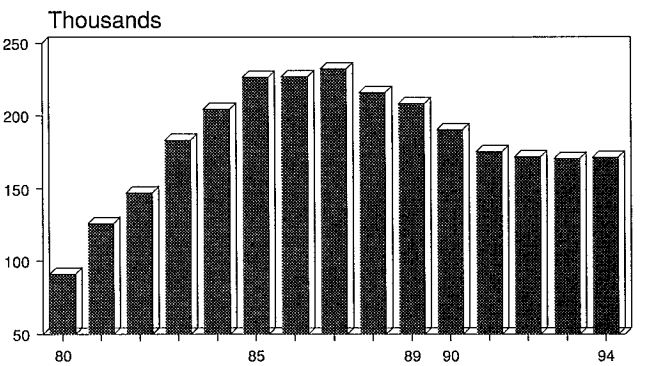
3.8 EMPLOYMENT AND THE LABOUR FORCE

The trend in employment in each individual sector of the economy was discussed earlier in Section 3.2 and is summarised in Table 3.6. The implications for total employment are summarised in Figure 3.23. In contrast to the fall in employment through much of the 1980s the recovery in the economy underlying the central forecast results in a cumulative increase in employment, net of job losses, of 82,000 between 1989 and 1994. The major increases are expected to occur in the industrial and marketed services sector.

Table 3.6 also shows that the labour force is expected to rise by nearly 46,000 over the period. The net result is a decline in the numbers unemployed of 37,000, less than half the net increase in employment (Figure 3.23). The rate of unemployment falls from 16 per cent of the labour force to 12.7 per cent in 1994. However, it is notable that nearly all the decline in unemployment occurs in the period to 1991. Thereafter, there is little change in the total numbers unemployed as the labour force continues to rise.

FIGURE 3.23

NUMBERS UNEMPLOYED



14 The data in Figure 3.22 and the Appendix have not been adjusted to take account of the latest balance of payments figures. However, the changes implied by the latest data for 1988 do not significantly alter the picture for 1989 and later years.

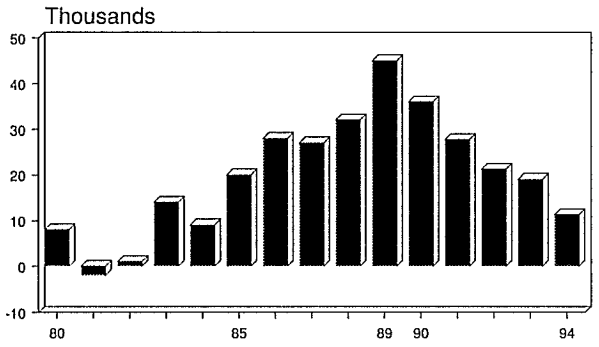
TABLE 3.6. : Employment and the Labour Force, mid April (thousands)

	1985	*1986*	*1987*	*1988*	*1989*	*1990*	*1991*	*1992*	*1993*	*1994*
Agriculture	171	168	164	162	159	154	149	144	139	135
Industry	306	307	300	299	302	313	323	332	342	350
Non Building	230	235	229	231	232	237	244	250	258	265
Building	76	72	71	68	70	76	79	81	85	85
Market Services	393	398	409	428	437	450	464	473	483	493
Health + Education	137	137	137	128	126	127	128	128	128	128
Public Admin. + Defence	73	71	70	69	68	68	68	68	68	68
Total Employment	1079	1081	1080	1086	1092	1112	1131	1145	1160	1174
Unemployment	226	227	232	216	208	190	175	172	170	171
Labour Force	1305	1308	1312	1302	1300	1302	1307	1317	1331	1346
Population Under 15	1045	1025	1012	996	980	964	949	936	918	902
Population 15 To 64	2116	2132	2142	2153	2144	2140	2140	2150	2166	2183
Population Over 65	379	384	389	389	390	392	394	394	393	393
Total Population	3540	3541	3543	3538	3513	3496	3483	3479	3477	3478
Net Migration	20	28	27	32	45	36	28	21	19	11
Unemployment Rate (%)	17.3	17.3	17.7	16.6	16.0	14.6	13.4	13.0	12.8	12.7
Labour Force Participation Rate (%)*	69.0	68.9	68.8	68.0	68.3	68.6	68.9	69.2	69.5	69.8

* The labour force is expressed as a percentage of adults aged 15 to 64 who are not in full-time education.

FIGURE 3.24

NUMBERS EMIGRATING



The rise in the labour force is due to a number of factors. The most important is the underlying strong growth in numbers of school leavers. However, since the mid-1980s a high proportion of them have been emigrating with the level of emigration being particularly high in 1988 and 1989 (see Figure 3.24). This has resulted in an actual fall in the labour force. From 1991 onwards we forecast that the numbers emigrating should fall quite rapidly, due to the improved domestic economic environment. In addition, labour force participation, which has been fairly static in recent years, will rise as the opportunities for employment of married women improve. The impact of these factors, which increase the labour force, is partially offset in 1990 and 1991 by the increase in EC funded training programmes which affects the size of the potential labour force. However, from 1992 onwards the labour force rises rapidly. This reduces the upward pressure on wages from the strong underlying growth rate and helps maintain the competitiveness of the economy.

It should be noted that the pattern of change in the labour force remains extremely uncertain. It is possible that the rise in the supply of labour could occur as early as 1990 and that, as a result, the fall in unemployment in that year would be smaller than forecast. Such a development could alter the labour market situation resulting in somewhat lower increases in wage rates in subsequent years and higher employment.

In this central forecast we have assumed that there is not a major recession in the UK. If such a recession were to occur, resulting in substantial increases in unemployment in the UK, it would have an appreciable effect on the labour force in Ireland. Past experience suggests that rising UK unemployment tends to reduce emigration from Ireland. However, the decline in numbers of young people entering the labour force in the UK and Germany in the next five years makes this possibility less likely than the more benign scenario underlying our central forecast.

3.9 THE PUBLIC FINANCES

The trend in the Exchequer borrowing requirement is shown in Figure 3.25. The borrowing requirement disappears in 1991 and is replaced by a significant surplus on the government accounts in subsequent years. This surplus occurs in spite of a reduction in the rate of direct taxation on personal income from 1990 to 1994[15]. The central forecast also assumes overindexation of transfer payments (that they will rise at a rate between the rate of increase in prices and that of wage rates).

This pattern of development is rather different from that underlying the recently published *National Development Plan*. The single biggest reason for the difference is our much more buoyant projection for

15 This is not the same as a reduction in income tax rates of the same amount. It is defined as a change in rates or allowances sufficient to reduce income tax as a share of personal income by 0.66 percentage points a year.

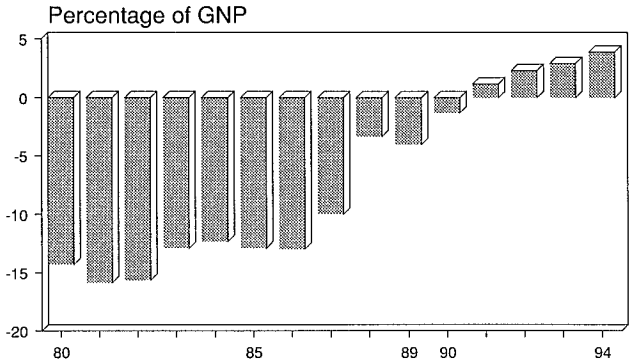
TABLE 3.7. : The Public Finances, % Changes

	1986	*1987*	*1988*	*1989*	*1990*	*1991*	*1992*	*1993*	*1994*
Taxes On Income And Wealth	10.2	9.0	13.6	-5.1	9.4	10.8	7.3	5.8	5.2
- Company	40.4	-12.3	25.5	-3.2	10.1	33.1	18.8	13.4	11.5
- Personal	8.1	10.9	12.8	-5.3	9.3	9.0	6.2	5.0	4.5
Taxes On Expenditure	5.3	4.3	11.2	6.5	13.4	11.9	8.7	6.2	7.4
EC Budget Contrib.(-)	18.1	4.6	4.2	6.2	3.0	2.7	2.4	2.3	2.4
Net Trading + Inv. Income	-17.7	5.8	-2.5	-14.8	4.4	4.4	3.5	2.9	2.9
Transfers From Abroad	-3.3	58.5	-13.1	-13.3	110.1	16.0	10.9	2.3	3.0
Total Current Receipts	5.9	7.4	11.3	-1.0	12.0	11.1	7.8	5.8	6.1
Subsidies	-4.7	31.3	-23.5	-6.3	13.2	6.2	5.3	6.1	3.7
National Debt Interest	-4.4	8.6	-0.8	8.4	3.1	-0.6	-0.6	-2.3	-3.2
Other Transfer Payments	10.0	3.9	2.7	-2.2	3.8	5.0	6.4	5.3	4.8
Foreign	7.5	11.6	-5.6	7.8	4.2	4.2	3.5	3.0	3.5
Residents	10.1	3.8	2.9	-2.4	3.7	5.0	6.4	5.4	4.8
Public Consumption	6.4	3.5	-0.3	3.4	6.1	7.5	6.4	5.3	5.0
Total Current Expenditure	4.5	6.4	-1.1	1.8	5.0	4.8	4.9	3.9	3.3
Current Budget Deficit, % of GNP	8.2	8.4	6.6	1.7	2.8	-0.1	-2.6	-3.7	-4.3
Capital Receipts	-20.3	13.8	21.3	12.4	28.2	11.8	9.3	8.3	2.8
Capital Expenditure	-1.5	2.4	-11.1	2.3	18.0	8.5	5.3	6.9	3.4
Exchequer Borrowing Requirement, % of GNP	12.9	10.0	3.3	4.0	1.3	-1.2	-2.3	-2.9	-3.9

economic growth in 1990 and 1991. In particular, we forecast a consumer boom due to a big fall in the savings ratio.

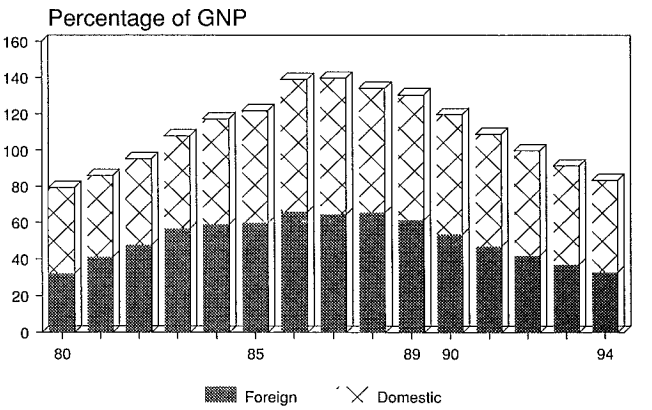
As described above in Section 3.5, if the savings ratio were to remain unchanged at its current level, the Exchequer borrowing requirement would not disappear until 1992. Other factors affecting the speed of adjustment in the public finances are the substantial transfer from the EC Structural Funds which benefit the Exchequer, both directly and indirectly; the ending of export profits tax relief which, as shown in Table 3.7, leads to a major rise in company tax revenue in the 1991-93 period; the cumulative effects of the lower borrowing on the level of debt and debt interest payments.

FIGURE 3.25
EXCHEQUER BORROWING REQUIREMENT



The trend in the public finances in the 1987-89 period has been obscured by the effects of the tax amnesty. However, as is now becoming clear, revenue remains very buoyant. This buoyancy should continue with the high rate of growth in the period to 1994. The rate of growth in expenditure is well below that in revenue due to a number of factors: the assumption that there is no net increase in public service employment; the fall in numbers unemployed, with consequential savings in transfer payments; the fall in national debt interest payments. From 1991 onwards total interest payments will fall each year.

FIGURE 3.26
DEBT/GNP RATIO



The cumulative effect of these trends will be a continuing increase in the government surplus from 1.2 per cent of GNP in 1991 to 3.9 per cent in 1994. The government sector surplus, in reducing the debt, reduces the interest payments which, in turn, reduces the debt further. This virtuous circle will, as shown in Figure 3.26, reduce the total debt/GNP ratio from nearly 135 per cent at the end of 1988 to under 85 per cent in 1994. The foreign debt/GNP ratio would fall from just over 65 per cent at the end of 1988 to under 33 per cent at the end of 1994. This major improvement in the level

of debt would greatly enhance the economy's ability to withstand disturbances in the world economy in the future.

3.10 THE MONETARY SECTOR

While the Irish pound has maintained a fixed parity *vis à vis* the DM since the Summer of 1986, there is still a substantial margin between interest rates in the two currencies. However, the current differential is much smaller than it was in 1986 and it reflects the major improvement in the external environment and government accounts.

Looking at the experience of the Netherlands we would expect that the economic circumstances of the central forecast, with a growing Exchequer surplus from 1991 onwards, and a continuing balance of payments surplus, should make current parities sustainable indefinitely. The one danger to this prospect must be the possibility of domestic inflation resulting in a major disimprovement in competitiveness. Such an eventuality could turn the balance of payments surplus into a deficit and endanger the Irish pound's position within the EMS. However, provided that appropriate policy decisions are taken to stem the rise in domestic inflationary pressures, a fixed parity with the DM seems likely over the forecast period.

In the past, problems have been posed for the Irish pound through the fluctuating value of sterling. Such fluctuations have affected the competitiveness of the economy putting pressure on the Irish pound. Domestic firms, which are more dependent on the UK market than multinational operators, have been most affected by this in the past. However, given the current trend in wage costs in Ireland and the UK, even the depreciation of sterling envisaged for the period to 1991 will not adversely affect Irish competitiveness. Thus no pressure for a devaluation of the Irish pound within the EMS should come from sectoral competitiveness problems in the foreseeable future. With the convergence of interest rates towards the DM norm, domestic monetary policy will come more and more to depend on the behaviour of the Bundesbank.

Table 3.8 shows the sources and uses of funds by the company and household sectors. With increasing profitability, associated with a relatively low level of investment, the company sector has been actually repaying debt in the 1987-89 period. This is exceptional by the standards of the last 20 years. Since 1970, with the exception of the 1975-76 period, the company sector has been a net user of funds. However, the forecast pick up in investment, together with a more moderate growth in profitability, will result in the company sector becoming a significant net borrower again in 1991. The rising funding needs of the company sector in the 1991-94 period, together with the fall off in profit growth, will result in an unusually high funding requirement by 1994. One possibility is that profit retentions will rise above the level implied by past trends, allowing greater funding from internal sources.

We have already discussed the likely trend in personal savings, the chief source of funds for the personal sector. Even without a change in household investment, the fall in the savings ratio will substantially reduce the volume of funds available to the sector for investment. Because of the low level of household investment since the early 1980s financial investment accounted for a much greater proportion of household funds than was the norm in the 1960s and 1970s. However, from 1990 onwards, the rapid increase in housing investment will greatly reduce the proportion of funds available for acquiring financial assets to around 40 per cent of all funds. Taken together, the reduction in saving and the increase in investment will leave a very much lower household financial surplus.

With the third player on the domestic financial markets, the government, moving into surplus in 1991, there will be a major change in the factors driving the

TABLE 3.8. : The Flow of Funds, £ Million

	1986	*1987*	*1988*	*1989*	*1990*	*1991*	*1992*	*1993*	*1994*
Company Sector:									
Sources Of Funds	1587	1696	2316	2044	2497	2814	2951	3108	3372
Uses Of Funds	1917	1765	1637	1716	2280	2842	3281	3729	4404
Net Acquisitions	-330	-70	679	329	217	-28	-330	-621	-1033
Net Acquisition Ratio	-20.8	-4.1	29.3	16.1	8.7	-1.0	-11.2	-20.0	-30.6
Household Sector:									
Sources Of Funds	2682	2618	2949	2499	2821	2572	2405	2611	2881
Uses Of Funds	864	878	1008	1041	1110	1255	1409	1574	1763
Net Acquisitions	1819	1740	1941	1458	1711	1317	995	1037	1118
Net Acquisition Ratio	67.8	66.5	65.8	58.3	60.6	51.2	41.4	39.7	38.8
Company + Household:									
Sources Of Funds	4269	4313	5265	4543	5318	5386	5356	5719	6252
Uses Of Funds	2781	2643	2645	2757	3390	4097	4691	5302	6167
Net Acquisitions	1488	1670	2621	1787	1928	1289	665	417	85
Net Acquisition Ratio	34.9	38.7	49.8	39.3	36.3	23.9	12.4	7.3	1.4
Net Acquisitions:									
% Lent To Government	26.4	58.6	30.8	-11.7	21.1	18.6	10.4	6.2	2.1

financial markets. The government will actually have begun net repayments to the domestic private sector by 1994, having been repaying foreign debt since 1989. This will mean that the major flow of funds within the economy will be from the household sector to the company sector. Based on current financial structures, this will leave the banks playing a more important role than in the recent past.

However, it may provoke changes in both the manner in which the company sector raises funds on the domestic market and a change in behaviour of the non-bank financial institutions. The importance of equity investment in the domestic company sector may rise. Until now the shortage of domestic equities has posed problems for domestic financial institutions. The growing funding needs of the company sector, together with the absence of alternative domestic investment opportunities, will increase the pressure for change and may result in new developments in this area.

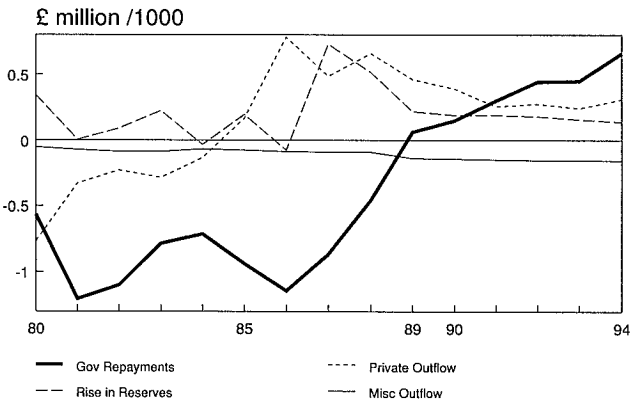
To the extent that suitable potentially profitable investment opportunities present themselves to commercial state bodies in the medium term, it may be appropriate for the government to use some of its surplus to provide equity capital rather than repaying debt. The choice between these two alternative uses of the government surplus should depend purely on which will provide the highest rate of return.

The changed direction of financial flows will probably favour the role of the banking system, which has grown more slowly in recent years than might have been expected, given the overall growth in the economy. The rapid rise in consumption and the increasing financing needs of the company sector will result in a fairly rapid rise in demand for credit in the medium term. Bank lending to the private sector will grow by just under 10 per cent a year over the five years 1990-94.

Superimposed on the changing financial needs of the different sectors of the economy will be the effects of increasing liberalisation, consequent on the advent of a completed EC market. This will result in some institutional change within the financial sector. For example, greater competition will result in some rationalisation of the retail deposit market, with a consequent reduction in the interest differential between borrowing and lending.

Over the last four years there has been a high level of foreign investment by the domestic private sector. However, from 1991 onwards there will be a fall off in such *net* investment as the domestic private sector demand for funds grows. This fall in *net* foreign investment may disguise considerable gross flows in and out of the economy. Portfolio diversification will require continuing foreign investment by Irish financial institutions, offset by similar inflows. In addition, in order to exploit the post *1992* EC market, substantial foreign investment by Irish firms will be needed. As we have seen in the recent past, we can expect similar inflows from abroad as firms throughout the EC increase their international interests.

FIGURE 3.27
BALANCE OF PAYMENTS : CAPITAL ACCOUNT



By the end of our forecast period the major capital outflow, counterbalancing the surplus on current account of the balance of payments, will be the repayment of foreign debt by the Exchequer (see Figure 3.27). Depending on the funding requirements of the private sector, the Exchequer will always have the option of repaying domestic debt and slowing the repayments of foreign debt. Thus there should be no reason why, in the presence of a balance of payments surplus, Irish interest rates should be prevented from converging on German rates by domestic liquidity problems.

As discussed above, there remains considerable uncertainty about the movement of the savings ratio in the short to medium term. Figure 3.15 shows that if the savings ratio were to remain unchanged at its 1989 level, the Exchequer surplus, and consequential debt repayments, would be much lower. However, as reflected in the higher balance of payments surplus (Figure 3.14) there would be a much larger surplus of funds available to the private sector. Whether this surplus would be funnelled through the Exchequer into foreign debt repayments or whether it would be invested directly abroad by the private sector is difficult to say. However, it is clear that it would put even greater pressure on Irish interest rates to converge on German rates.

3.11 UNCERTAINTIES

The central forecast shows a sturdy economic recovery underway. However, it also shows a number of new potential dangers any one of which could cause major problems in the medium term. While we have generally only presented a single central forecast in this Section it is important to stress that this forecast is only one of a wide range of possible outcomes for the Irish economy. While we feel that it is, on balance, the single most likely path for the economy in the medium term, it is vital to consider the range of other possible outcomes, both favourable and unfavourable. Too often in the past domestic policy has been seriously deficient through failure to allow for unpleasant surprises which throw the economy off course.

The most obvious source of concern is the external environment on which our forecast crucially depends. Recent events, in particular the rise in inflation in Germany, have surprised international forecasters. Perforce, in relying on projections for the world economy prepared by international institutions a number of months ago we may have underestimated the rate of inflation in the current year.

The rise in inflation in Germany and elsewhere has been matched by a rise in nominal interest rates. As these two changes have tended to offset one another the effects are, so far, not serious for the Irish economy. A higher world inflation rate will reduce the burden of our foreign debt if it does not significantly alter real interest rates or world growth in the medium term. (By raising the level of GNP in current prices, while leaving the absolute level of the debt unchanged, the debt/GNP ratio is reduced. Even where nominal interest rates are variable their share of GNP remains unchanged when real interest rates remain constant.) However, any additional changes which served to raise German (and hence Irish) real interest rates could substantially reduce the growth rate in Ireland.

If the world rate of inflation and world nominal interest rates were 1 percentage point higher in 1990 than shown in our central forecast, in the absence a slow-down in the growth of world output would be no significant impact on the Irish economy. The rate of inflation in Ireland would also be 1 percentage point above our central forecast and the rate of growth of GNP would be reduced slightly in 1990. The debt/GNP ratio would also be reduced by some 0.5 percentage points below the level in our central forecast. If world inflation were to return to the rate envisaged in the central forecast for the period 1991-94 there would be no lasting effect on the economy. If a higher rate of world inflation were combined with lower world growth or higher real interest rates the consequences for the Irish economy would be much more severe.

The fact that a growth rate of 7 per cent was only previously achieved in 1978 highlights the uncertainty which must attach to this forecast. The possibility of such a high growth rate must accentuate fears of domestic profit-induced inflation in 1990 and 1991. This possibility is the most immediate domestic danger to the recovery of the economy in the medium term.

The timing and magnitude of the forecast rise in domestic inflation is uncertain. While the central projection assumes that wage and price formation behaviour over the next five years will be in line with the experience of the 1980s, a return to the pattern of behaviour of the 1970s could give a much stronger boost to domestic inflation. The resulting rise in the price of non-tradable goods and wage rates would seriously erode domestic competitiveness. In turn this would push the balance of payments back into deficit and call into question our position within the EMS. Any renewed uncertainty about the exchange rate, even if it later proved to have been unfounded, would substantially raise interest rates, putting further pressure on domestic production, the public finances and the balance of payments.

If the projected growth in employment in the central forecast is to be safeguarded it is essential that such a vicious circle of domestic inflation should be averted. It would be better to introduce measures which dampen demand in the short term rather than to risk such a possibility.

Conversely, as discussed earlier, a more moderate growth in domestic wage costs in 1990 and 1991 could result in higher growth in the medium term and a significant addition to employment.

We have already discussed the uncertainty about the future pattern of the savings ratio. While it is quite possible that it will not fall as far or as rapidly as we forecast, it is also possible that it will fall further or even more rapidly. In the central forecast the rise in consumption will add to inflationary pressures in the economy. A more rapid increase could be quite serious. On the other hand, a slower rise in the volume of consumption would represent postponed growth, not lost growth, while, at the same time, reducing the inflationary dangers in the economy. Thus the risks for the economy in the medium term of differing outcomes on the savings ratio are not symmetrical. It is better to prevent too rapid a growth in the volume of consumption in the short term, at the cost of temporarily slowing growth, rather than risk a further aggravation of domestic inflationary pressures.

