

THE REPUBLIC OF IRELAND
AFTER 2000: THE ICARUS
COMPLEX

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1. Introduction¹

When Lee wrote his history of Ireland less than a decade ago (Lee, 1989) one of the many interesting questions he addressed was why the Republic of Ireland was an economic failure. Now the question posed by outsiders looking in is why is it such a success. To those of us living through the experience there is a certain sense of bemusement at this rapid reversal of fortunes. However, it is now becoming clear that, whatever the causes, the economy of the Republic is undergoing something of a renaissance. In this paper I want to consider the possible reasons for this apparent change in fortunes. I will argue that it is not a flash in the pan but rather represents the fruits of a strategy that has been pursued for a number of decades with considerable consistency by successive Irish governments. The result may be no tiger but nor is it a tame pussycat.

In 1988 Lee was writing against the backdrop of an economy undergoing a severe recession and to some extent this may have coloured his writing. This highlights the danger for social scientists of being unduly influenced by current events and it is something we must keep in mind in looking at the future from the vantage point of to day. Even more than historians, economic forecasters have an inbuilt tendency to see tomorrow as being the same as to day. In our *Medium-Term Review*, first published in 1986, we have nearly always erred on the side of pessimism.² This has not stopped commentators viewing the ESRI as inveterate optimists. This pessimism highlights the poor self-image in the Republic that has persisted throughout much of the last decade influencing economists, historians and politicians alike. Even if the Republic were truly a tiger we would be the last to see it.

In this paper I first want to briefly discuss the record - what the data say and what they mean. I will then consider the demographic changes under way which underpin the transformation of not only the economy but also of society as a whole. In Section 4 I will discuss the underlying causes of the current prosperity. In the light of this analysis in Section 5 I will discuss the prospects for the economy over the next decade. Because of the importance of demographic changes already under way, which will continue to impact on the economy for many years to come, it is important to consider a longer time horizon than would be normal in such exercises. While many domestic commentators feel that, like Icarus, the current boom must come to a fiery end, I will argue that this view is too dependent on memory of the unpleasant experience of the 1980s. However, even if growth will continue at a rapid pace for some time to come this will bring its own strains, both social and economic. The final Section of this paper briefly discusses some of the policy implications of the coming of age process currently under way in the Republic.

2. The Record

In the early 1980s the true plight of the economy was to some extent masked by the presence of a "black hole" in the national accounts due to a serious under-estimation of profit repatriations by foreign multinationals. However, since the "black hole" was filled in in 1984³ the accounts have portrayed a somewhat more accurate picture of growth. Further revisions have occurred since then and the early introduction⁴ of the ESA95 based accounts in *National Income and Expenditure, 1995*, published last July, probably brings to an end this saga of misunderstanding. The most recent revisions include a new allowance for profits accruing to multinationals but not actually remitted, in addition to the standard treatment of actual repatriations. They also adjust GDP to take account of part of the profit repatriations (payment of royalties) leaving the remainder to be subtracted from GDP, as before, in arriving at GNP. The recent revisions in no way alter the long-standing practice of concentrating on GNP as the appropriate measure of economic growth but they do provide the promise that further accounting surprises from the multinationals are unlikely to significantly affect the overall picture.

The new ESA95 accounts in fact clearly underestimate the strength of the balance of payments as they exclude the bulk of the EU Regional Fund payments from the new measure of the current account balance. The

¹ This paper was presented at a conference on "The Two Economies - North and South" organised by the Northern Ireland Department of Finance in Belfast, 28-2-1997

² In only one of the five *Reviews* published since 1986 was the 5 year forecast for growth in GNP overestimated.

³ The first results of a major review of the accounts were published in a release by the CSO *Revisions to the Balance of Payments and the National Accounts in May 1984*.

⁴ They are not due to be introduced in the EU until the end of the decade.

accounts as currently constituted are audited by EUROSTAT as they, like the accounts of all other EU members, provide the basis for levying each country's EU budgetary contribution. This provides a further guarantee that the data as published represent a reasonably realistic picture of what has been happening in the domestic economy in recent years. As a result, the rapid growth shown by the accounts for recent years is no mirage.⁵

Figure 1 shows the growth rate for GNP for each of the 5 year periods from 1960 to 1990. With the exception of the first half of the 1980s the Figure shows relatively little deviation from an apparent trend growth of 4% a year. For the more recent period 1990-95 the growth rate picks up to 4.6% and, as shown in Figure 2, the economy is currently growing at a rate well above its past trend.