We have also shown how sensitive the central forecast is to alternative assumptions about profit repatriation. If domestic firms were to perform worse than we have assumed, with greater reliance on the contribution from multinationals, the growth rate in the medium term would be significantly reduced. The uncertainty about the rate of profit repatriation highlights the potential benefit to be gained from a greater reliance on growth in domestic industry. This has implications for industrial policy.

The possibility that the expenditure under the Structural Funds may be slower to build up and may turn out to be lower than envisaged in the *Plan* must be recognised. The appropriate policy response and the need to consider the detailed provisions of the *National Development Plan* in this light, and in the light of the potential for domestically generated inflation, are discussed in Section 6.

Finally, there is uncertainty about the effects of *1992* on the EC and, hence, on the Irish economy. As shown in Table 3.9, the growth rate in the 1993-94 period would be approximately 0.75 per cent lower if this boost were not to materialise or if it were delayed. In addition, as discused in Section 5, the magnitude of the boost to EC growth from this source is still very much a matter for debate. This highlights the uncertainty about the growth rate in the medium term.

Taken together these uncertainties highlight the need for caution in formulating public policy. While a strong recovery is undoubtedly under way there are many dangers facing the economy in the medium term. The experience of the last ten years shows that mistakes in economic management tend to feed on themselves while the benefits of prudence also tend to multiply.

TABLE 3.9: Growth Rate of GNP Without 1992 (per cent)

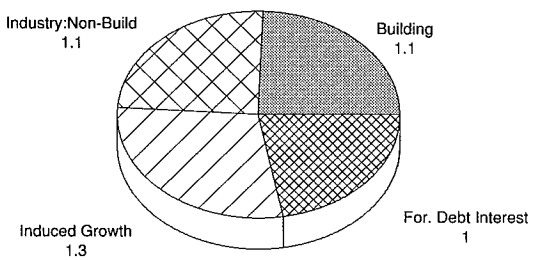
	Without 1992	*Central Forecast*
1989	4.0	4.0
1990	7.2	7.1
1991	5.7	5.6
1992	4.3	4.6
1993	3.6	4.8
1994	2.8	3.2

3.12 CONCLUSIONS

The central forecast, described in this Section, must be viewed in the context of the many uncertainties which the Irish economy faces. The forecast shows the current recovery phase of the economic cycle peaking in 1990. The fact that a recovery has been underway in the economy for a number of years has, to some extent, been masked by the severe fiscal regime in force for much of the 1980s. With an end in sight to the cutbacks, a major stimulus to growth from the increased expenditure paid for by the EC Structural Funds, and a probable fall in the personal savings ratio, the underlying upward trend in GNP will be greatly accelerated in 1990. Thereafter, the rate of growth will fall gradually. Up to 1994 it will remain well above the trend growth experienced in the 1980s, more in line with the achievements of the 1960s and the 1970s.

FIGURE 3.28

CONTRIBUTION TO TURN ROUND IN GROWTH
(Period 1989/94 Compared With 1980/88)



From an average growth rate of 0.5 per cent a year in the period 1980-88 we forecast a growth rate of almost 5 per cent a year over the six years 1989-94. The primary factors underlying this turn-round of 4.5 percentage points are: the reversal in the outflow of debt interest due to the improvement in the public finances; the change in the fortunes of the building industry; the improved prospects for manufacturing industry. Underlying all these changes is the fall in real interest rates from their peak in the early 1980s. The contribution of these factors to the increase in the growth rate of GNP is summarised in Figure 3.28. While these factors are, in many ways, interrelated, this decomposition helps explain some of the key mechanisms driving the economic recovery.

The turn-round in the balance of payments which is, in turn, largely due to the improvement in the public finances, will make a major contribution to the economic recovery forecast for the next five years. There will be a direct addition to growth of 1 percentage point a year from the slower growth in net factor income paid abroad, due primarily to the fall off in interest payments abroad.

The process of adjusting the public finances was a very painful one for many in the economy, especially for those who became unemployed as a direct or indirect result of the cutbacks. The need to sustain a tight fiscal policy over much of the decade to achieve the necessary reversal of the debt/GNP ratio exacerbated these effects. The cost of the adjustment was especially severe for the building industry. However, from 1989 onwards, the downward trend in building will be reversed. This reversal arises partly from the improved domestic environment, especially from the fall in real interest rates, and partly from the increased expenditure from the EC Structural Funds. Instead of being a major factor reducing the growth of GNP, as in the 1980-88 period, building will contribute significantly to growth from 1989 onwards. This factor accounts for 1 percentage point of the increase in the growth rate compared to the 1980-88 period.

As a result of the improved competitive position of the economy, dating back to at least 1986, the manufacturing sector will grow more rapidly in the next five years than it did, on average, over the 1980-88 period. Even allowing for increased profit repatriations, this will contribute around 1 percentage point to the turn-round in the growth rate in the medium term.

The remaining 1.5 percentage points turn-round in the growth rate is due to the induced effects of the other changes on the market services sector of the economy. The increase in income and employment in the industrial sector increases domestic demand. The improvement in the government sector's accounts sees an end to the very restrictive fiscal policy stance pursued for much of the 1980s. This, in turn, allows more of the benefits of increased output to flow to the household sector, raising consumption.

The fall in the savings ratio, while adding 1.7 percentage points to the growth rate in 1990, only adds around 0.1 percentage points to the average growth rate over the period to 1994. This is partly due to the fact that the savings ratio rises again over the 1992-4 period. It is also partly due to the fact that the increase in consumption reduces investment and that this affects growth in the longer term.

The rise in real interest rates to historically unparalleled levels in the early 1980s was a vital factor in the prolonged recession in the Irish economy. It meant that, in spite of a big rise in tax rates, the public finances did not show a major improvement and the debt/GNP ratio continued to rise. For the next five years we see real interest rates being well below the levels experienced in the 1980s, though still above those experienced in the 1970s. This benefits the Exchequer, through reducing its interest bill, and it also encourages investment in the real economy, both by the company and the household sectors.

Though the next three years should see a significant fall in the rate of unemployment, we will still have one of the highest rates in the EC in 1994. This is in spite of the prospect of a considerable increase in employment. Our central forecast suggests that some progress in reducing unemployment will be made, especially in the next three years. If domestic inflationary pressures are not controlled, even this improvement could be difficult to achieve. The possible policy responses to this crucial problem are discussed later in Section 6.

The central forecast sees the industrial sector continuing to rely on the growth of output by multinational firms. The need for a reorientation of industrial policy to promote the growth of indigenous firms was highlighted in the last *Medium-Term Review*. This remains a priority, especially in the face of the completion of the EC market.

Until now the objective for the public finances was quite straightforward. However, with the EBR moving into surplus in 1991 or, at the latest, in 1992, the need for a longer-term policy on the public finances is clear. While it is of considerable importance to cut our level of national debt to reduce the potential exposure of the economy to world financial problems, it is necessary to view the public finances in a wider context. There is a potential trade off between reducing debt, and thereby reducing interest payments, and investing and reaping future dividends. Until now the scales have been heavily weighted in terms of debt repayment. While there is no prospect that increasing debt will be a profitable policy in the future, there is an issue as to how rapidly the debt should be repaid. This issue is taken up again in the concluding Section of the *Review*.

SECTION 4

THE EC STRUCTURAL FUNDS AND ECONOMIC GROWTH

4.1 INTRODUCTION

In Section 3 we presented and discussed our central forecast for the Irish economy out to the year 1994. We noted that in addition to the usual assumptions about the external environment and the domestic policy stance we also incorporated two major factors which greatly altered these assumptions.

The first of these concerned the expanded investment funds being made available by the EC to the peripheral member states (Ireland, Portugal, Greece, Spain and certain regions of Italy). At the Brussels European Council of 11-12 February 1988 the EC agreed to double the budget commitments to the Structural Funds between 1989 and 1993 by expanding the European Regional Development Fund, the EAGGF Guidance Section and the European Social Fund. Indeed, one of the main objectives of the Single European Act, as set out in Article 130A, is to strengthen economic and social cohesion and to reduce regional disparities within the Community.

The second factor concerned the process of completing the European internal market by eliminating all remaining barriers to trade such as customs regulations, restrictive public procurement practices, differing national technical standards, etc. The possible consequences of eliminating these barriers for the larger European economies has been described in the Cecchini Report (*The European Challenge 1992*) published last Autumn. The consequences of *1992* for small countries were not analysed in the Cecchini Report and we carry out such an investigation for the Irish case later in Section 5.

The recently published *National Development Plan 1989-1993* was the Government's submission to the European Commission in relation to the Irish application for Structural Fund financing. The published *Plan* has a macroeconomic orientation and is mainly a description of how the increased EC funds are going to be spent, principally in terms of expansion of existing programmes. The *Plan* also makes a projection of domestically provided public capital funding, and a forecast of likely induced private sector investment expenditure which will accompany the EC and state expenditures in industry and tourism.

The respective levels of total *Plan* expenditure by the EC, the state and the private sector, at constant 1989 prices, are shown in Figure 4.1 and Figure 4.2 shows the corresponding growth rates of real expenditures.

FIGURE 4.1
TOTAL PLAN EXPENDITURES

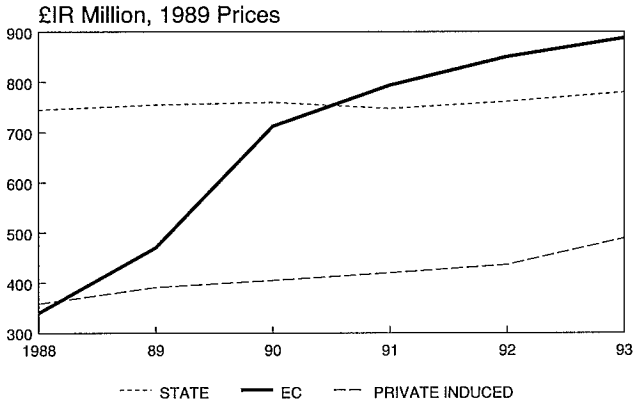
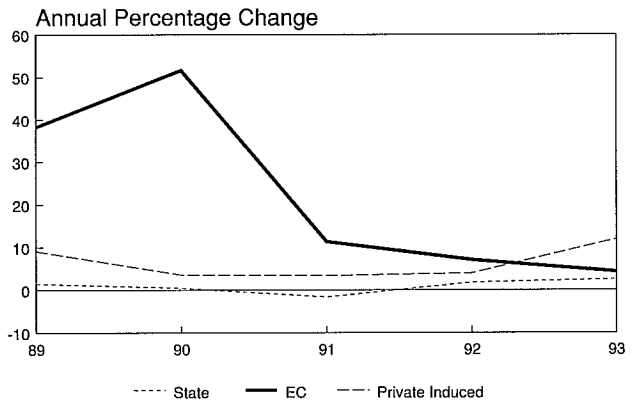


FIGURE 4.2
PLAN EXPENDITURES : GROWTH RATES



Our purpose in this section is to attempt to quantify the extent to which these expenditures will contribute to the growth of the Irish economy over the duration of the *Plan*. Our analysis is not the complete story of the impact of the *Plan* over the long term. Given our time horizon of under five years, we are only able to analyse the short-term effects of mainly the construction phases of infrastructural projects before the longer-term cost-saving benefits accrue to Irish producers. To this end, in Section 4.2 we first examine the *Plan* expenditures under their major sub-headings and quantify the extent to which they represent *net* increases in the sense of being additions *over and above* the maintainance of the real value of existing programmes. From Figures 4.1 and 4.2 above we see that such net increases (in the

TABLE 4.1: *National Development Plan*
Main Sectoral Categories

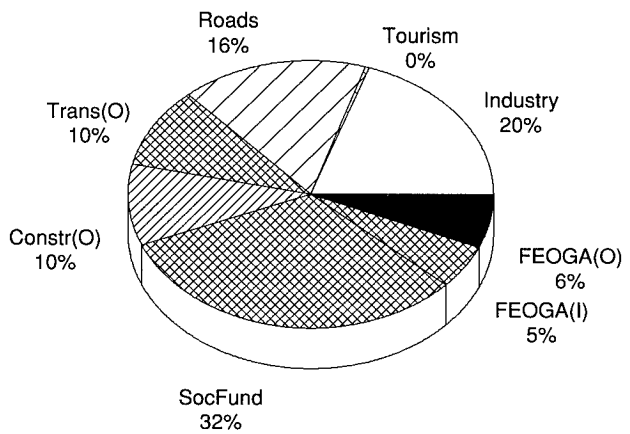
[1] European Social Fund Expenditures on Human Resources
[2] Expenditures on Industry, Including FEOGA Marketing and Processing aids
[3] Infrastructural Investment on Roads
[4] FEOGA Guidance : Expenditures on Set Aside, Integrated Rural Develepoment Programmes, Compensatory Amounts
[5] Transport Expenditures: Access Transport, Rail and Bus
[6] Infrastructural Investment: Sanitary, Vocational Training and Fishery Harbours
[7] FEOGA On-Farm Investment and Forestry
[8] Investment and Grants in Tourism
[9] Energy and Telecommunications

above sense) are largely confined to those expenditures funded by the EC. The state expenditures show no net increase while the induced private investment expenditures (mainly in industry and tourism) show only a small increase.

The main inputs to our analysis of the macroeconomic consequences of the expenditures proposed in the *National Development Plan* are provided from Section 4.2. The results of this analysis are presented in Section 4.3. Since the *Plan's* duration covers the period 1989-1993, one year short of our five-year forecasting horizon, we have made a technical assumption that the real levels of programmes supported in the *Plan* in 1993 are continued unchanged into 1994. This is in keeping with the EC resolve to continue to support convergence of the peripheral economies.

FIGURE 4.3

NDP EXPENDITURES - STATE
Total for Period 1989-93

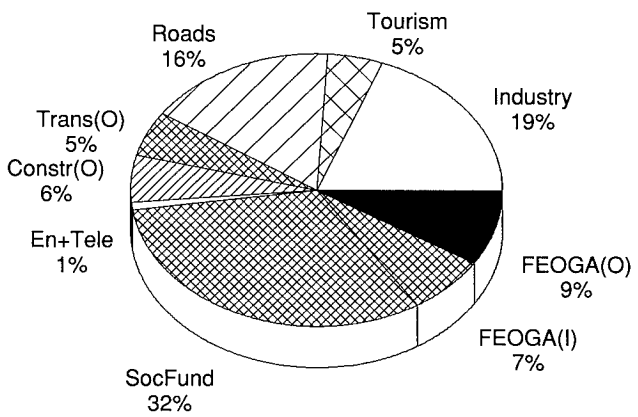


To a large extent our conclusions as to the economic impact of the *Plan* flow directly from the expenditure magnitudes contained explicitly in the *Plan* itself. In some important cases (e.g., the European Social Fund expenditures) we have had to made inferences as to the likely pattern of expenditures when the *Plan* is silent on the details. More importantly, we need to consider to what extent the *Plan*, by adding to the already high underlying economic growth rate, may overheat the economy. In our analysis we assess the tendency for inflationary pressures to emerge as capacity constraints are reached, particularly in the building industry.

Finally, in Section 4.4 we turn to more general issues concerning the expanded Structural Funds. In the light of our results from Section 4.3 on the economic consequences of the *Plan* we examine the extent to which these consequences are likely to alleviate the problems which gave rise to the need for expanded EC funding in the first place. Although our forecasting time horizon of five years is considerably longer than is normal for economic forecasting exercises (i.e., twelve to eighteen months in the case of the ESRI's *Quarterly Economic Commentary*), it is still too short to assess the full potential of the *National Development Plan.* The comprehensive supply-side impact of the *Plan* will become manifest only in the longer term when the market sector of the economy begins to benefit as completed infrastructural projects come on stream. We review some of these issues in Section 4.4 and return to a broader analysis in Section 6 below.

FIGURE 4.4

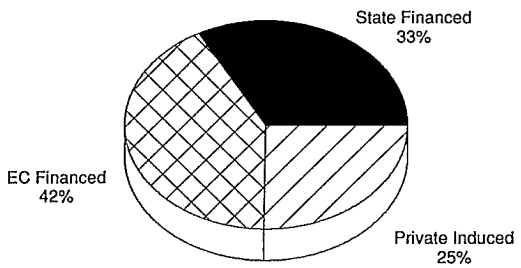
NDP EXPENDITURES - EC
Total for Period 1989-93



4.2 THE *PLAN* EXPENDITURES

The total expenditures contained in the *Plan* have been shown in Figure 4.1 above. For the purposes of economic analysis we consider the nine sub-headings shown in Table 4.1.

FIGURE 4.5
NDP EXPENDITURES - STATE + EC + PRIVATE
Total for Period 1989-93



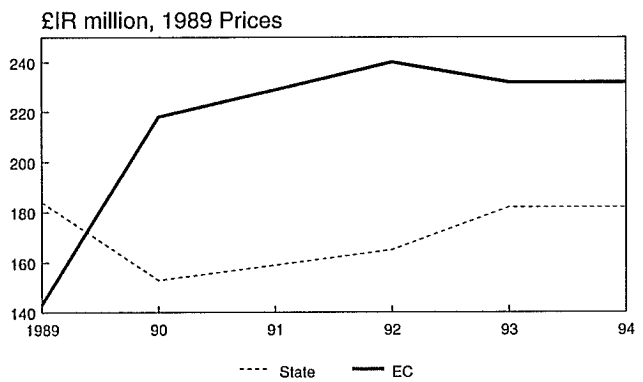
In Figures 4.3 - 4.5 we show diagramatically how the total NDP expenditures for the period 1989 to 1993 inclusive are allocated between these nine sub-headings for domestic state expenditures, for EC expenditures and for the total of state and EC.

The ranking order of the top three is the same for state and EC: human resources obtains 32 per cent, industry obtains almost 20 per cent and roads obtains 16.5 per cent.

Expenditures on Human Resources

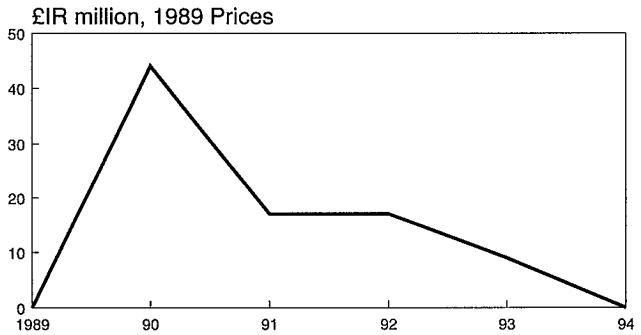
The NDP expenditures proposed under this heading, the single largest category in the *Plan*, are shown in Figure 4.6.

FIGURE 4.6
NDP EXPENDITURES ON HUMAN RESOURCES
(State & EC)



Over the period 1989-93, the state contribution remains almost constant while the EC contribution rises by 52 per cent in 1990 and by 5 per cent in the following two years. However, in terms of the marginal effect of the NDP expenditures on the economy we must quantify to what extent they will rise or fall relative to the real level of existing (1989) programmes. The results in constant 1989 prices are shown in Figure 4.7.

FIGURE 4.7
NDP EXPENDITURES ON HUMAN RESOURCES
(Net Changes)



In the absence of detailed information on how the ESF funds are to be spent, we have assumed the following. The ESF moneys will flow into the country as current transfers from abroad to the Government and initially raise the Government's current revenue and lower the Exchequer borrowing requirement. These funds are then spent on education and training infrastructure, on hiring people to teach courses and to pay subventions to the people being trained. Since the NDP is silent on the details, we have made some reasonable assumptions in this area concerning increased numbers employed in the state training and educational establishments and in terms of extra numbers of trainees.

The wages paid to the extra teachers enter the public sector pay bill while subventions to trainees are classified as transfer income. The initial economic effects are as follows. The extra teachers hired boost employment in the education sector; the extra trainees are taken out of the labour force and serve to reduce unemployment; the extra wages and transfer income feeds mainly into increasing consumption. The extent to which the extra training reduces costs to industry is difficult to quantify. The second round effects through the economy are handled within the economic model which we have used to analyse the impact of the *Plan* and the total effects are presented in Section 4.3 below.

Expenditures on Industry

Under this heading we include NDP expenditures on industrial promotion, technology and marketing (funded by the state and the ERDF) and the FEOGA marketing and processing aids (funded by FEOGA Guidance Section). The expenditures under these headings are shown in Figure 4.8.

In respect of the state contribution, after a real increase in 1990 of 47 per cent there are falls of 7.5 and 13.5 per cent in 1991 and 1992 and a rise of 11 per cent in 1993. The EC contribution shows a slight fall in 1990 but rises strongly in the other years on average by over 22 per cent per annum. Using the same concept of "net increase" as above, Figure 4.9 shows the net increase in industry allocations in volume.

FIGURE 4.8
NDP EXPENDITURES ON INDUSTRY
(State & EC)

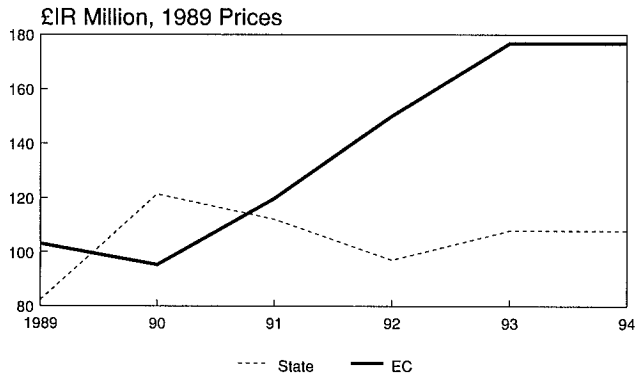
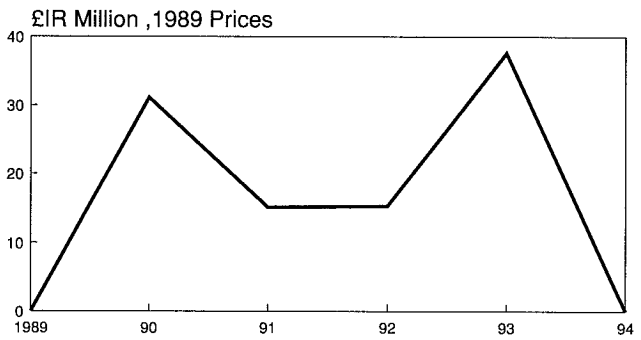


FIGURE 4.9
NDP EXPENDITURES ON INDUSTRY
(Net Changes)



These ERDF and FEOGA Guidance investment funds flow into the country as increased net foreign capital transfers and show up as increased Public Authorities capital revenue as they are received by the Exchequer. They are spent as capital grants to industry (via the IDA, SFADCo and Udaras na Gaeltachta) and in the provision of specialist advisory services, technology facilities (such as provided by EOLAS) and on marketing aids (through CTT).

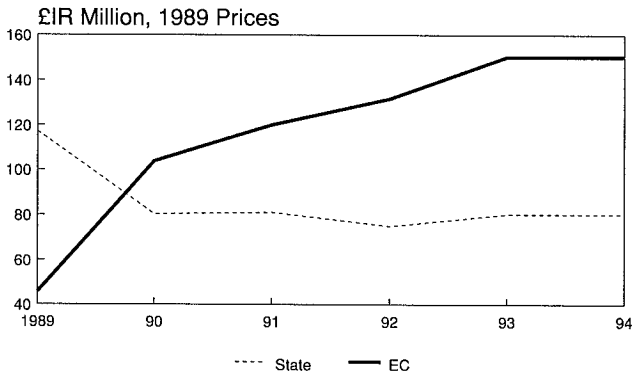
Any net increase in such transfers to industry will increase the profitability of industrial activity and promote growth. Such mechanisms are difficult to model and quantify fully in terms of the relationship between the industrial aids and incentives, on the one hand, and the specific industrial supply response, on the other. For simplicity, if we assume that all transfers add to industrial profits, the percentage change in the rate of profit (i.e., in the profit share of added-value) can be estimated holding everything else unchanged (in particular the wage bill). There is a reasonably well established relationship between changes in this profit rate and changes in a measure of industrial capacity output[1]. In this way we estimate the *ex-ante* percentage increase in industrial capacity output (i.e., before feedbacks) brought about by the *Plan.*

The second-round effects through the economy are handled within the economic model which we have used to analyse the impact of the *Plan* and the total effects are presented in Section 4.3 below.

Expenditures on Roads

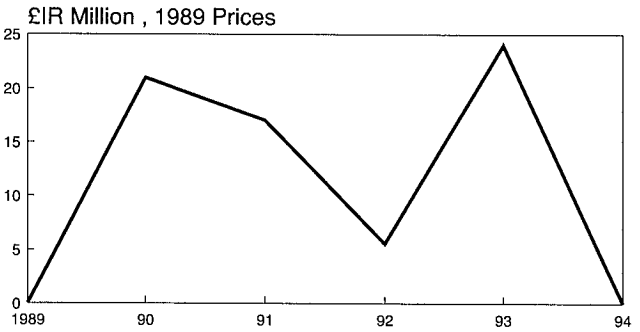
Under this heading we include NDP expenditures on national and non-national roads. The expenditures under these headings are shown in Figure 4.10.

FIGURE 4.10
NDP EXPENDITURES ON ROADS
(State & EC)



In respect of the state contribution, after a real decrease of over 31 per cent in 1990 expenditure remains constant out to 1993. The EC contribution shows a massive rise of over 126 per cent in 1990 and continues to rise at an average of over 13 per cent thereafter. Using the same concept of "net increase" as above, Figure 4.11 shows the net increase in road allocations in volume.

FIGURE 4.11
NDP EXPENDITURES ON ROADS
(Net Changes)



These ERDF road investment funds flow into the country as increased net foreign capital transfers and show up as increased Public Authorities capital revenue as they are received by the Exchequer. The bulk of these funds will go to fund building investment and the expenditures show up as net increases in public sector fixed capital formation. The supply side response will appear initially as increased output and employment in the building and construction sector. This increased demand for building services generates increased real

1 A one per cent rise in the profit rate causes a rise in industrial capacity of approximately 0.4 per cent (refer HERMES-IRELAND document, op. cit, Section 1).

output but may also result in higher inflation in the building industry, thereby reducing the volume of output achived by a given expenditure set in value terms. The trade-off between increased real output and higher inflation will be conditioned by the rapidity with which building activity is expanded. We estimate that the very rapid expansion, as contained in the *Plan*, is bound to generate some extra inflationary pressures, initially through profit mark-up and then through wage-push as skilled labour becomes scarce.

Although the short-term effects of the *Plan* may be harmful to manufacturing industry, the long-term beneficial supply response will be in terms of the increased profitability through cheaper transport costs because of the availability of better roads. However this effect will follow the completion and commissioning of the improved road network and is very small in our present forecasting exercise. The second round effects through the economy are handled within the economic model which we have used to analyse the impact of the *Plan* and the total effects are presented in Section 4.3 below.

Remaining Expenditure

The above three categories account for over two-thirds of total state and EC expenditure in the *Plan*. The remaining six categories are handled in a similar fashion.

For example, in the case of Tourism it is assumed that half of the net increase in expenditure will take the form of public sector infrastructural investment while the other half is used as grants, loans and transfers to the private sector to stimulate investment. It is assumed that every £1 spent by the state in the latter form induces some additional private investment and that the improved infrastructure boosts tourism exports over the following years. Hence, the effect is small before 1994.

The funding of Transport (excluding roads), Local Services (sanitary, etc.), Vocational Training Infrastructure and Fishery Harbours is handled the same way as for roads. The FEOGA Guidance funds directed towards investment are assumed to result in an *ex-ante* boost to fixed capital formation in the agriculture sector while the remaining FEOGA Guidance category (set aside, integrated rural development programmes, compensatory amounts) is treated as a current subsidy with a corresponding rise in agricultural incomes.

4.3 THE MACROECONOMIC CONSEQUENCES

The methodology adopted in isolating the separate effects of the *Plan* is as follows. The central forecast, presented previously in Section 3, incorporates, *inter alia*, all the expansion components of the *Plan* described in Section 4.2 above. Our objective is to subtract out the policy changes incorporated in the *Plan* in order to establish in isolation the separate, additional contribution being made by the increased *Plan* expenditures[2]. By simply reversing the signs of the results of this section we can answer an equivalent question: by how much would the economy suffer in the complete absence of the expenditure increases proposed in the *Plan*?

Summary Results

In Table 4.2 we present the effects of the increased *Plan* expenditures on six key macro aggregates and these are graphed in Figures 4.12 (i) - (iv).

These graphs show the *cumulative* differences between the economy's performance with the additional *Plan* funding and without these extra funds. We first describe these effects briefly before proceeding to explain them at a greater level of sectoral disaggregation.

The effect of the *Plan* on GNP is to raise it initially by about 1.2 per cent over and above the case where the extra *Plan* expenditures are absent. This boost to growth rises over time, reaching a cumulative increase of 1.9 per cent by 1993. The boost to personal consumption initially in 1990 is the same as that to GNP, i.e., 1.2 per cent. However the cumulative increase out to 1993 is more moderate, reaching a peak of 1.4 per cent by 1993.

TABLE 4.2: Macroeconomic Consequences (Cumulative Contribution)

		1990	*1991*	*1992*	*1993*	*1994*
GNP, Volume	% Change	1.19	1.57	1.72	1.86	1.59
Consumption, Volume	% Change	1.2	1.23	1.27	1.38	1.23
Balance of Payments Surplus	% of GNP	0.3	0.72	1.1	1.33	1.34
Exchequer Borrowing Requirement	% of GNP	-0.46	-0.87	-1.13	-1.08	-0.96
Debt/GNP Ratio	% of GNP	-2.55	-4.7	-6.34	-7.4	-7.56
Unemployment	Thousands	-5.39	-7.77	-7.03	-4.75	0.03
Total Employment	Thousands	5.89	9.52	10.71	10.81	8.48
Total Investment	% Change	4.53	5.10	4.66	4.31	3.53
Private Investment	% Change	3.14	3.27	2.88	2.58	1.73
Industrial Wage Rates	% Change	1.11	2.51	3.46	3.73	3.26
Consumption Prices	% Change	0.33	1.23	1.83	2.01	1.74

2 Since the *Plan*'s duration covers the period 1989-1993, one year short of our five-year forecasting horizon, we have made a technical assumption that the real levels of programmes supported in the *Plan* in 1993 are continued unchanged into 1994. This is in keeping with the EC resolve to continue to support convergence of the peripheral economies.

FIGURE 4.12(i)
MACROECONOMIC CONSEQUENCES OF NDP
(GNP and Consumption)

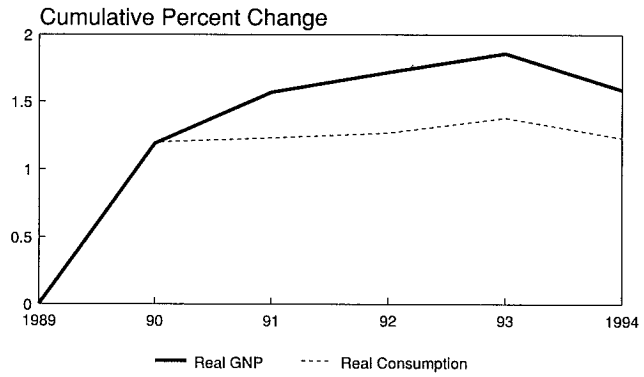


FIGURE 4.12(ii)
MACROECONOMIC CONSEQUENCES OF NDP
(Balance of Payments and EBR)

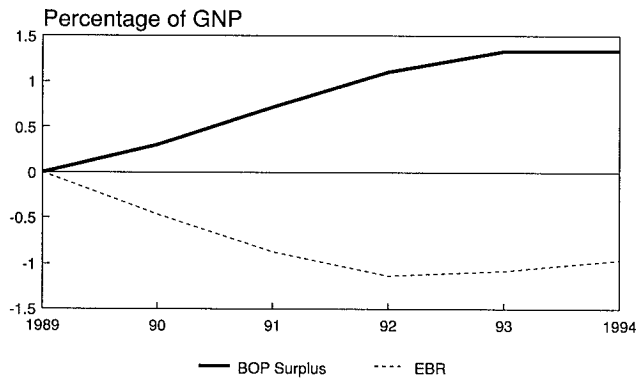
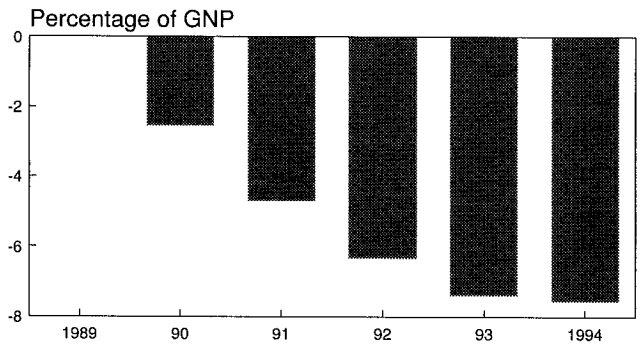
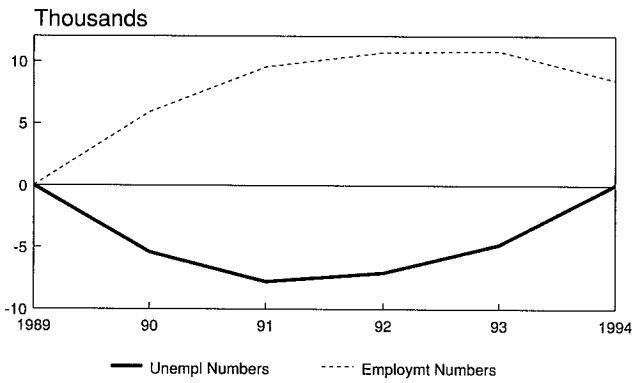


FIGURE 4.12(iii)
MACROECONOMIC CONSEQUENCES OF NDP
(Debt/GNP Ratio)



Total investment is stimulated strongly and is raised initially by over 4.5 per cent, rising to a peak of an extra 5.1 per cent by 1991 and still up by an extra 3.52 per cent at the end of the period. Although the strongest growth occurs in the *Public Capital Programme*, private investment is also boosted by the *Plan* and by 1994 is still up by an extra 1.7 per cent.

FIGURE 4.12(iv)
MACROECONOMIC CONSEQUENCES OF NDP
(Unemployment & Employment)



As might be expected, given the large transfers from the EC to Ireland involved in the *Plan*, the balance of payments surplus (expressed as a percentage of GNP) improves in 1990 by 0.3 points, even though there is a slight deterioration in the trade balance due to the import intensive nature of investment. This improvement continues out to 1994 and by the end of our forecast period the surplus is increased by 1.3 points.

Given that state capital expenditure is frozen in real terms in the *Plan* and that capital receipts from the EC increase, the Exchequer borrowing requirement (expressed as a per cent of GNP) falls initially by almost half a point and continues to fall, ending in 1994 down by almost one point. Consequently, the debt/GNP ratio is also reduced, initially by over 2.5 points, and is down in 1994 by over 7.5 points.

Employment receives a strong boost from the *Plan*. Total numbers employed remain up over the entire period: almost 5,900 extra are employed in 1990, and by 1993 the increase reaches over 10,800 after which it falls off slightly. Unemployment numbers fall as a result of the boost to the economy from the *Plan*. Initially there are about 5,400 less unemployed in 1990 and by 1991 the improvement reaches almost 7,800. However, the large increase in employment numbers induces an increase in labour supply, mainly through lower net emigration. Hence, although employment remains up by 1994, the underlying number unemployed is unchanged relative to the position that would have applied without the *Plan*. It should be emphasised that this situation comes about as a result of our concentration on the short-term effects of the Structural Funds. In the longer term the improved infrastructure could induce faster growth of employment in Irish industry and market services and could bring about a sustained fall in the number unemployed.

The Detailed Effects

The designated objective of the increased EC Structural Funds is to increase the supply potential of the economy so as to facilitate convergence of Irish income levels towards those pertaining to the wealthier more central member states. However, any plan with this objective must, of necessity, boost the demand side of the economy in the short to medium term as major infrastructural projects pass through the construction

phase to fully commissioned use. This must be borne in mind in analysing the supply-side impact of the *Plan*. We return to the longer-term effects later in Section 6.

Total Industry

In its implementation phase the *Plan* first affects the industrial sector, mainly through increased building and construction activity. Only when the infrastructural projects are completed and in use will the longer term supply-side boost to Irish manufacturing industry become operative. Table 4.3 presents the consequences of the *Plan* on the aggregate industrial sector, including building and manufacturing.

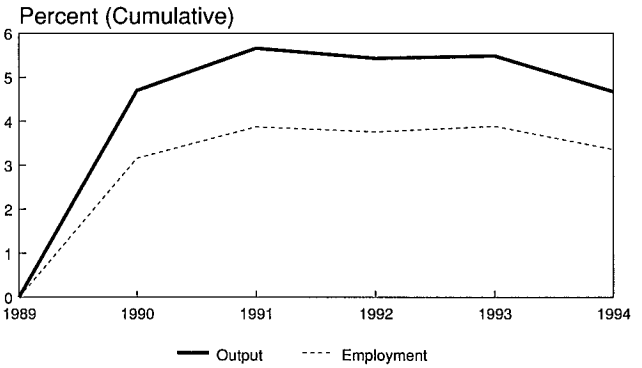
Aggregate industrial output is boosted by almost 1.5 per cent in 1990. This boost peaks in 1991 at 1.6 per cent and remains positive out to 1994, declining to 0.8 per cent. The increase in investment is front-loaded, reaching over 2.1 per cent in the first year, 1990, and declining thereafter. By 1994 investment growth is lower than the situation that would have pertained in the absense of the *Plan*. However, the industrial capital stock, arising from the accumulated extra investment flows, is higher because of the *Plan* and is available to generate extra output and employment in the period beyond 1994.

Employment increases are more evenly spread out and peak in 1991 at almost an extra 1.2 per cent. The general boost to employment given by the *Plan*, together with its inflationary bias, causes wage inflation to rise, initially by almost 1.2 percentage points, peaking at an extra 1.5 percentage points, and thereafter declining and becoming slightly negative by 1994. Consequentially, profits, after a small rise in 1990, decline by 1.5 per cent by 1993.

Building and Construction

We saw from Section 4.2 above that the bulk of the extra *Plan* expenditures involved construction projects of one form or another. As a result, this sector receives a major and sustained boost over the entire period as shown in Figure 4.13.

FIGURE 4.13
BUILDING AND THE NDP
(Output & Employment Changes)

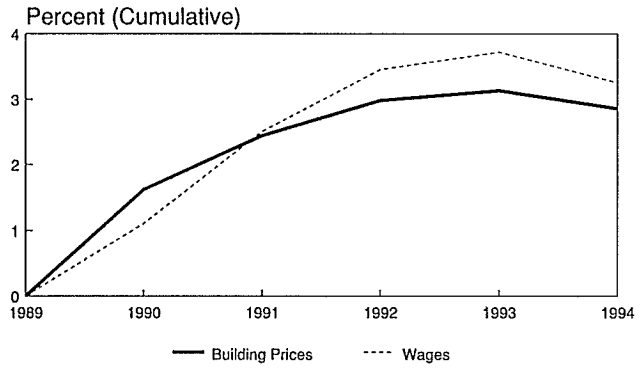


Output increases by 4.7 per cent in 1990, peaks at an extra 5.7 per cent in 1991 and declines slightly to an extra 4.7 per cent by 1994. The initial employment increase in 1990 is almost 3.2 per cent, rises slightly thereafter, and declines to an extra 3.4 per cent by 1994. This major boost to the construction sector brings about inflationary pressures as firms mark up their profit margins in the booming conditions and as wages of skilled and other labour are bid up (Figure 4.14).

TABLE 4.3: Consequences for the Total Industry Sector (Cumulative Contribution)

	1990	*1991*	*1992*	*1993*	*1994*
Percentage Change					
Volume of Output	1.44	1.6	1.4	1.33	0.82
Volume of Investment	2.14	1.37	0.16	0.42	-0.39
Employment	0.99	1.16	0.9	0.83	0.2
Labour Productivity	0.44	0.43	0.49	0.49	0.62
Wage Rates	1.11	2.51	3.46	3.73	3.26
Profits	0.65	-0.4	-1.31	-1.51	-1.33
Absolute Differences					
Employment ('000)	3.09	3.73	2.97	2.77	0.67
Per cent of Profits in Added-Value	-0.77	-2.16	-3.01	-3.26	-2.62
Wage Inflation (percentage points)	1.17	1.47	0.99	0.28	-0.47

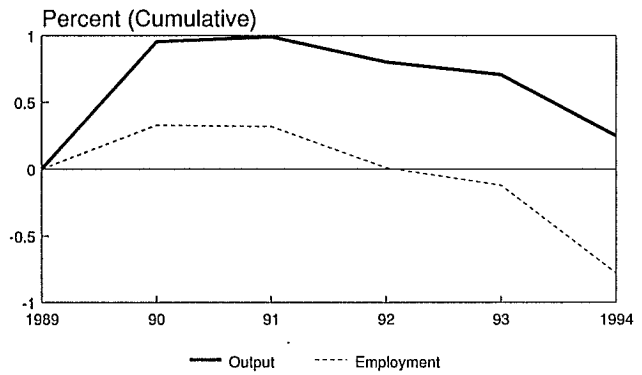
FIGURE 4.14
BUILDING AND THE NDP
(Price & Wage Changes)



Manufacturing, Mining and Utilities

The effect of the *Plan* expenditures on the non-building side of industry (mainly manufacturing) is more modest in the short to medium term (Figure 4.15).

FIGURE 4.15
MANUFACTURING AND THE NDP
(Output & Employment Changes)

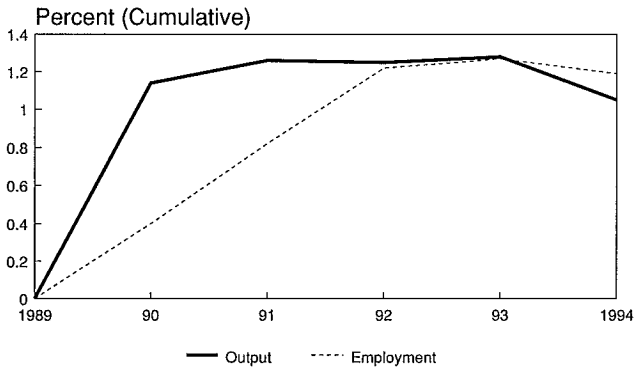


Output is boosted modestly over the whole period, by a maximum of 1 per cent in 1991. This is mainly as a result of the increased transfers to manufacturing industry contained in the *Plan* and of a short-term increase in capacity utilisation associated with increases in domestic demand. The employment increases are considerably smaller, peaking in the first year at 0.33 per cent and becoming negative by the end of the period. Basically, the manufacturing sector, a large part of which is exposed to world markets and is price constrained in those markets, finds its profit margins being constrained by rising wage inflation without major offsetting cost reductions from the improved road and other infrastructure in the short term. In the medium-term this cost squeeze will be offset by cost reductions due to improved infrastructure.

Market Services

Although not a major direct beneficiary from the increased *Plan* expenditures, the marketed services sector gains indirectly in terms of services provided to the higher level of industrial activity and in terms of the increased demand for personal services induced by higher personal consumption. We have made the assumption that the extra income generated from the *Plan* leaves the savings ratio unaffected. In fact, the generally higher level of activity and confidence generated by the large-scale injections into the economy from the EC may tend to increase the savings ratio further. The output and employment effects are shown in Figure 4.16.

FIGURE 4.16
MARKET SERVICES AND THE NDP
(Output & Employment Changes)

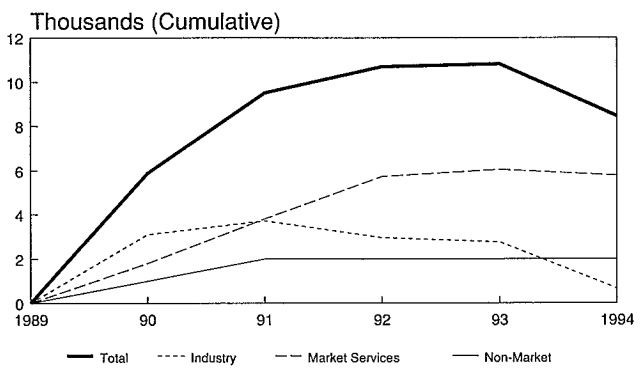


The boost to output is initially over 1.1 per cent in 1990, and remains at almost 1.3 per cent out to 1993, falling slightly in 1994. The increase in employment rises from an extra 0.4 per cent in 1990 to a peak of almost 1.3 per cent in 1993.

Labour Market Effects

In Table 4.4 and Figures 4.17 and 4.18 we show the effects of the *Plan* on the labour market.

FIGURE 4.17
THE LABOUR MARKET AND THE NDP
(Employment Changes)



If the supply of labour is fixed then to any change in employment there is an equal and opposite change in unemployment. However, even in a closed labour market (i.e., one in which there are no possibilities of emigration), the supply of labour can vary as population grows or falls, as workers are encouraged to join, or discouraged and leave, the labour force when their perceptions of conditions in the labour market change.

FIGURE 4.18
THE LABOUR MARKET AND THE NDP
(Labour Supply Changes)

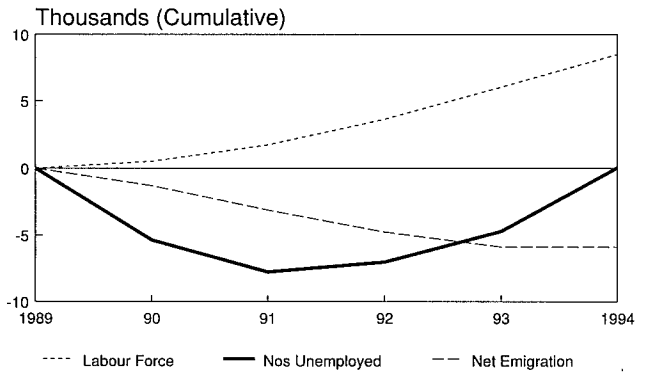
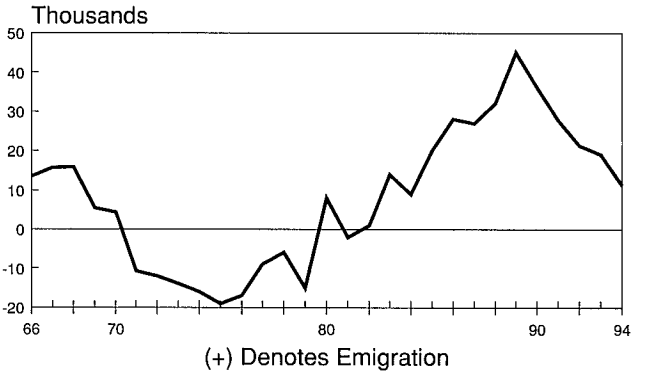


FIGURE 4.19
NET MIGRATION FLOWS



The Irish situation is even more complicated since there are large net migration flows between Ireland and the rest of the world (mainly Great Britain and the United States, but also the other large EC members). For the extended period 1966-1994 (using our central forecast for the period 1989-94), we show these net flows in Figure 4.19).

It can be seen that during any period of economic recovery in Ireland these net outflows decrease and have reversed direction in particularly buoyant times. From Figure 4.17 we see that the *Plan* boosts total employment considerably, the main increase arising in marketed services but significant increases also originating in industry and the non-market sector. These increased employment opportunities tend to raise the supply of labour through encouraging workers to join the labour force (although this effect can be ambiguous in net terms) and in decreasing the net outward flow of emigrants. This labour force effect, together with the induced higher wages from the tighter labour market (refer Figure 4.14 above), tends to offset the *ex-ante* fall in numbers unemployed. From Figure 4.18 we see that by 1994 there is no *net* fall in unemployment numbers even though employment is up by almost 8,500. However, in the long term, when the supply side effects of the *Plan* come through, there will be a more sustainable gain for both output and employment.

The Public Finances

The *Plan* affects the revenue side of the public finances in three main ways. First, the increased real transfers from the EC show up as increased capital revenue and current transfers to the public authorities from abroad. Second, the direct increase in domestic activity generated by the *Plan* raises tax revenues as these moneys accrue to agents as increased income or as they are spent. Finally, certain current expenditures will fall, particularly transfers to the unemployed, as economic activity picks up.

In our central forecast we described how we anticipated that direct income tax rates would fall over the period 1990 to 1994 and how indirect taxes would be restructured under the exigencies of a EC-wide process of tax harmonisation. However, we make the assumption that no further cuts in tax rates are associated directly with the *Plan*.

TABLE 4.4: The Labour Market
(Cumulative Contribution)

Absolute Differences (thousands)	*1990*	*1991*	*1992*	*1993*	*1994*
Total Employment	5.89	9.52	10.71	10.81	8.48
of which					
Industry	3.09	3.73	2.97	2.77	0.67
Marketed Services	1.8	3.81	5.74	6.04	5.81
Health and Education	1	2	2	2	2
Labour Force	0.51	1.75	3.67	6.06	8.5
Numbers Unemployed	-5.38	-7.77	-7.03	-4.75	0.03
Net Migration Abroad	-1.3	-3.15	-4.8	-5.9	-5.91
Industrial Wage Inflation	1.17	1.47	0.99	0.28	-0.47

TABLE 4.5: The Public Authorities Finances (Cumulative Contribution)

Absolute Differences (£ million)	*1990*	*1991*	*1992*	*1993*	*1994*
Total Tax Revenue	240.8	441.6	578.4	635.9	599.9
of which					
Indirect Taxes	66.3	128.6	180.7	215.5	206.3
Direct Taxes	67.4	172	230.8	249.4	218.7
Capital Revenue	123.6	180.1	228.3	276.7	285.1
Current Expenditure	111.6	186.2	251.6	288.7	276.5
of which					
Public Consumption	52.4	126.4	173.4	194.5	182.7
Unemployment transfers	-14.1	-21.9	-21.2	-15.1	0
Capital Expenditure	151.9	209.8	230.5	280.6	287.3
Exchequer Borrowing Requirement	-100.9	-225.8	-324.6	-343.3	-321.2
Debt/GNP Ratio (% of GNP)	-2.55	-4.7	-6.34	-7.4	-7.56

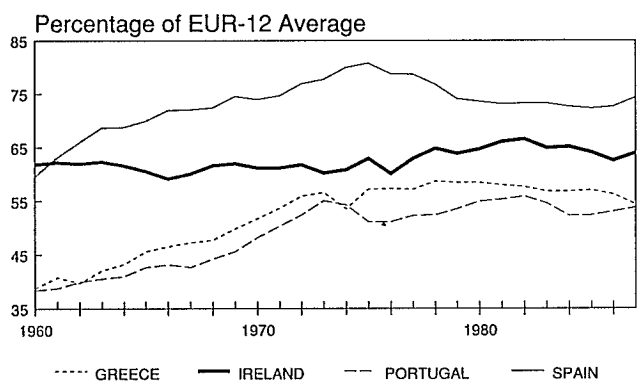
The effects on some key elements of the public finances are shown in Table 4.5. and the consequences for the EBR and the debt/GNP ratio have already been shown in Figures 4.12 (ii) and (iii).

The main revenue increase stems directly from the EC capital transfers to the Exchequer, and the induced impact on direct and indirect tax revenue are similar in magnitude. On the expenditure side, the main increase in public consumption stems from increased public sector wages caused by the bidding up of wage rates in the market economy, the effects of which are assumed to be transmitted into the public sector. The fall in numbers unemployed (refer Figure 4.20 below) are sufficient to cause a fall in the current price value of unemployment benefit transfers, even though the rate of transfer has been indexed to reflect higher inflation. Finally, since the increase in capital expenditure mirrors the increased capital revenue, the EBR benefits from tax revenue buoyancy and falls, thereby also reducing the debt/GNP ratio by over 7.5 points in 1994.

FIGURE 4.20

EC PERIPHERAL MEMBER STATES

(Index of GNP/Capita Rel to EUR-12)



Summary

We have examined the consequences of the *National Development Plan* for economic activity over the period 1989 to 1994. During that period the main impact of the *Plan* will be on the demand side of the economy since the supply side stimulus, the *raison d'être* of the increased EC Structural Funds, will only emerge beyond our forecasting horizon of 1994. The building sector provides the mechanism through which the infra-structural projects are implemented and this gives a sustained boost to that sector, in particular to employment. The consequential inflationary pressures drive up the price of building output and wages. These effects are transmitted into the wider economy thereby causing some downward pressure on profit margins in the internationally traded sector.

The increased industrial activity induces growth in the domestically oriented services sector where the main increase in employment originates. However, this employment growth, although initially reflected in an equivalent fall in numbers unemployed, serves to raise the labour supply mainly through causing a reduction in the outward emigration flows. By 1994 the level of employment is higher but unemployment numbers are unchanged.

The underlying balance of payments surplus (i.e., in the complete absence of the *Plan*) is further increased mainly through the effect of the EC transfers on the current account. However, the balance of trade deteriorates slightly as the *Plan* activities suck in imports of machinery and as the induced increase in consumption sucks in imports of consumer goods. The long-term supply-side boost to exports will occur largely outside our forecast period, a point to which we return below.

Finally, the public finances improve as tax revenue buoyancy drives down the EBR and reduces the debt/GNP ratio.

4.4 CONCLUDING COMMENTS

In terms of its overall thrust, we have seen that the expansionary element of the *Plan* arises from the expanded role played by the EC Structural Funds since domestic public funding, in aggregate, remains fixed in constant prices, i.e., existing domestically funded programmes are maintained in real terms.

A key objective of the EC in promoting a programme of doubling the Structural Funds by 1993 and in directing these increased funds towards the peripheral member states was to assist in the promotion of national and Community economic and social cohesion. The peripheral members, mainly Ireland, Greece, Portugal and Spain, might otherwise fail to keep up with economic and social developments in the more central, richer members, particularly in an atmosphere of increased competitiveness after 1992. As Figure 4.20 shows, Ireland has remained at a level below two-thirds of the EC average GDP per capita and has shown little tendancy to converge towards the EC average over the years.

The increased Structural Funds, by promoting faster growth, are designed to give Ireland and the other peripheral members an opportunity to narrow this gap in the longer term. A secondary objective of the Structural Funds is directed towards the possibility that the economies of the peripheral members may suffer particular problems in adjusting to the completion of the EC internal market as 1992 approaches. In Section 5 below we examine in detail the economic consequences of 1992 for Ireland and show that although some modest costs must be borne in the early years, the benefits are likely to outweigh these costs after the year 1992. Given Ireland's longer membership of the EC and its very open economy, this is not entirely surprising. Hence, the *Plan* should be viewed mainly as a vehicle for accelerating future growth rather than defending present levels of growth in the context of *1992*.

In Section 6 below we will examine some of the historical reasons for Ireland's failure to converge in the past, its low level of income per capita and its high rate of unemployment. Given such limitations, there are two main forces which will account for the rate of future growth. First, Ireland's growth will remain intimately related to that of the larger EC and world system of which we are a tiny part. This "encompassing" system has changed dramatically over time from almost total dependence on the UK to a more broadly based dependence on the UK, the rest of the EC, the USA and the rest of the world.

Secondly, and most importantly from the point of view of the Structural Funds, the competitiveness of the economy plays a vital role in determining Ireland's share of world mobile investment and our position within the international division of labour. Economic activity in Ireland is heavily influenced by its attractiveness as a location for production relative to other world locations when foreign (and domestic) multinationals make decisions on the spatial allocation of global mobile investment.

How does the *National Development Plan* address these problems and issues? Almost as important as the actual NDP expenditures is the explicit domestic policy stance spelled out in the *Plan*, the key items being:

(i) restrictive fiscal policies designed to reduce the burden of national debt;
(ii) firm adherence to the EMS with the benefits in terms of DM interest rates but the necessity to track German price and wage inflation;
(iii) continued pay restraint through nationally negotiated pay deals and reform of the direct tax system;
(iv) the pursuit of reoriented sectoral development policies.

This policy stance is the one underlying our central forecast of Section 3. In relation to item (i) above, a fairly specific target is given in the *Plan* of reducing the EBR to 3 per cent of GNP by 1993, with the debt/GNP ratio reduced to 120 per cent of GNP. In the light of our central forecast, these appear somewhat modest targets and are likely to be exceeded, particularly when the boost to the economy by the *Plan* itself is taken into account.

We have seen that over two-thirds of the total of the increased Structural Fund receipts are to be directed towards human resources, road construction and industrial grants and incentives. Since almost one third of the total will be spent on training, recruitment and temporary employment, it becomes vitally important to ensure that effective use is being made of the Funds. Evaluation of these schemes is still at an early stage in Ireland[3] and many questions can be asked which cannot yet be fully answered.

For example, is the proposed split in the ESF expenditures between FAS, the Department of Education and Other schemes (CERT, agricultural training, etc) an optimal one? Should the terms of reference of the Social Fund be altered so that the receipts might be used to support new educational programmes with a broader objective than the training schemes presently funded? What are the long-term supply side effects of these training expenditures? Do the training schemes address directly the problems of job creation in Ireland? Given our oversupply of labour, as demonstrated by an unemployment rate of over 16 per cent, in what way do these schemes boost the *demand* for labour rather than increasing the *supply* of skilled and trained labour. Is access to present training schemes rationed, in the sense that there are more applicants for places than there are places available? How is the likely increase in the number of training places under the *Plan* going to affect future unemployment numbers, labour force participation and emigration?

The very rapid expansion of the construction industry implicit in the *Plan* expenditures earmarked for roads and other construction work will undoubtedly cause inflationary pressures in the economy which may be detrimental to the exposed trading sector. A different phasing of these expenditures could prove wiser in the long run. For example, a case can be made for a slower build-up in the rate of construction activity rather than

3 An analysis of the Enterprise programme is available in *Self-Employment and the Unemployed*, by Richard Breen with Brendan Halpin, ESRI General Research Series, Paper No. 140. The Employment Incentive Scheme has been studied in *Subsidising Jobs: An Evaluation of the Employment Incentive Scheme*, also by Breen with Halpin, ESRI General Research Series, Paper No. 144.

the planned fast build-up. Also, the awarding of contracts of longer duration would encourage new firms and consortia to set up and work towards holding down prices. This applies particularly to the construction contracts for national highways where a very limited number of firms are available at present.

Finally, it should be re-emphasised that the time horizon of our analysis means that we must largely ignore the long-term supply side impact of the *Plan* and focus on the short to medium-term demand side effects. Over time, as the Structural Fund moneys are spent on specific projects, it will become possible to quantify these longer-term effects and to examine in what ways the improved infrastructure and expanded training facilities will help reduce the costs of producers and increase profitability.

SECTION 5

MACROECONOMIC EFFECTS OF *1992*

by L. O'Sullivan

INTRODUCTION

The passing of the Single European Act has set the timescale for the next milestone in the development of the Irish economy. With the publication of the Cecchini Report[1] last year, a first official attempt to quantify the macroeconomic impact of the single European market has been made. The scope of the Cecchini Report, however, is confined for the most part to an assessment of the effects on the European economy as a whole, with some analysis of the specific impact of *1992* on the larger countries. Relatively little attention is given to how the advent of the single market will affect the economies of the peripheral member states.

We begin by outlining the principal implications, from a domestic perspective, of the changed policy environment. In line with the procedure adopted in the Cecchini Report, we analyse each of the major effects in turn. We indicate which macroeconomic variables will be affected by the various changes and what the significance of such changes are for the economy. It is assumed throughout that the measures announced will be fully implemented by the authorities. The analysis is rounded off by an examination of the results of combining the changes together to give the overall *1992* effect.

It should be said at the outset that the results of each of the simulations described in this section are by their nature indicative rather than precise measures of what the impact of *1992* is likely to be. This situation is forced upon us by the absence of accurate information regarding where the most important effects will occur. For example, we take the Cecchini Report at face value in imposing the magnitude of the effects of changes in international demand and prices on the economy. These are acknowledged to be subject to substantial error and would have a major bearing on the results. While we base the changes made in respect of international factors on the Cecchini Report we also make various assumptions regarding the effects specific to the Irish economy based on continuing research work[2]. The HERMES-IRELAND model, because of its integrated structure, is an ideal tool with which to undertake an analysis of how *1992* will impinge upon the Irish economy. This section describes how the task was undertaken.

Before proceeding to an analysis of the various effects of *1992*, it is appropriate that the reader be made fully aware of the nature of the results described. In interpreting our findings, a number of risk factors should be borne in mind. First, the absolute magnitude and timing of the various effects of the single market have been imposed in a stylised fashion - the actual outturn could be very different to what we have posited. We have assumed, moreover, that the long-run effects generally occur over a period of seven years and that the pattern of adjustment is smooth. This assumption is important in so far as there are further long-run effects due to take place beyond the period of our forecast. In addition, there is no guarantee that the effects will occur as gradually as we have assumed, which could mean that complex adjustment problems will arise for the economy. Second, the mechanisms used to take account of the effects are by no means exhaustive and highlight the need for further research at microeconomic level to determine precisely where and how the most important changes will take place. The completion of the internal market represents both an opportunity and a threat to the productive base of the peripheral economies and it is in the area of one of the most important of the impending changes, namely, the supply-side effects through increased competition and exploitation of economies of scale, that we know least what to expect. The effects of *1992* are quite significant in terms of adding over 1.5 per cent to GNP by 1994 in our central forecast mainly through the increment to external demand inherent in completion of the internal market. Policy makers should be aware of the risks to the economy should the outturn be markedly different - the uncertainty surrounding the effects of *1992* mean that the results are tentative by nature.

5.1 THE PRINCIPAL EFFECTS OF *1992*

The effect of the single European market can be categorised under five major macroeconomic headings.

(i) Abolition of customs barriers

(ii) Opening up of public procurement

(iii) Financial market integration

(iv) Supply-side effects - increased competition and exploitation of scale economies

(v) Tax harmonisation

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1 *The European Challenge: 1992: The Benefits of a Single Market* by Paulo Cecchini with Michel Catinat and Alexis Jacquemin.

2 For example, Eoin O' Malley in a preliminary paper read to the 1989 Irish Economic Association conference on the effects of the internal market on manufacturing industry.

TABLE 5.1: Removal of Customs Barriers - *Ex-Ante* Changes
Annual Average % Change

Variable Altered	*1990*	*1991*	*1992*	*1993*	*1994*
Import Prices	0.00	0.00	-0.25	-0.25	-0.25
Agricultural Prices	0.00	0.00	-0.25	+0.95	-0.25
External Demand	0.00	0.00	0.00	0.17	0.34
Capacity Output (Industry)	0.00	0.00	0.00	0.17	0.17
Market Services Output	-0.05	-0.05	-0.05	-0.05	-0.05
Market Services Empl. (000s)	-0.50	-0.50	-1.50	-1.50	0.00
Public Administration Empl. (000s)	0.00	0.00	0.00	-0.30	0.00

We now assess each of the above in turn, the assessment being in fairly broad terms. After discussing the individual effects and examining the results in terms of deviations from an underlying benchmark, we present details for the combined effects of the various changes. In all cases, the underlying benchmark against which the effects are measured is one which takes no account of *1992* or the Structural Funds. The results therefore will be of central interest to policy makers in so far as they represent the *pure* effects of the single market..

5.2 REMOVAL OF CUSTOMS BARRIERS

The direct effect of the removal of customs barriers will be a reduction in costs caused by delays and administrative procedures. This will effect a fall in prices and is of major significance for a small open economy like Ireland. The full long-run effect of the abolition of customs duties on prices is estimated in the Cecchini Report at 1 per cent - it is assumed here that a reduction in import prices of 0.25 per cent a year will take place from 1992 onwards. Agricultural prices behave slightly differently to the general rule because of the removal of MCAs which presently operate as a border tax on Irish agricultural produce exported to the UK. There will therefore be an increase in agricultural output prices of 1 per cent in 1993 - the pattern for other years is the same as that for other prices.

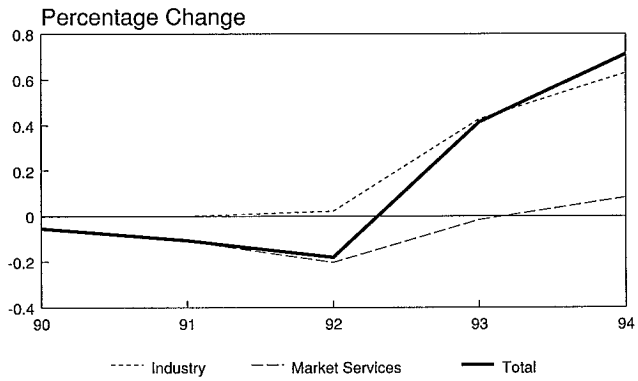
The reduction in costs will directly affect the profitability of the tradable goods sector. However, as costs will be reduced in competitor countries also, the impact on the relative profitability of Irish industry (which is a major determinant of industrial output) is confined to the extent to which there is a greater reduction in Irish transport costs than in other countries. We estimate that there will be an *ex-ante* increase of about 0.2 per cent a year in industrial output from 1993 onwards resulting from a combination of this effect on profitability and the impact, suggested in the Cecchini Report, of increased international demand consequential on the reduction in costs globally.

The most significant of the other effects of the removal of barriers will be a reduction in the output of the market services sector as a result of the rationalisation of the distribution sector with significant job losses (an estimated 4,000) over the period 1990-94. In addition, there will a small reduction in employment in the public administration sector as a number of customs officers are reallocated to other areas of the public service. The changes made are summarised above in Table 5.1.

Effects on the Domestic Economy

The impact of these changes on the economy in general differs substantially in the short-run and long-run. The first shock the economy suffers in terms of timing is the reduction in market services employment and output which has an immediate deflationary impact. This effect is, in fact, sustained throughout the period but more beneficial effects which come into play from 1992 onwards have an offsetting influence. The deflation induced by the contraction in the market services sector exerts general downward pressure on wages which, combined with the reduction in transport costs arising directly from the abolition of customs barriers, gives a boost to profitability and therefore to industrial output.

FIGURE 5.1
REMOVAL OF CUSTOMS BARRIERS
Sectoral Output Changes



The long-run results show that the impact on GNP is positive as the growth in industrial output more than compensates for the decline in the market services sector. This is illustrated in Figure 5.1 which shows the trend in both market services and industry (individually and combined), measured in each case against performance in the underlying benchmark. However, there is an overall reduction in employment as the industrial sector is more capital-intensive than the market services sector. Employment performance is graphed in Figure 5.2.

There is a reduction in the level of consumer prices of over 1 per cent by the end of the period which reflects not only the impact of lower import prices, but also the indirect effect on wages due to lower market services employment. Figure 5.3 shows the trend in consumer prices and wages relative to the benchmark.

TABLE 5.2 Removal of Customs Barriers
Main Macroeconomic Results

% change (cumulative):	*1990*	*1991*	*1992*	*1993*	*1994*
GDP	-0.016	-0.032	-0.045	0.205	0.341
GNP	-0.026	-0.063	-0.112	0.087	0.209
Industrial Output	-0.001	0.001	0.022	0.427	0.629
Market Services Output	-0.054	-0.108	-0.203	-0.015	0.083
Personal Consumption	-0.002	-0.012	0.003	0.379	0.439
Private Investment	-0.017	-0.011	-0.035	0.769	1.074
Consumer Prices	-0.032	-0.109	-0.508	-0.936	-1.170
Average Annual Earnings	-0.051	-0.176	-0.668	-1.193	-1.431
Absolute Differences					
Total Employment	-0.578	-1.219	-2.929	-3.639	-2.403
Balance of Payments (% GNP)*	-0.016	-0.041	-0.085	-0.160	-0.170
Exchequer Borrowing (% GNP)	-0.022	-0.051	-0.150	-0.153	-0.107

* Both the balance of payments and the Exchequer borrowing requirement are measured as surpluses. A negative sign, therefore, indicates a deterioration.

FIGURE 5.2
REMOVAL OF CUSTOMS BARRIERS
Sectoral Employment Changes

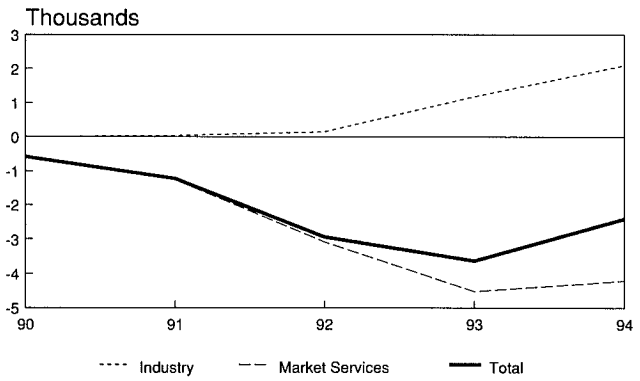
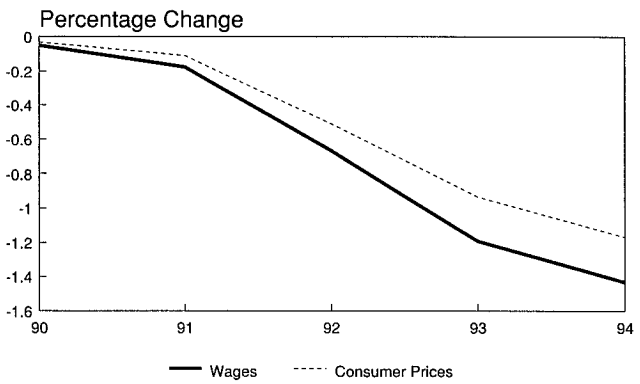


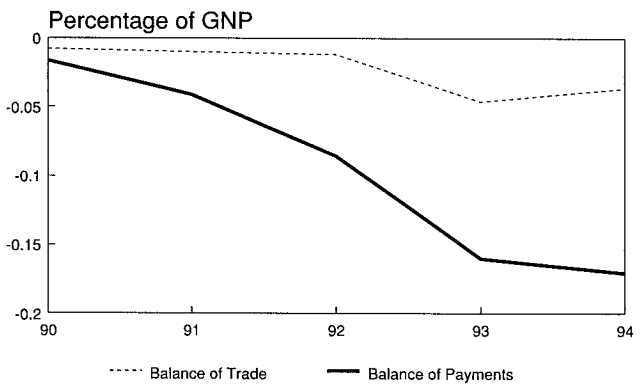
FIGURE 5.3
REMOVAL OF CUSTOMS BARRIERS
Price and Wage Changes



The boost to industrial investment arising from the improved climate results in a short-term deterioration in the balance of trade as imports of capital goods rise in response to the increase in capacity output. The balance of payments deteriorates by even more because the increased activity in the industrial sector gives rise to higher profit repatriations. However, in the long-run, the results tentatively suggest that the effects of abolishing customs barriers would be beneficial. The relative performance of these two measures of external balance is illustrated in Figure 5.4, each expressed as a percentage of GNP.

As regards the Exchequer borrowing requirement, savings are made on the expenditure side mainly through falling wages and the reduction in the number of customs officers; a more-than-offsetting fall in tax revenue, due to lower employment and wages as well as lower prices, means a rise of £34 million in borrowing by 1994. By this stage, however, the level of activity in the economy is gathering momentum, with the result that the level of increased borrowing *vis-à-vis* the benchmark is on a declining trend.

FIGURE 5.4
REMOVAL OF CUSTOMS BARRIERS
Balance of Trade and Int. Payments



The results for all of the major macroeconomic indicators demonstrate that the positive effects of the internal market begin to come on stream in 1993-94, the final years of our analysis, taking the economy above benchmark levels of GNP and suggesting further potential for growth. However, it takes until then for the economy to overcome the short-term negative effects and adjust fully to changed circumstances. This outcome may reflect the arbitrariness of our assumptions regarding the timing of the effects of the abolition of

customs duties. In any case, once the economy has adjusted, the impact is largely positive. There is, moreover, the prospect of further gains as the concept of a customs-free environment becomes established. In this respect, therefore, the results do not diverge from the findings of the Cecchini Report for the EC as a whole. This is unsurprising given that the external effects we imposed were derived from Cecchini and we reiterate that the results would be substantially altered if the actual external effects differ from those predicted.

The results for the main macroeconomic aggregates are summarised in Table 5.2.

5.3 PUBLIC PROCUREMENT

Due to the openness of the Irish economy there is already little discrimination against foreign firms in tendering for public contracts. Thus the effects of introducing measures to guarantee international competition will be negligible as far the purchasing policy of the Irish public sector is concerned. A nominal reduction in the deflator for public investment is allowed for in our assessment. The major impact of public procurement measures on the Irish economy will be on the output side of the economy, as the industrial and market services sector respond to an increase in external demand. We have assumed the increase to be of the order of 2 per cent in the long run. With a unitary elasticity with respect to external demand, this translates to an annual boost to capacity output of over 0.25 per cent a year from 1993 onwards (we also assume that there will a short lag in the feed-through of the world demand boost). There are no effects prior to 1993.

Effects on the Domestic Economy

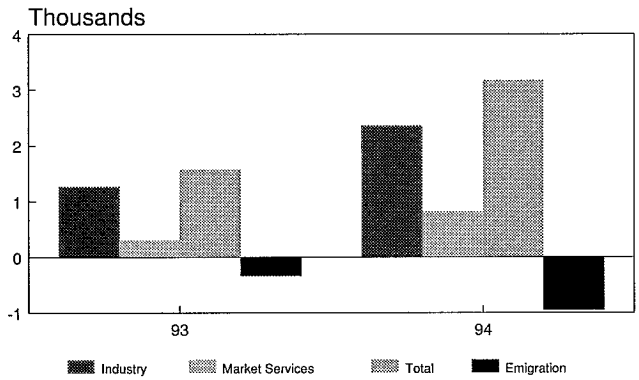
The opening up of public procurement markets results in unambiguous gains for the Irish economy. By virtue of already having a competitive structure in the domestic market for public contracts, the principal effect of introducing this measure will be to increase the opportunities of the industrial sector to expand its markets abroad. On the basis of the Cecchini Report, we estimate an increase of over 0.5 per cent in output by 1994, with employment rising by almost 2,500.

The simulation results suggest that, because in the past industrial investment responded relatively sluggishly to the increase in capacity output, it may be plausible to expect a somewhat greater investment response to the output stimulus than the results show. This comment applies to each of the simulations discussed in this section.

The improvement in the performance of the industrial sector has knock-on effects throughout the economy. The increase in incomes resulting from the additional activity in industry gives an impetus to domestic demand with consumer expenditure increasing by 0.2 per cent cumulatively by 1994. The market services sector, which is primarily demand-driven, begins to expand with employment in this sector rising by almost 1,000 by 1994. The fall in unemployment consequent on the expansion of activity is less than the rise in employment because of the fall in emigration relative to the benchmark. The improvement in the domestic economy prompts fewer people to leave the country - the model results suggest that emigration will be about 1,000 lower than in the underlying benchmark. The lower level of emigration affects the labour market through the labour force participation rate. The outcome for the labour market as a whole is graphed in Figure 5.5 underneath.

FIGURE 5.5

PUBLIC PROCUREMENT
Employment and Emigration Changes



The boost to industrial output has a positive effect on exports and therefore on the balance of trade. In the short term the impact is marginal because the addition to capacity in the industrial sector sucks in imports of investment goods required to put this capacity in place. This again highlights the disadvantages of ending our analysis so soon after the introduction of the various changes - the long-run indications are that the contribution to the balance of trade of opening up public procurement would be substantially higher. In fact, due to the influence of higher profit repatriations, the impact on the balance of payments is broadly neutral in the simulation. However, the additional capacity installed in industry by 1994 would begin to have an impact in subsequent years and should result in an improvement in the balance of payments compared to what otherwise would have been.

TABLE 5.3: Opening-Up of Public Procurement - *Ex-Ante* Changes
% Change

Variable Altered	*1993*	*1994*
Public Investment Deflator	-0.08	-0.08
External Demand	0.29	0.29
Capacity Output (Industry)	0.29	0.29

FIGURE 5.6

PUBLIC PROCUREMENT
Public Finance Changes

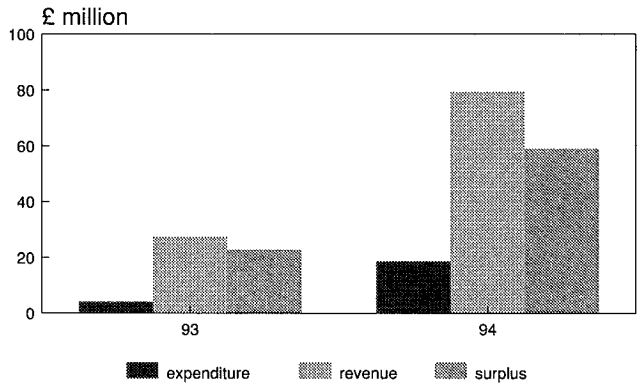


TABLE 5.4: Public Procurement Main Macroeconomic Results

% change (cumulative)	*1993*	*1994*
GDP	0.218	0.376
GNP	0.226	0.430
Industrial Output	0.353	0.602
Market Services Output	0.182	0.315
Personal Consumption	0.125	0.214
Private Investment	0.676	1.087
Consumer Prices	0.084	0.290
Average Annual Earnings	0.135	0.460
Absolute Differences		
Total Employment	1.568	3.169
Balance of Payments (% GNP)*	-0.011	0.032
Exchequer Borrowing (% GNP)	0.075	0.185

* Both the balance of payments and the Exchequer borrowing requirement are measured as surpluses. A negative sign, therefore, indicates a deterioration.

On the public finances, both expenditure and revenue rise, but the impact on the Exchequer borrowing requirement is substantially positive, the level of borrowing falling by £60 million. Figure 5.6 illustrates the pattern on the two sides of the government's accounts and their net impact on borrowing. The expenditure change is due primarily to a rise in public sector wages. The improvement in the performance in the industrial and market services sectors leads to a rise in wage rates in these sectors which spreads to the public sector through maintained relativities. The increased revenue is attributable to the general increase in activity across the economy with both income and expenditure taxes rising strongly.

The main macroeconomic results are summarised in Table 5.4. The overall impact is strongly positive - the only surprising feature is the length of time it takes for the improvement to be reflected in the Balance of Payments. The results are again broadly in agreement with those of the Cecchini Report; the most notable difference being the effect on consumer prices. In our simulation, consumer prices rise, whilst the Cecchini results show a price fall. This is due entirely to allowing only a nominal fall in the deflator for public investment in recognition of the existing competitiveness of the domestic market.

5.4 FINANCIAL MARKET INTEGRATION

Among the different effects the integration of European financial and capital markets will have on the economy is a competition-induced reduction in the cost of financial services. This includes the insurance sector as well as the markets for personal and corporate financial services. Moreover, capital market integration will force interest rate equalisation as capital will be free to locate wherever the rate of return is highest. This effect will be relative rather than absolute as there is already a substantial degree of capital movement within Europe. For the purposes of this simulation we have assumed unchanged exchange rates *vis-à-vis* the underlying benchmark.

The Cecchini Report estimates that, as a result of the liberalisation of the financial and capital markets, long-term interest rates will fall by about 0.5 per cent below the levels that would otherwise obtain, with similar reductions in other interest rates. It is unlikely, however, that the rate on government borrowing has similar room for manoeuvre, given the scale of the government's operations. In order to capture the effect of the interest rate changes on the real economy, specific adjustments were made to the model. These adjustments were imposed on the commercial sector through capacity output, and on the personal sector through the savings ratio.

TABLE 5.5: Financial Market Integration - *Ex-Ante* Changes
% change

Variable Altered	*1991*	*1992*	*1993*	*1994*
Import Prices	0.00	-0.10	-0.20	-0.10
Agricultural Prices	0.00	-0.10	-0.20	-0.15
External Demand	0.19	0.21	0.21	0.21
Capacity Output (Industry)	0.19	0.21	0.21	0.21
Financial Services Adj. Deflator	-0.07	-0.07	-0.07	-0.07
Market Services Empl. (000s)	0.00	-0.29	-0.29	-0.29
Interest Rates (% points)	-0.07	-0.07	-0.07	-0.07
Savings Ratio (% points)	0.00	-0.10	-0.10	-0.10

The reduction in interest rates will, on the basis of the existing level of corporate borrowing from the banking sector, boost profits by about £16 million and result in a cumulative addition of about 0.5 per cent to capacity output in domestic industry by 1994. Apart from this direct effect, the Cecchini Report estimates that there will be a long-term (i.e., over a period of seven years) increase in GDP across the Community of 1.5 per cent. Accordingly, an exogenous boost in world demand equivalent to this is incorporated into our assessment. The long-term effect on prices indicated by Cecchini, namely, a fall of 1.4 per cent is similarly included. This reduction in prices, however, will also occur in competitor countries and its impact does not carry through relative profitability.

The reduction in the indebtedness of the personal sector is reflected in a temporary reduction in the savings ratio of 0.1 per cent in 1992. This results in a boost to consumer demand over and above benchmark levels. Consumer demand is further boosted by the increase in real disposable income arising from the reduction in prices. This effect originates in lower import prices as cost reductions feed into international suppliers' prices.

The other major effect of the integration of the financial markets is that increased efficiency is likely to result in a significant reduction in employment in the market services sector. This process is assumed to begin in 1991 and involves job losses of over 1,000 by 1994. As it arises from increased efficiency, it is assumed that there will be no effect on output in this sector. The rationalisation process is also assumed to result in a fall in the deflator for the adjustment for financial services of 0.5 per cent in the long run which is consistent with the reduction in interest rates. The shocks introduced into our analysis are summarised in Table 5.5.

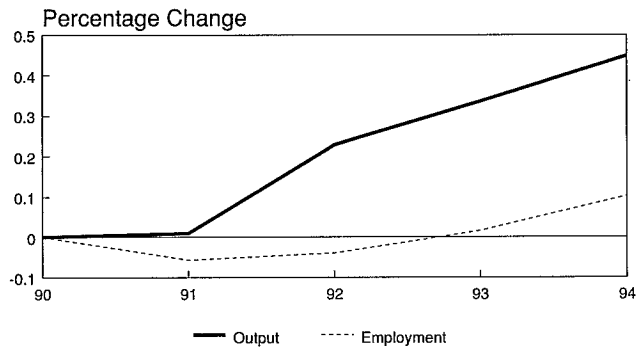
The Effects on the Domestic Economy

The first impact of the effects of financial market integration is to lower interest rates and therefore the cost of financial services. This increases disposable incomes and reduces the savings ratio. Interest rates in the model affect the real economy also through their impact on housing investment and factor demands in the industrial sector. The *ex-ante* effect of lower interest rates is to reduce the user cost of capital and allow substitution of capital for labour as industry expands in response to increased external demand and higher profitability. The analysis shows that industrial output is 0.75 per cent higher in 1994 with employment rising by over 2,500 and investment by 1.3 per cent. This result is similar to the earlier results and reflects the slow adjustment of the capital stock.

The secondary effects of the improved performance of the industrial sector are analogous to the public procurement case. Higher incomes boost activity in the domestic-demand-driven sectors with consumer expenditure, further buoyed-up by the fall in the savings ratio, rising by 0.5 per cent by 1994. The impact on domestic demand is lower in this simulation due to the dampening effect of the *ex-ante* job losses in the market services sector. The outturn for this sector none the less shows that the indirect employment increase resulting from the changes made is sufficient to offset the losses by the end of the period. Employment rises by 1,500 net of the *ex-ante* changes and investment is almost 1.5 per cent higher by 1994. Figures 5.7 and 5.8 show the trend in the output and employment results for the industrial and market services sector in this simulation. It underscores the nature of the Irish economy in that growth is driven by the external sector with the domestically oriented sector responding to the lead. This outturn in many ways typifies the nature of the single European market in so far as any costs are borne by the sheltered sector with the benefits accruing to the exposed sector whose performance in the new environment boosts the sheltered sector in turn.

FIGURE 5.7
FINANCIAL MARKET INTEGRATION
Industrial Output and Employment Changes

FIGURE 5.8
FINANCIAL MARKET INTEGRATION
Market Services Output and Employment Changes



The boost to the industrial sector, as in the abolition of customs duties case, results in higher import volumes in the short-term as investment rises and offsets the increase in exports arising from the improved industrial output performance. The effect is, however, marginal as it is in the case of the balance of payments. Whilst consumer prices fall, the extent of the reduction is very limited due to the effect of increased employment on wage rates. Wage rates are in fact higher by 1994 than in the underlying benchmark and would be higher still were it not for the alleviating effects on labour market tension of lower emigration. Figure 5.9 gives an idea of the time profile of this development with wages initially falling as a result of the increase in unemployment arising from rationalisation in the market services sector and the fall in prices and later rising above benchmark levels as activity expands. The relationship between wage levels and employment is clearly evident.

TABLE 5.6: Financial Market Integration
Main Macroeconomic Results
% change (cumulative)

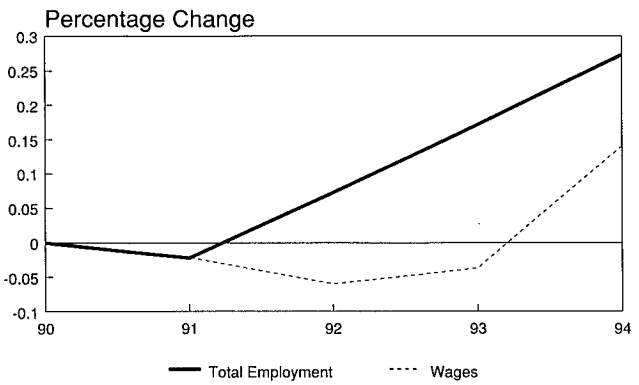
	1991	*1992*	*1993*	*1994*
GDP	0.006	0.237	0.364	0.485
GNP	0.001	0.232	0.387	0.545
Industrial Output	0.014	0.343	0.548	0.721
Market Services Output	0.010	0.228	0.336	0.448
Personal Consumption	0.002	0.280	0.344	0.465
Private Investment	0.028	0.610	0.935	1.169
Consumer Prices	-0.074	-0.074	-0.127	-0.057
Average Annual Earnings	-0.021	-0.059	-0.037	0.140
Absolute Differences				
Total Employment	-0.251	0.815	1.964	3.148
Balance of Payments (% GNP)*	-0.001	-0.087	-0.063	-0.061
Exchequer Borrowing (% GNP)	-0.008	0.064	0.128	0.190

* Both the balance of payments and the Exchequer borrowing requirement are measured as surpluses. A negative sign, therefore, indicates a deterioration.

TABLE 5.7: Supply-Side Effects - *Ex-Ante* Change
Annual Average % Change

Variable Altered	*1991*	*1992*	*1993*	*1994*
Import Prices	-0.26	-0.26	-0.26	-0.26
Agricultural Prices	-0.26	-0.26	-0.26	-0.26
External Demand	0.0	0.30	0.30	0.30
Capacity Output (Industry)	0.0	0.30	0.30	0.30
Labour Productivity	0.1	0.10	0.10	0.10

FIGURE 5.9
FINANCIAL MARKET INTEGRATION
Employment and Wage Changes



By the end of the period, the Exchequer borrowing requirement falls by the same amount as in the public procurement case but for different reasons. Expenditure falls in nominal terms because of the slight reduction in prices. The benefit of the increased level of activity in the economy on taxes is offset by the effect lower prices meaning a net fall in nominal revenue. The results are the same when expressed as a percentage of GNP.

Overall therefore, the results of financial market integration are positive from an Irish perspective. However, the impact on some key variables is less than indicated for the EC as a whole in the Cecchini Report. The principal difference appears to lie in the response of consumer prices in the simulation. The Cecchini Report shows a much greater fall in prices than our results suggest, which reflects in part the effects in our simulation of lower unemployment on wages and may in the medium-term lead to a relatively weaker output response. There seems to be a much weaker feedback of higher employment into wages in the Cecchini analysis. Our results for the main macroeconomic variables are summarised in Table 5.6.

5.5 SUPPLY-SIDE EFFECTS

The supply-side effects of *1992* relate to the strategic response of firms confronted with the changes inherent in the completion of the internal market. The way in which this is handled in the Cecchini study is by examining the changes in the context of increased market size and the "pure competition" effects of the abolition of protection. The Cecchini Report estimates the long-run (seven-year) impact on European GDP at 2.1 per cent and the fall in prices at 2.6 per cent. This is translated in the model to equivalent increases in external demand and import prices.

The transmission of the supply-side effects at a microeconomic level to the macroeconomy is by virtue of lower prices (which affects profitability) and an assumed rise in the productivity of labour. The fall in prices will occur across all EC member states and we have accordingly assumed that there is no competitive loss (or gain) to Irish industry resulting from it. The productivity of labour is increased in our simulation to proxy the effects of a rise in labour-embodied technical progress as competition intensifies. In doing so, we

recognize that the structure of domestic industry is such that the effects of scale economies will be less important than in the major European economies.

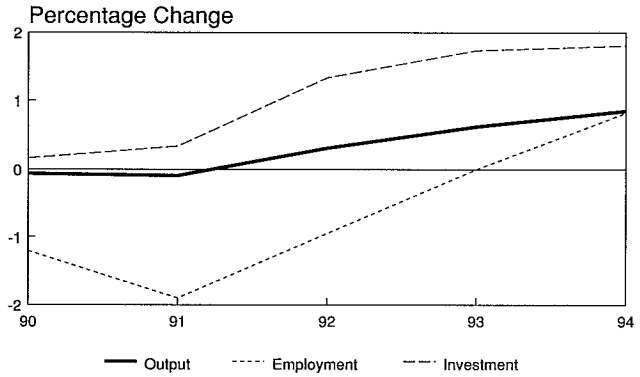
Effects on the Domestic Economy

The initial impact of the various changes made to the model is negative because of the depressing effect of the rise in the rate of technical progress on the level of employment in the industrial sector. Competitive pressures on firms will force them to react by using labour more efficiently. The fall in employment in this sector has a general deflationary effect on the economy. However, it should be recognized that the timing of the changes introduced in this simulation have a crucial bearing on the outcome. The initial deflation reflects the rationalisation of the industrial sector as it prepares for *1992*, by which time the increase in external demand is sufficient to yield net gains for the industrial sector in terms of the volume of output. By 1994, employment in industry is higher than in the underlying benchmark. The performance of investment, not surprisingly, is what underlies the long-run gains for industry. The trend in investment, employment and output is illustrated in Figure 5.10. The results show that the capital stock expands throughout the period as firms restructure production processes to achieve a better allocation of human, technological and financial resources.

The performance of the market services sector depends largely on developments in the domestic economy as a whole. The decline in industrial employment is a negative factor in the initial years of the simulation but the pick-up in the industrial sector is soon reflected in a rise in the volume of output in market services. The fall in prices adds further to consumer demand in volume terms whilst investment demand is higher throughout the period. The pattern of change in total employment means that there is little cost-push wage pressure on prices throughout the period.

FIGURE 5.10

SUPPLY SIDE EFFECTS
Industrial Sector



The effect of supply-side changes on the external accounts is negative but small and by 1994 there are indications of the improved industrial sector performance leading to future positive balance of payments effects. As regards the Exchequer borrowing requirement, the effects are similar in the initial stages to those on the external account but by the end of the period the level of borrowing is little different from the benchmark. Expenditure is lower by a relatively constant amount throughout but tax revenue begins to rise as activity resumes from 1992 onwards. The results are shown in Figure 5.11.

The overall impact of the supply-side effects induced by the completion of the internal market is mixed for Ireland. There will be short-term costs to bear but our results suggest that once the adjustment is made, the long-run effect will be positive. In fact, the effect on the volume of GDP by the end of the period is larger in this simulation than in any other. The results are none the less considerably less optimistic than those reported by Cecchini. The principal reason for this relates to the structure of the industrial sector which does not lend itself to gaining or losing from the significant economies of scale included in the Cecchini Report.

TABLE 5.8: Supply-Side Effects - Main Macroeconomic Results
% change (cumulative)

	1990	*1991*	*1992*	*1993*	*1994*
GDP	-0.038	-0.050	0.208	0.410	0.565
GNP	-0.086	-0.152	0.056	0.268	0.477
Industrial Output	-0.066	-0.094	0.274	0.559	0.767
Market Services Output	-0.030	-0.041	0.174	0.338	0.464
Personal Consumption	-0.032	-0.050	0.133	0.269	0.380
Private Investment	0.081	0.173	0.909	1.321	1.530
Consumer Prices	-0.068	-0.462	-0.749	-0.837	-0.824
Average Annual Earnings	-0.110	-0.586	-0.876	-0.860	-0.682
Absolute Differences					
Total Employment	-1.258	-2.011	-0.778	0.768	2.421
Balance of Payments (% GNP)*	-0.060	-0.110	-0.192	-0.188	-0.138
Exchequer Borrowing (% GNP)	-0.061	-0.148	-0.146	-0.076	0.004

* Both the balance of payments and the Exchequer borrowing requirement are measured as surpluses. A negative sign, therefore, indicates a deterioration.

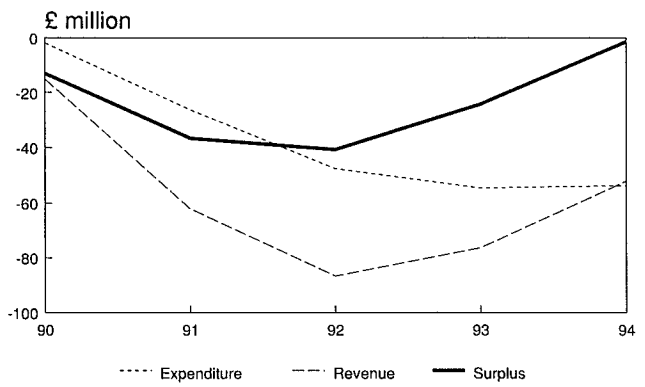
TABLE 5.9: Tax Harmonisation - Main Macroeconomic Results
% change (cumulative)

	1992	*1993*	*1994*
GDP	-0.050	0.410	0.103
GNP	-0.041	0.386	0.146
Industrial Output	-0.049	0.316	0.010
Market Services Output	-0.057	0.675	0.328
Personal Consumption	-0.111	0.680	0.005
Private Investment	-0.061	0.584	0.293
Consumer Prices	0.084	-0.317	0.238
Average Annual Earnings	0.029	-0.056	0.245
Absolute Differences			
Total Employment	-0.097	1.178	1.594
Balance of Payments (% GNP)*	0.053	-0.232	0.071
Exchequer Borrowing (% GNP)	0.045	-0.231	0.140

* Both the balance of payments and the Exchequer borrowing requirement are measured as surpluses. A negative sign, therefore, indicates a deterioration.

If more were allowed for gains resulting from economies of scale and also for the so-called "pure" competition effects on monopoly rents and X-inefficiency (which is defined as inefficiency relating to factors other than misallocation of resources) the results might conform more closely to Cecchini's. The principal macroeconomic effects are reported in Table 5.8.

FIGURE 5.11
SUPPLY SIDE EFFECTS
Public Finances



5.6 TAX HARMONISATION

The nature of tax harmonisation in the single market remains uncertain. At one extreme, it is possible that no formal harmonisation will be agreed and that national governments will simply need to change their individual tax regimes in response to the full opening of frontiers. Alternatively, a fairly loose form of harmonised tax ranges may be agreed. It now seems unlikely that the Commission's original proposals, contained in the 1985 white paper to the European Council, will be implemented in full.

In these conditions of uncertainty, we have assumed a stylised approach on the part of the Irish government. We feel that this package will be closer to the final outcome than the original proposals. This approach imposes a neutral impact on the government's finances, although changing the composition of receipts. Tax harmonisation, formal or informal, has dramatic implications for expenditure taxes. In our simulation we have assumed a very substantial fall of over £400 million in excise and VAT revenue, with an additional once-off cost in 1993 of £90 million, reflecting the elimination of VAT at point of entry. We have included in the cost of tax harmonisation a £20 million increase in transfers to compensate for the adverse income distribution effect of the increase in VAT on basic commodities.

How will these cuts be financed? We assume that other indirect taxes, such as motor vehicle duties, property taxes, stamp duties etc., will be increased to make good the loss in revenue. It is not suggested that this is the best means of dealing with the problem, but it has the advantage of minimising the economic impact, good or bad, of the tax changes. Thus the *ex-ante* borrowing requirement will be unchanged from the underlying benchmark level.

Effects on the Domestic Economy:

The broad impact of the tax harmonisation proposals is neutral in terms of the performance of the macro-economy. The reduction in excise duties and VAT feeds into an aggregate indirect tax rate which influences the inflation rate on consumer prices. However, as we have made the technical assumption that there is an equal and opposite impact on other expenditure taxes the indirect tax rate remains relatively unchanged. The results show that following the change in VAT at the point of entry in 1993, consumer prices fall and that the consequent rise in disposable income impacts on the level of consumer demand and investment in housing. A more likely result is that there will be a rise in profits and that the inflation rate will show a higher trend in 1993 followed by lower inflation in 1994 as the temporary effect of the change is absorbed by the economy.

The results for the main macroeconomic variables are shown in Table 5.9 but they could be modified in the light of the likely effect on the inflation rate suggested above.

TABLE 5.10: The Combined Effect of *1992* - *Ex-Ante* Changes
% Change

Variable Altered	*1990*	*1991*	*1992*	*1993*	*1994*
Import Prices	0.00	-0.25	-0.87	-1.57	-2.18
Agricultural Prices	0.00	-0.26	-0.89	-0.39	-0.99
External Demand	0.00	0.02	0.55	1.55	2.55
Capacity Output (Industry)	0.00	0.02	0.55	1.55	2.55
Market Services Output	-0.05	-0.10	-0.15	-0.20	-0.25
Market Services Empl. (000s)	-0.50	-1.00	-2.79	-4.57	-4.86
Public Administration Empl. (000s)	0.00	0.00	0.00	-0.30	-0.30
Deflator for Public Investment	0.00	0.00	0.00	-0.08	-0.16
Deflator for Adj. for Financial Services	0.00	-0.07	-0.14	-0.21	-0.29
Prime Lending Rate (% points)	0.00	-0.07	-0.14	-0.21	-0.28
Savings Ratio (% points)	0.00	0.00	-0.10	-0.10	-0.10

5.7 THE COMBINED EFFECTS OF *1992*

We now proceed to an analysis of the full effects of the single market proposals. This simulation is of greatest interest because it provides a basis for assessing the impact of *1992* on the economy and thereby some measure of the relative need for adjustment to altered circumstances. It also provides a yardstick by which to measure the adequacy of the Structural Funds in gearing the economy for the internal market. The results for *1992* combined are basically the summation of the effects outlined in the earlier simulations but also include dynamic aspects. What is interesting at this stage is describing the manner in which the interaction occurs.

There is a degree of overlapping in the effects of specific changes on particular variables implied by the completion of the internal market. For example, the abolition of customs barriers and the integration of financial markets both result in import price reductions while external demand is repeatedly boosted (it rises in all simulations except the tax harmonisation case). The market services sector is assumed to shed labour in both the removal of customs barriers and financial market integration cases. Both interest rates and the savings ratio fall in the simulation of financial market integration effects whilst the rate of technical progress is expedited in the analysis of supply-side effects. The cumulative changes to specific model variables are detailed in Table 5.10.

Effects on the Domestic Economy

The verdict on the full impact of *1992* on the basis of the results presented here (which we stress are tentative) is that the Irish economy stands to gain in the long-run from *1992* but that there will be considerable costs to bear in the short term particularly in terms of employment losses. This is reflected in the pattern of emigration which is higher relative to the benchmark until 1994. The structure of the labour market and the implications of the single market for its operation are explored further in the next section. The overall economic benefits are less than those estimated for the EC as a whole in the Cecchini Report as far as the major macroeconomic variables are concerned both in the short and medium term. This is in part due to the timescale of our analysis in so far as the results indicate good prospects for the economy beyond 1994. The full long-run effects take place over a period of seven years which means that our forecast does not fully incorporate the Cecchini effects.

FIGURE 5.12
COMBINED EFFECTS OF 1992
Sectoral Output Changes

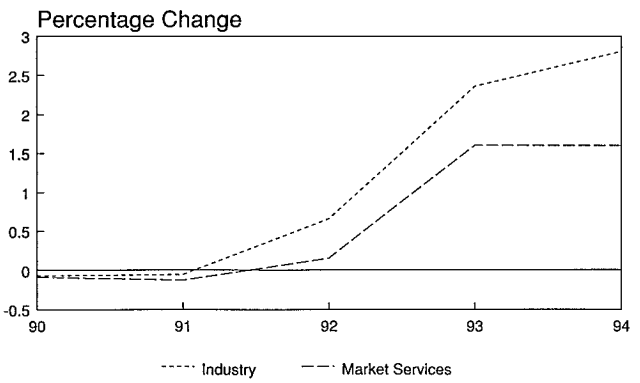
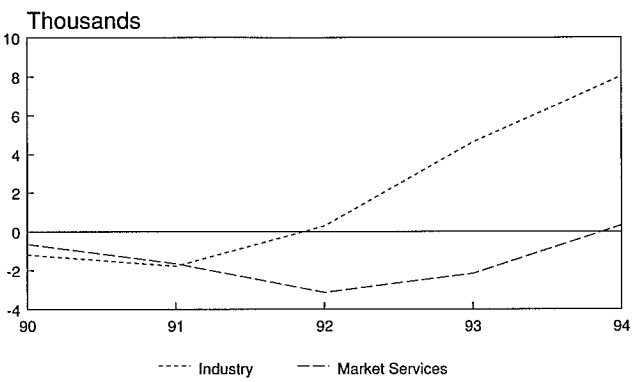


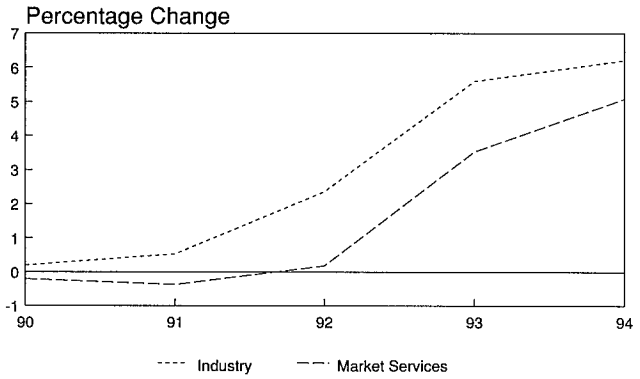
FIGURE 5.13
COMBINED EFFECTS OF 1992
Sectoral Employment Changes



The gains from the completion of the internal market accrue principally to the industrial sector. This reflects the improved external environment (both as regards demand and costs) as well as the fall in interest rates and the speeding-up of technical progress. Industrial output is 2.8 per cent higher at the end of the period than in the benchmark. Investment, due primarily to the rise in

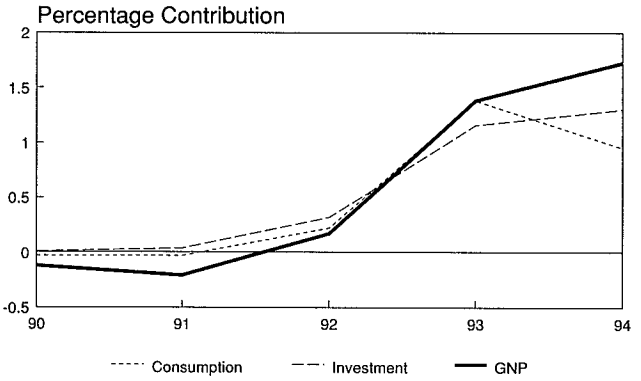
desired capacity in industry and the fall in interest rates, is up by 6.2 per cent over the period which suggests further expansion in industry as the 1990s progress. Employment is over 8,000 higher than in the benchmark. As far as market services are concerned, the brunt of the adjustment costs is borne by falling output and employment in this sector, particularly in the early years. However, although we impose a reduction in employment *ex-ante*, it is notable that both output and employment rise *ex-post* relative to the benchmark by 1994. Figures 5.12 to 5.14 contrast the experiences of the two sectors over the period.

FIGURE 5.14
COMBINED EFFECTS OF 1992
Sectoral Investment Changes



Prices and wages fall relative to the benchmark following the full *1992* changes. The reduction in consumer prices would be considerably greater in the absence of the boost to employment (over 8,000) over the simulation period. Consumer prices are in total over 1 per cent lower by 1994 whilst wage rates fall by just under 1 per cent. The reduction in prices helps to provide a major stimulus to consumer demand which contributes substantially to GNP growth on an expenditure basis. An even stronger contribution is made by investment demand, reflecting both the impact of lower interest rates on housing investment and the capital-intensive nature of the expansion on the output side. Figure 5.15 illustrates the impact of private consumption and investment on the growth rate.

FIGURE 5.15
COMBINED EFFECTS OF 1992
Contribution to Growth



The net impact of the foreign sector is marginally negative relative to the benchmark due to the impact of higher import volumes as industrial investment increases in response to the boost to capacity output. This is primarily a short-term phenomenon - by 1994 there is a marked improvement in the balance of trade relative to 1993. The results diverge greatly from the findings of the Cecchini Report which anticipates a strong contribution to growth (i.e., the growth of GNP attributable to a specific sector) from improved external balance throughout the simulation period. Finally, as shown in Figure 5.16, the impact of the various changes on the government's finances is negative until the final year of the simulation when the borrowing requirement falls very substantially. Among the factors underlying this outcome are the fall in prices and wages which affect both expenditure and revenue and the rise in activity towards the end of the period which have opposite effects, thereby reducing borrowing.

TABLE 5.11: Combined Effects of *1992* - Main Macroeconomic Results
% change (cumulative)

	1990	*1991*	*1992*	*1993*	*1994*
GDP	-0.058	-0.061	0.366	1.687	1.838
GNP	-0.115	-0.198	0.159	1.335	1.673
Industrial Output	-0.070	-0.054	0.661	2.359	2.808
Market Services Output	-0.089	-0.127	0.155	1.604	1.603
Personal Consumption	-0.042	-0.046	0.303	1.938	1.361
Private Investment	0.060	0.225	1.487	4.628	5.430
Consumer Prices	-0.098	-0.576	-1.198	-1.699	-1.081
Average Annual Earnings	-0.160	-0.774	-1.529	-1.577	-0.831
Absolute Differences					
Total Employment	-1.843	-3.402	-2.823	2.131	8.052
Balance of Payments (% GNP)*	-0.073	-0.166	-0.303	-0.766	-0.289
Exchequer Borrowing (% GNP)	-0.084	-0.197	-0.154	-0.145	0.514

* Both the balance of payments and the Exchequer borrowing requirement are measured as surpluses. A negative sign, therefore, indicates a deterioration.

TABLE 5.12: Combined Effects of *1992* for the EC - Main Macroeconomic Results*
% change (cumulative)

	Customs Barriers	*Public Procurement*	*Financial Services*	*Supply Side*	*Total*
GDP	0.20	0.31	1.33	1.31	3.16
Consumer Prices	-0.61	-0.67	-1.01	-1.41	-3.71
Nominal Wages**	-0.46	-0.55	-0.73	-0.85	-2.64
Employment	0.03	0.15	0.24	0.13	0.45
Absolute Differences					
Balance of Payments (% GDP)***	0.16	0.03	0.15	0.29	0.63
Exchequer Borrowing (% GDP)	0.12	0.23	0.60	0.23	1.19

* Catinat,M., E. Donni, and A. Italianer, 1988, "The Completion of the Internal Market : Results of Macroeconomic Model Simulations", provide the results quoted in this table.
** Calculated as the change in real wages inflated by the change in consumer prices.
*** Both the balance of payments and the Exchequer borrowing requirement are measured as surpluses. A negative sign, therefore, indicates a deterioration.

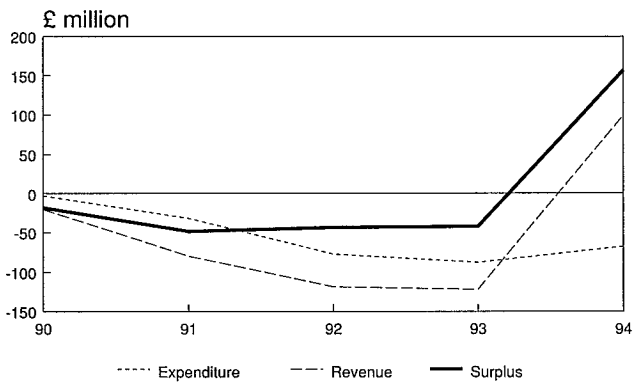
The main results for the full effects of completing the internal market are summarised in Table 5.11 and comparable results based on the Cecchini Report for the EC as a whole are given in Table 5.12. It should be noted that in Table 5.12 the results refer to third-year effects and are decomposed into the individual changes imposed in our analysis of the Irish economy.

Conclusions

The results in this section are important in two main respects. They are a tentative representation of the effects of the completion of the internal market which is of interest not only of itself, but as our description of the central forecast bears out, it has the effect of bolstering the growth rate in the years 1992-94 when the effects of the initial boom have petered out. The need for further research on the precise nature of the effects of *1992* is highlighted by the absence of specific knowledge of the timing and magnitude of the changes involved in completion of the internal market.

Consequently, the results presented in this section are subject to considerable uncertainty. Policy makers will recognize these difficulties while at the same time they should take account of the general direction of the results. It is clear that there will be a boost to external demand over the medium term as the internal market is completed. The extent to which the Irish economy will be able to avail of this will be better understood when we have more detailed knowledge of how *1992* will actually come to pass.

FIGURE 5.16
COMBINED EFFECTS OF 1992
Expenditure, Revenue & Surplus



SECTION 6

ECONOMIC POLICY IN THE 1990s

6.1 THE ECONOMY IN THE 1990S

In our central forecast we present our best estimate of how the Irish economy will develop over the next five years. However, as we have stressed in Section 3, such an exercise is subject to a wide margin of uncertainty and should be considered in this light. This forecast shows a pattern of sustained strong growth of GNP. The average growth rate should be in the region of 5 per cent per annum with higher growth in the years 1990 and 1991, followed by a slow-down in later years. The balance of payments will remain in a substantial surplus of between 2 and 3 per cent of GNP. The Exchequer borrowing requirement, having fallen from almost 13 per cent of GNP in 1986 to 4 per cent this year, is set to go into surplus in 1991 and, under present policies, will reach a surplus of almost 4 per cent of GNP by 1994. As a consequence of these surpluses, the debt/GNP ratio is likely to fall rapidly from its current level of 135 per cent of GNP to about 84 per cent by 1994.

Although employment will rise rapidly during the recovery by a total of 80,000 over the full five years, the unemployment rate, presently at 16 per cent of the labour force, will fall to just under 13 per cent by 1994. In addition, the inflation rate (currently at about 3.5 per cent per annum) will rise by around one percentage point in the next two years and will only begin to fall back to present levels towards the end of the forecast period.

With respect to the accuracy and reliability of our central forecast, we have tried to give sufficient detail of our forecasting method to permit the reader to understand how our forecasts relate to existing data on the world economy and how the domestic policy stance is incorporated. Our analysis of the effects of *1992* and of the impact of the *National Development Plan*, while tentative in nature, represents the first substantial published attempt at the quantification of their economic impacts on the economy.

6.2 OPPORTUNITIES AND RISKS

Facing into the 1990s the combination of the economic recovery with the increase in the EC Structural Fund payments will provide an opportunity to tackle the deep-seated structural problems of the Irish economy. This combination of circumstances may not be repeated again and, as a result, it is vital that good use is made of them. Over the last eight years policy makers had to concentrate on the pressing problem of the debt. It is now time that horizons were broadened to consider how best to deal with the longer-term problems of the economy, in particular unemployment. The improved environment does not mean that immediate or easy answers are possible but it lays the foundations for steady progress up to the end of the decade.

Though the central forecast holds the possibility of steady economic growth in the medium term, we have also highlighted the many dangers to be faced. Failure to deal with these dangers would put at risk the possibility of making lasting economic progress over the next five years.

There is a danger that world inflation and related financial disturbances could adversely affect Ireland's external environment. If our labour market were to behave as in the 1970s we could see a return to high rates of domestic inflation, a loss of competitiveness, a weakening in our exchange rate and consequential increases in real interest rates. Indeed, the very prospect of recovery and the steady improvement in the public finances could themselves produce such a change in behaviour, putting at risk the recovery itself. Our assumptions concerning the savings ratio could also prove wrong.

While the likelihood of our central forecast proving too optimistic or pessimistic may be equally probable, the risks and dangers facing the economy are certainly not symmetric. Failure to prevent a build up in domestic inflationary pressures could permanently damage the economy. Undue pessimism can, at worst, only postpone growth. As a result, policy for the future must pay special attention to the dangers facing the economy, where necessary erring on the side of caution.

As we move out from the present to the medium term, our forecast assumptions on policy are based on stylised rules of indexation of the tax system and maintenance of the real level of existing expenditure programmes[1]. Here, of course, public policy makers have considerable leeway. If they attach credibility to our forecasts they can change our policy assumptions *ex-ante* in order to bring about a different (hopefully better) outturn to that described in our central forecast. In the short to medium term such policy changes will usually consist of variations in existing tax and expenditure programmes. In the longer term it will be necessary to develop and implement new programmes which are both quantitatively and qualitatively different from existing ones.

1 The expenditure increases of the *National Development Plan*, the direct tax cuts and our method of indexing social welfare transfers depart from stylised indexation rules in order to reflect the present declared policy agenda.

For the remainder of this section we address the policy issues that arise from our central forecast. We divide our presentation into two main parts treating first the immediate policy issues and then taking up longer-term considerations. We identify three matters of immediate policy concern: the growing inflationary pressures in the economy, the operation of the labour market and policy for the public finances. For the longer term we focus on the structural problems of the economy highlighting some of the issues which policy must consider: the role of the Structural Funds; industrial policy; education and training; tax reform; unemployment and poverty; the public finances.

6.3 IMMEDIATE POLICY ISSUES

Inflationary Pressures

In our central forecast we indicated that, on the basis of current policies, there is a significant danger of a pick-up in domestic inflationary pressures in 1990 and 1991 due to the very rapid rate of growth in demand. What is of importance in this forecast is that these inflationary pressures are additional to any pressure coming from the international economy. A given rate of "world" inflation tends to be associated with given "world" values of the above variables and these represent the international economic environment in which Ireland must compete for business. Changes in world inflation do not directly affect Ireland's competitiveness.

The inflationary pressures are being felt initially in specific sectors of the economy where prices are often set as a markup on costs, the availability of competing imports is low and, therefore, the potential for domestic demand induced inflation is greatest. Two such sectors are of primary concern: building and market services. Although largely non-exporting sectors, any excess inflationary pressures arising in these areas will tend to spread to the exposed sectors which have to compete in the world marketplace and have little or no autonomy in setting their trading prices. The result is a fall in profitability, contraction, lay-off of labour and, ultimately, closure.

Building

The building industry is currently producing at about two-thirds of its peak output of the early 1980s. The severe recession that followed the boom of the late 1970s resulted in a major loss of capacity in the industry as many firms disappeared and skilled workers emigrated. While entry of new firms into this industry may be easier than in the industrial sector, none the less, it takes time to expand capacity. Besides increased domestic demand, such an expansion of capacity requires an increase in profitability from the very low levels of the mid-1980s and some certainty that the increased demand will persist.

Given the lagged supply response of the building industry, the surge in demand implied by the *National Development Plan* will put severe strain on the industry. Coming on top of an already strong recovery in domestic demand, we forecast that this will lead to price inflation and increased profitability in the short term. A continuation of these inflationary trends into 1990 and 1991 would have serious implications for the building industry itself in the long run and would endanger the recovery in the economy generally. The building industry has suffered in the past from a recurring boom and bust cycle. What is needed is a steady recovery which will take the industry back to a sustainable high level of output.

A serious additional cost to the nation from an inflationary surge would be the erosion of the purchasing power of the EC Structural Fund payments. The higher the volume of profitable investment that can be purchased with these funds, the greater will be their long-term benefit to the economy. If frittered away on projects whose prices are rising rapidly due to domestic cost-push inflation, there would be an obvious long-term cost to the economy as a whole. For example, if the inflation rate of Irish construction costs should turn out to be double that of other EMS members, we should have no expectation that the EC Structural Funds will pay for these excess costs.

There are a number of measures which can be taken to deal with the potential danger of inflation in the building industry:

(1) The additional investment directly under government control could be rephased and brought on stream more gradually. This will require a slower draw-down of EC Structural Funds while working within the same total. One imagines that the EC would be willing to facilitate a pattern of draw-down which minimised the inflationary impact on the recipient member state.

(2) Policy could be changed to reduce the existing private sector demand thus leaving spare capacity to undertake the government funded projects. The current fiscal environment is particularly favourable to private expenditure on building[2]. It may be timely to review these provisions and the need for change was comprehensively argued by the *Commission on Taxation* in the first half of the 1980s.

(3) Measures could be taken to increase the capacity of the industry. Uncertainty about the future is a major obstacle to firms expanding, new firms entering the industry and the willingness of skilled labour to return to Ireland. A move to longer-term contracts which would guarantee work for longer

2 Mortgage interest relief, tax relief on life insurance premia, tax relief favouring investment in property to rent (Section 23), favourable depreciation treatment of investment in certain kinds of buildings and the absence of a comprehensive property tax all constitute substantial incentives to private building.

periods than at present at a competitive price, could encourage new firms to enter the market providing greater competition and lower profit margins[3].

A range of detailed measures along these lines, designed to increase competition, would provide the best guarantee that the state would obtain value for money from its increased *National Development Plan* investment. The aim of such measures should not be to reduce the demand for building in the longer term, but rather to ensure that its level of output can grow steadily over the next five years without creating inflationary pressures and a return to the boom and bust cycles of the 1970s and 1980s.

Market Services

The second major source of domestic inflationary pressure over the next two years stems from our forecast fall in the savings ratio. This will add 1.7 percentage points to the GNP growth rate in 1990, a further 0.7 in 1991 and will drive up the volume growth of private consumption to over 8 per cent in 1990. Such an increase in domestic expenditure will raise inflationary pressures in the market services sector. As in the building industry, the number of firms is slow to respond to demand conditions. As a result, in some segments of the market the rise in demand envisaged in 1990, following on a rapid rise in 1989, will drive up profit margins. Again as in building, some increase in profit margins may be warranted, following on the prolonged recession of the 1980s. However, it is possible that such increases could become destabilising in the longer term.

If the increase in domestic expenditure took the form of an increase in productive investment rather than in consumption it would would result in higher growth, income and employment in the longer term. Even with the consumption boom, unemployment will still remain high by EC standards for the foreseeable future. We suggest that policy measures should be considered to dampen the consumption boom and spread it over a longer period. If phased in over a longer period, supply would have more time to adjust to demand and consumers would get better value for their expenditure.

However, unlike building activity, the change in the personal savings ratio is not easily influenced by short-term government policy changes. As was the case in Denmark and the UK, the fall in the savings ratio arises primarily from a return of consumer confidence. The improvement in the public finances and the fall in the real rate of interest took time to impact on consumer sentiment. However, once it is accepted that growth in the economy has turned up, it is difficult to control the growth in consumption in the short term. The development of a mini-boom helps feed confidence in the future, further boosting consumption.

Given our membership of the EMS (at a fixed rate of exchange with the DM) and the progressive dismantling of barriers to the flow of capital into and out of the country, the government has little or no autonomous freedom of action on monetary policy[4]. The alternative is to maintain a relatively tough fiscal policy to restrict the growth in personal incomes. While we see the Exchequer borrowing requirement disappearing by 1991, the rate of growth in the economy is such that significant tax cuts or major increases in expenditure over the period to 1991 would be most imprudent. This does not mean that tax reform should be postponed; indeed, as discussed later it could help solve the short-term problems. It is only when the rate of growth slows down, after the peak years 1990 and 1991, that a relaxation in fiscal policy should be contemplated, and then only if domestic inflationary pressures are under control.

From 1991 onwards the effects of the completion of the EC market will begin to put downward pressure on prices and to increase competition and this should help control domestic inflationary pressures. However, unless there is a continuation in the moderate growth in wage rates that we have seen in the last few years, the economic recovery could be rapidly brought to a halt. Wage costs may not at present be the major factor in the growth in inflationary pressures in the economy. However, unless these other pressures are brought under control they could rapidly transform pay bargaining in the labour market with serious long-term consequences for employment. Such a wage-price cycle would provoke a further loss of competitiveness with its associated loss of output and employment. Eventually a slow down of activity would reduce the rate of wage inflation, but only after a period of costly dislocation.[5]

The Operation of the Labour Market

The intractability of the unemployment problem has been a feature of many EC economies at a time when some other major Western economies have recovered from the recessions of the 1970s and 1980s and now display rapid employment growth and low rates of unemployment[6]. This intractability is also manifest in the Irish labour market. While the growth in employment envisaged in our central projection compares favourably with the record of the 1980s, the prospects are that unemployment will remain a major problem in the medium term. Our central forecast shows the rate of

3 In the case of building projects where the number of potential contractors is relatively small, the need to encourage competition is important. Even in the housing area, in the early 1980s, local authorities had problems obtaining competitive prices for major contracts due to the small number of builders who could undertake the very large contracts on offer. More competitive prices could have been obtained if the projects had been broken into smaller contracts which a larger number of builders could have undertaken. Alternatively, it would have been much better if the local authority had bought houses in existing developments where the price was determined in a competitive market.

4 The approach adopted in the UK of using monetary policy to rein in personal consumption growth is not possible in Ireland, even if it were wise.

5 With the likelihood that the Irish pound will tend to rise against sterling and the dollar in the medium term, while remaining fixed to the DM, the effects of inflation in domestic costs could be more serious than in the more accommodating regimes of earlier times.

6 M. Emerson, 1989. *What Model for Europe*, MIT Press, Cambridge, Massachusetts, gives an up to date and comprehensive account of how European labour markets differ among themselves and from those in the USA and Japan.

unemployment falling rapidly from a level of 16 per cent in 1989 to 14.6 per cent in 1990, mainly under the influence of the very rapid growth in building and marketed services. From 1990 to 1994 a further fall of only 1.9 points to 12.7 is forecast. Given its central importance, we examine some aspects of the operation of the Irish labour market in order to isolate where public policy could better assist in the further reduction and eventual elimination of unemployment.

Turning first to the supply of labour, the Irish labour force has grown rapidly over the years 1965 to 1985. In more recent years, however, the situation has been reversed and it is estimated that the labour force actually fell in the last two years (refer Table 3.6). In our central forecast we show slow labour force growth will resume over the medium term.

Two specific explanatory factors for this resumed labour force growth can be identified. The first is the underlying rate of natural population increase which will continue to be a source of strong growth into the next century. The second is the level of emigration which is closely related to unemployment trends here compared with those in the UK, the EC and the USA. As the domestic economy improves over the medium term we predict that there will be some attenuation in the present high emigration levels towards a reduced outflow of somewhere between 10,000 and 15,000 per annum. However, labour shortages in Europe, due to declining and progressively ageing populations, are likely to be an increasingly important *pull* factor which will ensure a continuing outflow of Irish people to those more challenging and lucrative labour markets. On balance labour supply will continue to expand up to the end of the century implying that the economy and, in particular, the demand for labour must continue to grow strongly if the unemployment problem is to be solved.

Sectoral Employment

In terms of their potential for future employment growth, the two important sectors in the economy are industry and marketed services[7]. The industrial sector comprises both the large heterogeneous manufacturing sector and the building sector. Within the manufacturing sector, the importance of the foreign-owned enterprises has expanded greatly and these enterprises have been the principal source of economic growth over the last decade. However, modern industry, be it of indigenous or foreign origin, is increasingly characterised by high productivity enterprises competing on world markets and driven by the level of world activity and the relative profitability of conducting activity in Ireland. It takes a very high and sustained growth in output to produce any major increase in the demand for labour.

The market services sector on the other hand is primarily driven by the level of domestic demand in the economy and is therefore dependent on the secondary impact of developments in the industrial sector. Productivity tends to be lower in this sector although, given its heterogeneity, it encompasses niches of high -productivity, internationally-competitive activity. Increasingly in recent years it has also seen the rise of a low wage, low skilled, part-time subsector, where many young people obtain their first job but where long-term career prospects are slight. The growth of this subsector has been particularly important at a time when the public sector ceased hiring and started to shed labour. Nevertheless, it is an area where public policy should be very carefully applied in order to protect those employed without destroying the very process of job creation.

In Section 5 we demonstrated that the advent of *1992* will primarily benefit the exposed sector of the economy. This arises from the EC-wide removal of existing impediments to profitable activity and a considerable expansion of market size. The result will be increased world demand which, in particular, will boost the output of the Irish industrial sector. The outlook for employment in the market services sector is less optimistic in the short term which reflects the need in this sector to rationalise in preparation for *1992*. However, the strong performance of the industrial sector will in the medium term be reflected in the level of domestic demand, which will boost employment in the marketed services sector. Our analysis of the effects of *1992* showed that by 1994 the induced employment in this sector was sufficient to offset the *ex-ante* job losses with the prospect of continued growth in the long run depending on how the industrial sector performed.

Employment, Unemployment and Wages

In our central forecast we show a boom in the early 1990s after which Irish growth converges downwards to average European levels by 1994. What causes this? The spurt in the growth rate in 1990-91 results in an immediate reduction in the unemployment rate. However, as labour shortages in specific skills build up wage rates will tend to rise.[8] This in turn feeds into consumer price rises which puts further upward pressure on wage increases through more aggressive bargaining between employers and employees, particularly when the level of demand is strong. The freedom of migratory flows between the UK and Irish economies acts to alleviate some of these pressures but there can be a considerable time lag in the transmission of developments in the labour market to the level of emigration.

Some Policy Conclusions

The relationship between economic growth and wage inflation is central to the macroeconomics of the Irish labour market. The improved performance in the Irish economy which we are forecasting has the effect of driving up wage rates and other labour costs (such as professional fees) and results in a loss of international competitiveness towards the end of our forecast period. This slows down the rate of expansion of the economy and results in a considerably weaker response to the completion of the internal EC market than has been estimated for the EC as a whole in the Cecchini Report. We feel that the Cecchini Report may have somewhat

7 Employment in agriculture is set to decline by 24,000 between 1989 and 1994 and, under present policies, employment in the non-market sector will remain approximately static.

8 It should be remembered that the growing proportion of the long-term unemployed on the Live Register may not participate very actively in the labour market, may gradually tend to become de-skilled, and may need specially targetted retraining courses before they can re-enter the labour force.

understated the feedback of increased EC employment into EC wages. Consequently, the focus of Irish macro policy should be to ensure that losses of competitiveness in the exposed industrial sector are avoided. At the very least, this will involve a continuation of the wage negotiations between Employers, Trades Unions and Government which were a successful component of the *Programme for National Recovery*.

Turning to microeconomic policy, this area has recently been surveyed by Emerson[9] who has drawn up policy recommendations in relation to EC pay systems and hiring and firing regulations. Some of his policy conclusions may be appropriate for the Irish labour market.

In relation to pay systems a distinction between base pay and bonus pay has proved particularly useful in other countries in assisting firms to ride through changing demand and market conditions without having to be unduly cautious in taking on extra employees. Share-participation equity elements in payment systems also could assist in strengthening a firm's capital base while it expands its investment and employment[10]. Finally, minimum pay laws should be reconsidered with a view to facilitating the employment of those presently excluded from the labour market while at the same time fulfilling their basic role in protecting marginal or weak members of society. In this area, the active and constructive role of the Trades Unions is particularly necessary.

Turning to employment protection, a strong case can be made for the retention of a general framework of regulations relating to individual dismissals and collective redundancies. However, possibilities might be explored for the application of less onerous constraints for small enterprises taking on new employees and possibilities for temporary, part-time and fixed-term contract employment could be adapted to facilitate increased employment opportunities for marginal members of the labour force. However, extreme care is needed in ensuring that any extensions of regulatory constraints on the labour market does not end up by reducing the overall level of new job creation.

Policy for the Public Finances

For the last five years the major objective for policy on the public finances has been clear: to halt the potentially explosive rise in the debt/GNP ratio. Now that that ratio is falling it is appropriate to reconsider the possible medium-term objectives for the national debt. As discussed in Sections 2 and 3, the existence of uncertainty about the future prospects for the world economy means that some net repayment of foreign debt over the next five years will be desirable for strategic reasons. However, with the foreign debt/GNP ratio likely to fall from 65 per cent in 1987 to 33 per cent in 1994 and the total debt/GNP ratio falling from 130 per cent in 1989 to under 90 per cent in 1994, other issues may be considered.

There are no simple answers in the quest for appropriate long-term objectives on government debt. In repaying debt now the government is reducing future interest payments. Such repayment actions may be considered as a kind of *investment* whose rate of return is the rate of interest on the debt being repaid. If alternative investment opportunities are available to the government which offer a higher rate of return than the rate of interest on the national debt, then it would be more profitable to undertake the investment than to repay debt.

In practice, debt repayment, current public consumption and some public fixed capital formation co-exist even in the presence of an Exchequer surplus. However, the cost of running a surplus on the public finances is the loss of current consumption and investment by the private sector, including the effects of the resulting higher tax rates on wage rates and, therefore, on output. This latter cost reduces the rate of return on debt repayment. In the long term the trade off between future growth and current consumption is a difficult decision for any society. In the 1970s we opted for immediate consumption at great cost in terms of lost potential output in the 1980s. Although this imbalance has been redressed in recent years, a permanent postponement of the benefits of current growth in favour of investment in future growth would be unpopular.

In the medium term, if the personal savings rate falls in 1990 and 1991, as we have assumed in the central forecast, a small surplus on the public finances will be appropriate to keep the balance of payments in surplus and maintain the pace of repayment of foreign debt. However, if the savings rate rose more rapidly than we have assumed in the later period, it would be possible to reduce the Exchequer surplus while still maintaining a balance of payments surplus. In either case the fact that the Exchequer surplus would not be increasing would mean that a higher proportion of future growth could be available to fund consumption than has been the case in the 1980s.

While we have assumed in our central forecast that there will be no change in real output of public services, including health and education, over the next five years, this may prove to be unrealistic. Our assumption implies that total public expenditure will fall from a level of 63 per cent of GNP in 1985 to only 44 per cent of GNP in 1994. It may well be the case that, with rising living standards, people will seek an improvement in certain public services. Such a choice may be available providing, of course, that the tax-paying public remains willing to pay for the increased services through a slower reduction in tax rates than would otherwise have been the case.

6.4 LONGER-TERM POLICY ISSUES

The Structural Problems of the Economy

The recovery in the economy and the likely increase in funds from the EC represent an opportunity to tackle the structural problems of the Irish economy with more vigour than was possible over the course of the 1980s.

9 op. cit.

10 These schemes should not need any incentive from the government through the tax code.

It is not intended to present a comprehensive programme here but rather to raise a number of key policy issues which need to be discussed. These involve measures aimed at both sustaining a faster growth rate in the longer term and ensuring that the growth has the maximum possible impact on the level of unemployment.

Some of the most important features of Ireland's poor economic performance in the past, its low level of income per capita and its high rate of unemployment, can be enumerated as follows:

(a) our physical location on the periphery of the European mainland and our poor communications links and transport infrastructure;

(b) the fact that industrialisation came late to Ireland[11] and that domestic industry has not been a major source of growth;

(c) our relatively high dependence on agriculture, some of which is of a subsistence character.

The Structural Funds and Economic Convergence

The increased EC Structural Funds are designed to address some of the above structural problems. Their ultimate aim is to promote the convergence of living standards between the peripheral regions of the EC, such as Ireland, and the central regions. They are not intended as a form of short-term transfer payment or to fund directly a higher standard of living, but are aimed at changing the fundamental supply-side structure of the peripheral regions to promote more rapid growth.

From Ireland's point of view it is also important that these funds should be invested wisely so that they sustain higher growth in the future rather than merely providing a temporary increment to consumption. Past experience shows that such a lasting effect on the potential output of the economy cannot be achieved simply through boosting domestic demand. Instead, the funds must be used to change the structure of the economy, especially to reduce the cost disadvantages of producing in Ireland rather than in the UK or Germany. It is against this yardstick that we should judge the proposals in the *NDP* and in this respect the *NDP* may have to be modified over its period of operation in order to maximise its real and lasting benefit to the Irish economy.

Industrial Policy

It is not clear precisely how the expenditure under the *Plan* on industry will differ from past expenditure. The advice of many economists has been that the use of government funds to subsidise capital investment in industry, while taxing employment, was unwise. The *Telesis* report and the subsequent NESC report, *A Strategy for Development 1986-1990*, recommended a greater concentration of resources on promoting development by Irish firms rather than concentrating effort on multinationals. With the adverse climate for investment in the mid-1980s such a reorientation of policy was not easy. However, it is likely that domestic industry will perform better in the future than in the past as a result of the improved environment. It must be a focus of policy, in particular of the Structural Fund expenditure, to achieve this.

The need to concentrate industrial development expenditure on promoting development by domestic firms does not mean that multinational investment will no longer be necessary or welcome. On the contrary, we see it as continuing to play a vital role in future growth. The prospect of access to a wider EC market, in particular the changes in EC provisions on public procurement, could result in major new multinational investment. However, these attractions should be sufficient and state expenditure, even if funded by the Structural Funds, should not be necessary to ensure their success.

Education and Training

In the past we have received very substantial funds from the EC Social Fund which have been used to provide training for many people who were unemployed or were new entrants into the Labour Force. However, these schemes have not been totally successful. In some cases they have duplicated the activities of the existing educational system, at significantly greater cost. In others, through no fault of the schemes, they have provided training for jobs which were not available to the graduates of the courses. Given the research evidence which indicates the severe handicap suffered by those who leave school early without proper qualifications[12], it would appear preferable to concentrate much of the additional resources now becoming available to dealing with this latter problem. An improved general level of education would provide a better guarantee of a successful subsequent career than existing specialised training courses.

To some extent the explanation for the concentration on training rather than on education has arisen from the refusal of the EC to fund projects in the educational field. This restriction has introduced major distortions in the training/education field in Ireland. The fact that the cost is, initially, borne by the EC tax payer does not make these distortions any more desirable. The EC Commission are open to suggestions on how best to use the increased resources of the Structural Funds and the opportunity should be taken to amend, where necessary, the terms of reference of the Social Fund.

While research has shown the handicap suffered by early school leavers it has not indicated how best to ensure that all school leavers receive an adequate standard of education. This will certainly not be achieved by a general increase in expenditure on education. A number of different changes may be needed. Those schools which have a high proportion of early school leavers should be targetted for special treatment. This will involve a reversal of the pattern of educational cuts over the last two years which have favoured the secondary system over the vocational system. The latter caters for a much higher proportion of the early school leavers.

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11 E. O'Malley, 1989. *Industry and Economic Development: the Challenge of the Latecomer*, Dublin: Gill and Macmillan, forthcoming, June.

12 R. Breen, 1984. *Education and the Labour Market: Work and Unemployment Among Recent Cohorts of Irish School Leavers*, Dublin: ESRI, General Research Series, Paper No. 129.

If resources are increased for schools catering for potential early school leavers, it is important that the effects of the increased expenditure are monitored. It may well be desirable to experiment with a number of different programmes, on a pilot basis, to see what is the most effective way of deploying the potential large increase in resources available from the EC.

It should also be recognised that, while poor educational qualifications have been identified as heavily prejudicing future labour market success, the problem very often lies deeper than the educational system itself. For many children, no matter what the increase in resources available to the schools, other problems may ensure a continuation of the pattern of low educational achievement. This highlights the fact that expenditure on education alone will not be enough to solve the problems of early school leavers.

This issue of improving the educational qualifications of the work force is not just an issue for those concerned with social policy. It is an important factor affecting the speed with which the gap in living standards between the peripheral regions of the EC and the central economies can be closed. The poor work prospects of the early school leavers places additional burdens on the peripheral economies. As such, this issue is a proper concern for the EC Structural Funds.

Tax Reform

The need for tax reform has been on the agenda for a decade. The potential problems facing the economy in the medium term, while different from those of the 1980s, still call for such reform. The disincentive effects of high marginal rates of tax; the distortionary effects of taxing heavily some activities or goods while subsidising others; the impact of an uneven sharing of the tax burden on wage demands and, as a result, on the labour market have tended to make the economy less efficient. This results in lost growth and employment in the long term. We do not believe that tax reform is merely a case of reducing tax rates.

Many changes which have been made in recent years have served to increase the inefficiency of the system, rather than to reform it. Instead of following the *Commission on Taxation* approach of simplifying the system and removing the many exclusions and exceptions, they have been increased[13]. This plethora of special cases merely shifts the burden of tax from one activity or tax-payer to another. The very high marginal tax rates which we face are a direct result of this process of narrowing the tax base. The smaller the base the higher must be the rate of tax. Because revenue loss through the black economy, cross-border trade, etc., rises with the rise in tax rates the problem has been further aggravated.

What is needed in the medium term is a gradual extension of the tax base so that tax rates can be reduced.

Revenue from company taxation is low in Ireland. The extension of the base by a further reduction in exemptions and allowances (such as depreciation allowances) would allow a reduction in tax rates.

A reduction in allowances for income tax payers for certain kinds of investment could help finance a reduction in rates of income tax.

Research has indicated that a major gap in the Irish tax system is the absence of a property tax[14]. Its introduction combined with the use of the increased tax revenue to reform income tax, would generally increase welfare[15].

Taken together, the gradual implementation of the *Commission on Taxation's* principles could help increase economic efficiency while not necessarily affecting Exchequer revenue. However, the growing Exchequer surplus in the medium term could permit an overall reduction in tax rates from 1992 onwards.

Unemployment and Poverty

The 1980s has seen a relative deterioration in the position of families and children in the distribution of income. The more than doubling of the numbers unemployed has played a major part in this change. In particular, the rise in the number of long-term unemployed has contributed much to the level of poverty in the community. As highlighted earlier, while the volume of consumption fell slightly over the period 1980-88, there was a more than doubling in the numbers unemployed. The result of this change was that the standard of living, measured in terms of consumption, generally rose, or at worst remained static for those in employment. On the other hand, there was a major deterioration in the position of those who became unemployed.

Looking to the future, the decline in numbers unemployed will obviously contribute to a reduction in the level of poverty. However, even after five years' continuous growth there will still be nearly 13 per cent of the labour force unemployed. For those in employment there is likely to be a rapid rise in living standards over the same period. Moderate increases in real incomes will be augmented by a limited reduction in tax rates over the period. Even with our assumption that transfers will rise more rapidly than prices (though less rapidly than wage rates) the relative position of those remaining unemployed may deteriorate. Much will depend on whether the improving employment situation significantly reduces the numbers of long-term unemployed.

The most attractive solution to the problem of unemployment and poverty would obviously be an increase in employment to reduce the numbers unemployed. However, the growth in employment, if it is to be sustainable in the long term, tends to be slow. In addition, as employment prospects grow, so too does

13 We have recently seen the introduction of the Business Expansion Scheme (BES) scheme, special concessions on rental income, special treatment for building in specified locations, special tax rates for businesses in the Customs House Docks development.

14 P. Honohan and I. Irvine, 1987, "The Marginal Social Cost of Taxation in Ireland", *The Economic and Social Review*, Volume 19 No. 1, October, pp.15-42.

15 A property tax could help deal with the inflationary pressures in the building sector. Depending on the nature of the related reduction in income tax, it could serve to improve the distribution of income, while reducing the disincentive effects of high marginal tax rates. The shift in the tax burden would help encourage young skilled workers to remain in Ireland rather than to emigrate.

the willingness of people to enter (or re-enter) the labour force or to return from abroad and seek work in Ireland. Thus many more new jobs would be needed than the current numbers unemployed if the unemployment problem were to be solved.

This highlights the need to target additional measures at those who are currently unemployed, in particular the long-term unemployed[16]. The problems faced by those who are unemployed for long periods are much more severe than is the case for those who suffer only short spells of unemployment in their working career. To date, many of the schemes introduced have not been very attractive to this group of unemployed.

A second group which research indicates has poor employment prospects in the longer term are those who leave school early without any qualification. They face a much higher risk of living in poverty throughout much of their lives. For that reason alone action is called for. However, it is also worth noting that, to the extent that measures to deal with this problem are successful, they will reduce the numbers of unemployed in the longer term with major benefits for society at large. The major increase in funds from the EC under the *NDP* provide an opportunity to tackle this problem.

Public and Private Expenditure

Since the mid-1980s we have seen large-scale reductions of the share of public consumption and investment in the GNP. Under present policies we forecast the continuation of these reductions into the future. In part this was a necessary correction to the explosive growth of public expenditures in the 1970s, driven by the imperative of bringing the national debt under control.

Although the corrections to the imbalances in the public finances are not yet complete, nevertheless it is important that rational public debate take place on the subject of the future role of public versus private expenditure in Ireland. There are emerging in Ireland strong signs of private affluence and public squalor. The unthinking adoption of this approach to civic life is unwise given our traditions as part of the European social democratic system. The period of public expenditure cutbacks has taught us that there is "no free lunch" and that a decision to expand public expenditure carries with it a parallel decision to pay higher taxes.

6.5 CONCLUSIONS

In presenting our forecasts in the previous sections we have tended to deal in three different time frames. First, in the context of our *Medium-Term Review*, the immediate future covers the period from the present to end 1991. We identified this period as being characterised by very rapid economic growth driven by a variety of factors, and accompanied by inflationary pressures. Second, the medium term covers the period 1992 out to end 1994, our self-imposed forecasting time horizon. This second period was characterised by slower (but still substantial) growth and diminishing inflationary pressures.

However, the full supply-side impacts of the two major policy regime changes, *1992* and the EC Structural Funds, will only become apparent within a longer time frame. For example, it is clear that the impact of the *National Development Plan* will be largely on the demand side of the economy during the period 1989-1994 as the various infrastructural projects pass from their start-up phases to fully commissioned use. In order to understand what these supply-side effects may be, it is necessary to adopt a longer time frame out to the end of the next decade. Here we must fall back on a more conjectural approach.

The relationship between our forecasts and public policy is somewhat different in each of the three cases. To a considerable degree the policy agenda for the immediate future is already in place and relatively inflexible. Indeed, we have seen in the past that major changes or vacillations in the short-term policy stance serve to destabilise as much as to correct.

To some extent, then, our medium-term forecast can be considered as a provocative commentary on the consequences of present policies when such policies are carried out into the future. As we face into the 1990s it is clear that we will have less policy autonomy than in the past. Our freedom of action on fiscal policy is severely limited by the increasing openness of the economy. We have seen the problems created by a "go it alone" fiscal expansion in the late 1970s. Even the United States is learning the same lesson, that it too does not have complete policy autonomy. Furthermore, this loss of autonomy is not just a result of our membership of the EC or the new imperatives of *1992*. It arises from the growing interdependence of the developed world economies.

In the 1980s we have appeared to enjoy greater independence of action in monetary policy than at any time over the previous 150 years. However, this limited autonomy arose from a once-off major shift of monetary regime due to our entry into the European Monetary System. Up to the break with sterling in 1979 Irish monetary policy was effectively determined by the Bank of England. The German Federal Republic's Bundesbank is increasingly playing that role both for Ireland and for other EMS members.

The fact that we have limited room for manoeuvre should not serve as an excuse for policy indifference. For the future, it is still possible to bring about desirable change through an appropriate mix of domestic policies, in particular measures which will affect the output side of the economy.

16 See J.J. Sexton, 1988. *Measures to Assist the Long-Term Unemployed: Recent Experience in Some OECD Countries*, Paris: OECD.

APPENDIX

This appendix contains a set of tables giving additional details of the central forecast discussed in Section 3 of the *Review*.

TABLE A.1: Expenditure on GNP

	1988 £M	*Volume %*	*Price %*	*1989 £M*	*Cont. to Growth %*	*Volume %*	*Price %*	*1990 £M*	*Cont. to Growth %*
Personal Consumption	12084	3.9	3.3	12966	2.6	8.2	4.2	14625	5.5
Public Consumption	3550	-2.7	6.3	3670	-0.5	0.4	5.7	3894	0.1
Fixed Investment	3571	7.7	4.2	4008	1.8	14.0	4.7	4783	3.5
Building	1596	7.6	3.0	1768	0.7	15.2	5.3	2146	1.6
Machinery	1975	7.7	5.3	2240	1.1	13.1	4.1	2638	1.9
Final Domestic Demand	19205	3.6	3.7	20644	4.0	8.3	4.3	23303	9.1
Stock Building	-183	NA	8.5	15	1.0	NA	-18.3	60	0.3
Agricultural	82	NA	3.2	60	-0.2	NA	-38.7	1	-0.4
Intervention	-295	NA	-11.7	-125	0.9	NA	4.2	-135	0.0
Non-Agricultural	30	NA	3.8	80	0.3	NA	3.0	194	0.7
Total Domestic Demand	19022	4.6	3.8	20659	5.0	8.5	4.2	23363	9.3
Total Exports	13510	7.5	5.3	15283	6.7	9.7	3.2	17298	9.0
Merchandise	12081	7.7	5.6	13732	6.2	10.0	3.1	15576	8.4
Services	1429	5.5	2.8	1551	0.5	6.5	4.2	1722	0.5
Total Demand	32532	5.9	4.3	35942	11.7	9.0	3.7	40661	18.3
Total Imports	11551	8.3	5.2	13161	6.9	11.7	3.2	15161	10.1
Merchandise	10038	8.2	5.4	11454	6.1	11.8	3.2	13221	9.2
Services	1513	9.0	3.5	1707	0.8	10.4	3.0	1940	0.9
Gross Domestic Product	20981	4.2	4.3	22781	4.8	7.1	4.5	25500	8.2
Net Factor Income	-2290	6.0	5.3	-2555	-0.9	8.4	3.2	-2859	-1.3
Gross National Product	18691	3.9	4.2	20226	3.9	6.9	4.7	22642	6.9

	1990 £M	*Volume %*	*Price %*	*1991 £M*	*Cont. to Growth %*	*Volume %*	*Price %*	*1992 £M*	*Cont. to Growth %*
Personal Consumption	14625	6.0	4.2	16144	4.1	3.5	3.5	17278	2.4
Public Consumption	3894	0.4	7.1	4186	0.1	0.0	6.4	4453	0.0
Fixed Investment	4783	7.9	4.2	5377	2.1	7.0	3.7	5967	1.9
Building	2146	9.0	4.7	2448	1.0	7.8	4.2	2748	0.9
Machinery	2638	7.1	3.7	2929	1.1	6.5	3.2	3220	1.0
Final Domestic Demand	23303	5.6	4.5	25707	6.2	3.8	3.8	27698	4.3
Stock Building	60	NA	-0.5	126	0.4	NA	1.0	178	0.3
Agricultural	1	NA	0.0	1	0.0	NA	0.0	1	0.0
Intervention	-135	NA	4.0	-141	0.0	NA	4.0	-146	0.0
Non-Agricultural	194	NA	2.7	266	0.4	NA	2.4	323	0.3
Total Domestic Demand	23363	5.9	4.4	25833	6.6	4.0	3.7	27876	4.5
Total Exports	17298	8.0	2.8	19214	7.6	7.6	2.5	21184	7.4
Merchandise	15576	8.3	2.7	17325	7.2	7.8	2.4	19121	6.9
Services	1722	5.3	4.2	1889	0.4	5.6	3.5	2063	0.5
Total Demand	40661	6.9	3.7	45048	14.2	5.7	3.0	49060	11.9
Total Imports	15161	8.7	2.8	16955	7.9	7.1	2.6	18631	6.6
Merchandise	13221	8.5	2.8	14750	6.9	6.8	2.6	16152	5.7
Services	1940	10.6	2.7	2205	1.0	9.9	2.4	2479	1.0
Gross Domestic Product	25500	5.4	4.5	28093	6.3	4.6	3.6	30429	5.3
Net Factor Income	-2859	4.9	2.8	-3083	-0.8	5.3	2.5	-3328	-0.8
Gross National Product	22642	5.5	4.7	25010	5.5	4.4	3.8	27100	4.4

	1992 £M	*Volume %*	*Price %*	*1993 £M*	*Cont. to Growth %*	*Volume %*	*Price %*	*1994 £M*	*Cont. to Growth %*
Personal Consumption	17278	3.9	3.0	18493	2.6	1.1	3.5	19354	0.7
Public Consumption	4453	-0.1	5.4	4687	0.0	0.0	5.0	4919	0.0
Fixed Investment	5967	7.9	3.1	6639	2.2	5.0	2.8	7165	1.4
Building	2748	8.8	3.5	3095	1.0	4.3	3.0	3326	0.5
Machinery	3220	7.2	2.7	3544	1.1	5.5	2.6	3840	0.9
Final Domestic Demand	27698	4.4	3.2	29819	4.8	2.0	3.4	31439	2.1
Stock Building	178	NA	3.3	396	1.0	NA	2.4	434	0.1
Agricultural	1	NA	0.0	1	0.0	NA	0.0	1	0.0
Intervention	-146	NA	-44.3	1	0.7	NA	0.0	1	0.0
Non-Agricultural	323	NA	2.6	394	0.3	NA	2.4	432	0.1
Total Domestic Demand	27876	5.2	3.0	30215	5.8	2.0	3.4	31873	2.3
Total Exports	21184	7.4	2.5	23315	7.4	6.7	2.4	25488	6.9
Merchandise	19121	7.6	2.4	21076	7.0	7.0	2.3	23077	6.6
Services	2063	5.4	3.0	2239	0.4	4.0	3.5	2411	0.3
Total Demand	49060	6.3	2.7	53530	13.2	4.3	2.7	57361	9.2
Total Imports	18631	7.6	2.5	20549	7.2	5.0	2.7	22142	4.9
Merchandise	16152	7.3	2.5	17775	6.3	4.6	2.6	19077	4.0
Services	2479	9.4	2.3	2774	1.0	7.9	2.4	3065	0.9
Gross Domestic Product	30429	5.2	3.0	32982	6.0	3.7	3.0	35219	4.3
Net Factor Income	-3328	8.5	2.5	-3699	-1.3	7.4	2.4	-4070	-1.2
Gross National Product	27100	4.7	3.2	29283	4.7	3.1	3.2	31149	3.1

TABLE A.2:Personal Income and Personal Expenditure

	1985 £M	*1986 £M*	*1987 £M*	*1988 £M*	*1989 £M*	*1990 £M*	*1991 £M*	*1992 £M*	*1993 £M*	*1994 £M*
Agricultural etc. Income	1394	1321	1551	1796	1868	1976	2040	2101	2207	2269
Non-Ag. Wage Income	9391	9998	10481	10925	11469	12447	13713	14915	16081	17184
Transfer Income	3150	3444	3659	3709	3665	3800	3980	4221	4437	4640
Domestic	2893	3185	3305	3400	3320	3444	3615	3847	4055	4249
Foreign	257	259	354	309	345	355	365	374	382	391
Other Personal Income	2128	2206	2301	2266	2676	3246	3486	3611	3856	3790
Non-Ag. Profits etc.	4038	4311	4796	4933	5779	6942	7712	8359	9369	10000
Financial Services Adj.(-)	810	852	950	1075	1160	1335	1503	1661	1851	2009
National Debt Interest	1905	1822	1979	1964	2129	2194	2182	2168	2117	2050
Net Factor Income	-1966	-1957	-1946	-2290	-2555	-2859	-3083	-3328	-3699	-4070
Government(-)	549	452	478	466	397	414	432	448	461	474
Other Private Income	2619	2873	3401	3066	3796	4528	4875	5090	5476	5498
Undistributed Profits(-)	491	667	1100	800	1120	1282	1389	1479	1620	1707
Personal Income	16062	16968	17992	18696	19678	21468	23219	24848	26581	27883
Taxes On Personal Income	3326	3596	3987	4498	4261	4658	5079	5392	5661	5915
Disposable Income	12736	13372	14005	14198	15417	16810	18141	19456	20920	21968
Personal Consumption (-)	10385	11117	11481	12084	12966	14625	16144	17278	18493	19354
Personal Savings	2351	2255	2524	2114	2451	2185	1995	2179	2427	2614
Tax Ratio (% Pers.Income)	20.7	21.2	22.2	24.1	21.7	21.7	21.9	21.7	21.3	21.2
Savings Ratio (% Disposable Income)	18.5	16.9	18.0	14.9	15.9	13.0	11.0	11.2	11.6	11.9

TABLE A.3: National Income And National Product

	1988 £M	*Change %*	*1989 £M*	*Change %*	*1990 £M*	*Change %*	*1991 £M*
Agriculture etc.	1796	4.0	1868	5.8	1976	3.3	2040
Non-Wage	1632	4.0	1698	5.8	1796	3.4	1856
Employee	164	4.0	170	5.8	180	2.0	184
Non-Ag. Wage Income	10925	5.0	11469	8.5	12447	10.2	13713
Non-Ag. Profits etc.(Adj)	4773	18.6	5659	21.3	6866	11.3	7644
Gross	4933	17.2	5779	20.1	6942	11.1	7712
Stock Appreciation Adj(-)	160	NA	120	NA	76	NA	68
Financial Services Adj.(-)	1075	7.9	1160	15.1	1335	12.5	1503
Domestic Income	16419	8.6	17836	11.9	19953	9.7	21894
Depreciation	2012	6.0	2133	7.9	2302	7.9	2484
GDP (Factor Cost)	18431	8.3	19969	11.5	22256	9.5	24377
Taxes On Expenditure	3976	6.5	4235	12.6	4768	11.3	5306
Domestic	3675	6.5	3915	13.4	4439	11.9	4967
EC	301	6.3	320	3.0	330	2.7	339
Subsidies(-)	1426	-0.2	1423	7.1	1524	4.4	1590
Domestic	558	-6.3	523	13.2	592	6.2	629
EC	868	3.7	900	3.5	932	3.2	962
GDP (Market Prices)	20981	8.6	22781	11.9	25501	10.2	28092
Net Factor Income	-2290	11.6	-2555	11.9	-2859	7.9	-3083
Gross National Product	18691	8.2	20226	11.9	22642	10.5	25009

	1991 £M	*Change %*	*1992 £M*	*Change %*	*1993 £M*	*Change %*	*1994 £M*
Agriculture etc.	2040	3.0	2101	5.1	2207	2.8	2269
Non-Wage	1856	3.0	1912	5.1	2009	2.8	2064
Employee	184	3.0	189	5.1	199	2.8	204
Non-Ag. Wage Income	13713	8.8	14915	7.8	16081	6.9	17184
Non-Ag. Profits etc.(Adj)	7644	8.6	8300	12.0	9300	6.8	9934
Gross	7712	8.4	8359	12.1	9369	6.7	10000
Stock Appreciation Adj(-)	68	NA	59	NA	69	NA	66
Financial Services Adj.(-)	1503	10.5	1661	11.4	1851	8.5	2009
Domestic Income	21894	8.0	23655	8.8	25737	6.4	27379
Depreciation	2484	7.9	2680	7.8	2889	7.6	3109
GDP (Factor Cost)	24377	8.0	26337	8.7	28627	6.5	30488
Taxes On Expenditure	5306	8.3	5745	5.9	6087	7.1	6518
Domestic	4967	8.7	5398	6.2	5732	7.4	6155
EC	339	2.4	347	2.3	355	2.4	363
Subsidies(-)	1590	3.9	1652	4.8	1732	3.2	1788
Domestic	629	5.3	662	6.1	702	3.7	729
EC	962	2.9	990	4.0	1029	2.9	1059
GDP (Market Prices)	28092	8.3	30430	8.4	32982	6.8	35219
Net Factor Income	-3083	7.9	-3328	11.1	-3699	10.0	-4070
Gross National Product	25009	8.4	27102	8.0	29283	6.4	31149

TABLE A.4: Output

	1988 £M	*Volume %*	*Price %*	*1989 £M*	*Cont. to Growth %*	*Volume %*	*Price %*	*1990 £M*	*Cont. to Growth %*
Agriculture	2127	0.0	3.8	2207	0.0	0.5	4.8	2324	0.1
Industry	7505	8.4	3.1	8394	3.9	10.8	2.5	9534	5.1
Market Services	6689	5.2	2.1	7179	2.0	7.2	6.1	8162	2.7
Health + Education	1971	-1.4	6.7	2073	-0.1	0.8	6.1	2217	0.1
Public Admin.+ Defence	1214	-2.2	7.5	1276	-0.1	0.0	6.1	1354	0.0
Adj For Financial Services	1075	4.5	3.2	1160	0.2	10.4	4.3	1335	0.6
GDP At Factor Cost	18431	4.9	3.3	19969	5.3	6.9	4.3	22256	7.5
Taxes On Expenditure	3976	-2.3	9.1	4235	-0.4	8.1	4.1	4768	1.3
Subsidies (-)	1426	-0.5	0.3	1423	0.0	3.8	3.2	1524	0.3
GDP At Market Prices	20981	4.3	4.1	22781	4.9	7.3	4.4	25501	8.4
Net Factor Income	-2290	6.0	5.3	-2555	-0.9	8.4	3.2	-2859	-1.3
GNP At Market Prices	18691	4.0	4.1	20226	4.0	7.1	4.5	22642	7.1

	1990 £M	*Volume %*	*Price %*	*1991 £M*	*Cont. to Growth %*	*Volume %*	*Price %*	*1992 £M*	*Cont. to Growth %*
Agriculture	2324	0.5	3.0	2406	0.1	0.5	2.7	2483	0.1
Industry	9534	8.0	2.5	10560	4.0	7.3	1.9	11550	3.7
Market Services	8162	5.5	5.1	9044	2.1	4.3	4.1	9820	1.7
Health + Education	2217	0.8	7.8	2409	0.1	0.0	7.1	2581	0.0
Public Admin.+ Defence	1354	0.0	7.8	1460	0.0	0.0	7.1	1564	0.0
Adj For Financial Services	1335	8.3	3.9	1503	0.5	7.1	3.2	1661	0.4
GDP At Factor Cost	22256	5.3	.0	24377	5.7	4.6	3.2	26337	5.0
Taxes On Expenditure	4768	5.9	5.0	5306	0.9	3.7	4.4	5745	0.6
Subsidies (-)	1524	2.9	1.5	1590	0.2	2.0	1.8	1652	0.1
GDP At Market Prices	25501	5.5	4.4	28092	6.4	4.7	3.5	30430	5.4
Net Factor Income	-2859	4.9	2.8	-3083	-0.8	5.3	2.5	-3328	-0.9
GNP At Market Prices	22642	5.6	4.5	25009	5.6	4.6	3.6	27102	4.6

	1992 £M	*Volume %*	*Price %*	*1993 £M*	*Cont. to Growth %*	*Volume %*	*Price %*	*1994 £M*	*Cont. to Growth %*
Agriculture	2483	0.5	4.4	2605	0.1	0.5	2.4	2680	0.1
Industry	11550	8.1	2.2	12757	4.2	6.3	1.8	13808	3.4
Market Services	9820	5.1	4.0	10728	1.9	3.2	2.9	11387	1.2
Health + Education	2581	0.0	6.0	2737	0.0	0.0	5.3	2883	0.0
Public Admin.+ Defence	1564	-0.4	6.0	1651	0.0	0.0	5.3	1739	0.0
Adj For Financial Services	1661	8.0	3.2	1851	0.5	6.0	2.4	2009	0.4
GDP At Factor Cost	26337	5.3	3.2	28627	5.7	4.0	2.4	30488	4.3
Taxes On Expenditure	5745	4.1	1.8	6087	0.6	1.3	5.7	6518	0.2
Subsidies (-)	1652	2.3	2.5	1732	0.2	1.3	2.0	1788	0.1
GDP At Market Prices	30430	5.3	2.9	32982	6.2	3.8	2.9	35219	4.4
Net Factor Income	-3328	8.5	2.5	-3699	-1.4	7.4	2.4	-4070	-1.2
GNP At Market Prices	27102	4.8	3.1	29283	4.8	3.2	3.1	31149	3.2

TABLE A.5: Public Authority Accounts

	1985 £M	*1986 £M*	*1987 £M*	*1988 £M*	*1989 £M*	*1990 £M*	*1991 £M*	*1992 £M*	*1993 £M*	*1994 £M*
Taxes On Income And Wealth	3551	3913	4265	4847	4599	5030	5574	5980	6329	6659
Company	226	317	278	349	338	372	495	588	667	744
Personal	3326	3596	3987	4498	4261	4658	5079	5392	5661	5915
Taxes On Expenditure	3010	3170	3305	3675	3915	4439	4967	5398	5732	6155
Gross	3222	3420	3567	3948	4205	4737	5274	5713	6053	6484
EC Budget Contrib.(-)	212	251	262	273	290	299	307	314	321	329
Net Trading + Inv. Income	549	452	478	466	397	414	432	448	461	474
Transfers From Abroad	85	82	130	113	98	206	239	265	271	279
Total Current Receipts	7196	7617	8178	9101	9009	10089	11212	12091	12793	13568
Subsidies	583	555	729	558	523	592	629	662	702	729
National Debt Interest	1905	1822	1979	1964	2129	2194	2182	2168	2117	2050
Other Transfer Payments	2938	3233	3359	3451	3375	3502	3675	3909	4118	4315
Foreign	45	48	54	51	55	57	60	62	64	66
Residents	2893	3185	3305	3400	3320	3444	3615	3847	4055	4249
Public Consumption	3233	3438	3560	3550	3670	3894	4186	4453	4687	4919
Total Current Expenditure	8658	9049	9627	9523	9697	10182	10672	11192	11624	12012
Public Auth. Savings (Net)	-1463	-1432	-1449	-422	-688	-93	541	899	1169	1556
(As % Of GNP)	-9.3	-8.6	-8.1	-2.3	-3.4	-0.4	2.2	3.3	4.0	5.0
Capital Receipts	411	328	373	452	508	651	729	796	862	886
Capital Expenditure	1282	1262	1292	1149	1175	1386	1503	1583	1691	1749
Borr. For Capital Purposes	-871	-934	-920	-697	-667	-734	-775	-787	-829	-864
Total Borrowing	2333	2366	2369	1119	1355	828	234	-113	-339	-692
(As % of GNP)	14.9	14.3	13.3	6.0	6.7	3.7	0.9	-0.4	-1.2	-2.2

TABLE A.6: Balance of Payments

	1986	*1987*	*1988*	*1989*	*1990*	*1991*	*1992*	*1993*	*1994*
Goods:									
Exports	9181	10447	12081	13732	15576	17325	19121	21076	23077
Imports	8746	9137	10038	11454	13221	14750	16152	17775	19077
Balance	435	1310	2043	2278	2355	2575	2969	3301	3999
Services:									
Exports	1166	1337	1429	1551	1722	1889	2063	2239	2411
Imports	1113	1324	1513	1707	1940	2205	2479	2774	3065
Balance	53	13	-84	-156	-218	-315	-416	-535	-654
Balance Of Trade	488	1323	1959	2122	2137	2260	2552	2766	3345
As % Of GNP	2.9	7.4	10.5	10.5	9.4	9.0	9.4	9.4	10.7
International Transfers:									
EC Subsidies	918	796	868	900	932	962	990	1029	1059
EC Taxes(-)	284	328	301	320	330	339	347	355	363
EC Capital	30	-12	20	80	206	265	316	367	378
Government Payments(-)	48	54	51	55	57	60	62	64	66
Government Receipts	82	130	113	98	206	239	265	271	279
Private Transfers	259	354	309	345	355	365	374	382	391
Net International Transfers	957	886	958	1048	1312	1432	1535	1631	1679
Factor Income Flows:									
Nat.Debt Interest(-)	761	804	855	881	888	820	758	692	621
Profits etc. Outflow(-)	1320	1275	1690	2062	2413	2743	3080	3549	4020
Other Factor Income	124	133	255	388	442	480	510	542	571
Net Factor Income	-1957	-1946	-2290	-2555	-2859	-3083	-3328	-3699	-4070
Current Account Balance	-512	263	627	615	590	609	760	699	954
As % Of GNP	-3.1	1.5	3.4	3.0	2.6	2.4	2.8	2.4	3.1

TABLE A.7: Financing of Government Debt (£ Million)

	1987	*1988*	*1989*	*1990*	*1991*	*1992*	*1993*	*1994*
Public Authorities' Total Borrowing Requirment	2369	1119	1355	828	234	-113	-339	-692
As % Of GNP	13.3	6.0	6.7	3.7	0.9	-0.4	-1.2	-2.2
Public Authorities' Borrowing For Current Purposes	1449	422	688	93	-541	-899	-1169	-1556
As % Of GNP	8.1	2.3	3.4	0.4	-2.2	-3.3	-4.0	-5.0
Exchequer Borrowing Requirement	1786	619	812	293	-294	-634	-852	-1199
As % Of GNP	10.0	3.3	4.0	1.3	-1.2	-2.3	-2.9	-3.9
Current Budget Deficit	1180	317	574	-12	-639	-992	-1252	-1634
As % Of GNP	6.6	1.7	2.8	-0.1	-2.6	-3.7	-4.3	-5.2
Change In Government Securities Held By:	325	-200	-152	149	119	79	75	37
Commercial Banks	45	-365	0	0	0	0	0	0
The Central Bank	1052	-669	964	645	333	208	42	-37
Non-Bank Private Sector Domestically	1421	-1234	812	793	451	287	118	0
Change In Small Savings	247	339	308	206	106	67	14	-12
Other Borrowing From The Central Bank	-421	372	0	-24	-23	-21	-22	-20
Change In Total Domestic Debt	1247	-523	1120	976	535	333	109	-31
Change In Foreign Debt (Including Valuation Changes):								
Government Securities	624	858	0	0	0	0	0	0
Foreign Currency Loans	-64	-125	175	-316	-373	-441	-443	-656
Total	561	733	175	-316	-373	-441	-443	-656
Total Change In National Debt	1808	210	1296	660	162	-108	-334	-688
Of Which Denominated In Ir£	1872	335	1120	976	535	333	109	-31
Foreign Borrowing:								
In Foreign Currencies	405	-443	-66	-148	-301	-446	-448	-661
Via Securities	460	900	0	0	0	0	0	0
Foreign Borrowing - Total	865	457	-66	-148	-301	-446	-448	-661

TABLE A.8: National Debt (£ Million)

	1986	*1987*	*1988*	*1989*	*1990*	*1991*	*1992*	*1993*	*1994*
Government Securities Held By:									
Commerial Banks	2676	3000	2800	2648	2797	2915	2994	3069	3106
Central Bank	321	365	0	0	0	0	0	0	0
Private Non-Bank	7159	8211	7542	8506	9151	9483	9692	9734	9697
Total Domestic	10155	11576	10342	11154	11947	12399	12686	12803	12803
Government Securities:									
Foreigners	1176	1800	2658	2658	2658	2658	2658	2658	2658
Total	11331	13376	13000	13812	14605	15057	15344	15461	15461
Other Borrowing From Central Bank	-151	-572	-200	-200	-224	-247	-267	-290	-309
Small Savings	2121	2368	2707	3015	3222	3328	3395	3409	3397
Total Debt Held Domestically	12125	13372	12849	13969	14945	15480	15814	15922	15891
Total Debt Denominated In Ir£	13300	15172	15507	16627	17603	18138	18472	18580	18549
Foreign Debt - In Foreign Currency	9754	9690	9565	9740	9424	9052	8610	8167	7511
Foreign Debt - Securities	1176	1800	2658	2658	2658	2658	2658	2658	2658
Total Foreign Debt	10929	11490	12223	12398	12082	11710	11268	10825	10169
Total National Debt	23054	24862	25072	26368	27027	27190	27082	26748	26060
Other Bank Borrowing	-42	-22	-22	-22	-24	-27	-29	-31	-33
Ratio To GNP:									
Total Debt	139.0	139.4	134.1	130.4	119.4	108.7	99.9	91.3	83.7
Domestically Held Debt	73.1	75.0	68.7	69.1	66.0	61.9	58.3	54.4	51.0
Foreign Held Debt	65.9	64.4	65.4	61.3	53.4	46.8	41.6	37.0	32.6
Ir£ Debt	80.2	85.1	83.0	82.2	77.7	72.5	68.2	63.5	59.5
Foreign Currency Debt	58.8	54.3	51.2	48.2	41.6	36.2	31.8	27.9	24.1

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