Figure 1

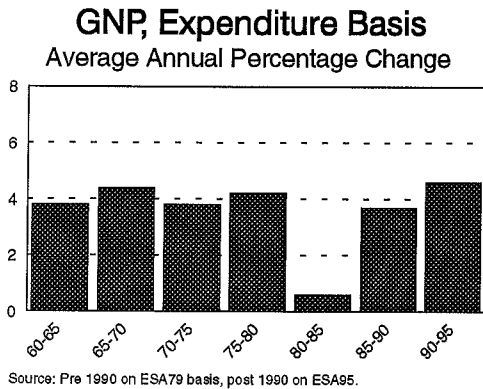
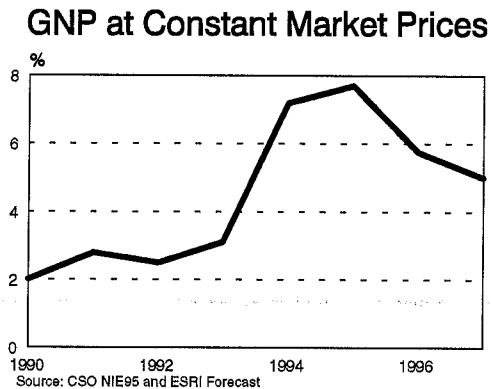


Figure 2



Probably more remarkable than the apparent pick up in the trend growth rate is the experience on employment growth. By contrast with a dismal performance in the 1980s, employment has grown and is growing at an unprecedented rate (Figure 3). The bulk of this employment growth is occurring in the private sector. However, as discussed later, there has been a somewhat smaller reduction in unemployment (Figure 4) reflecting a rapid rise in the labour force.

Figure 3

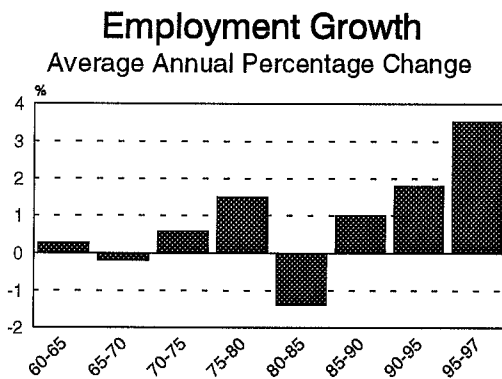


Figure 4



⁵However, caution should still be exercised in making cross-country comparisons with the existing published EUROSTAT data. In the case of the Irish data the early introduction of the ESA95 basis has been encouraged by the knowledge that it reduces the figures for GDP (strengthening any case for remaining an Objective 1 region). In addition, the latest Irish figures include a new treatment of imputed rent which may not have been implemented for other countries, such as the UK.

3. Demographic Change

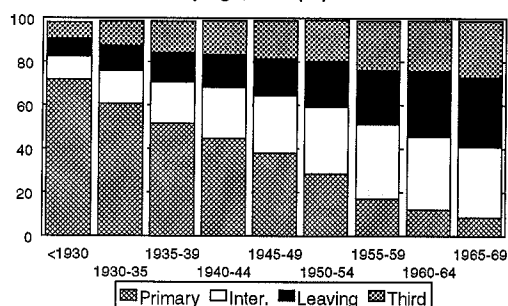
The Educational Revolution

In the immediate post-war years all of Northern Europe, with the exception of the Republic of Ireland, made major changes in their educational systems. In Northern Ireland, as in the rest of the UK, there was a substantial programme of investment undertaken, upgrading the educational system and greatly increasing participation in both second and third level. In the Republic, by contrast, the immediate post-war years saw no recognition of the need for change in this area. It took approximately 20 years before the policy of educational neglect was reversed.

Figure 5

Educational Attainment, Males

1994, by age, % of population

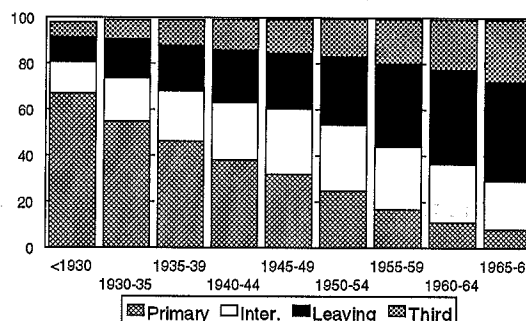


Source: Labour Force Survey

Figure 6

Educational Attainment, Females

by year of birth, % of total living in Ireland

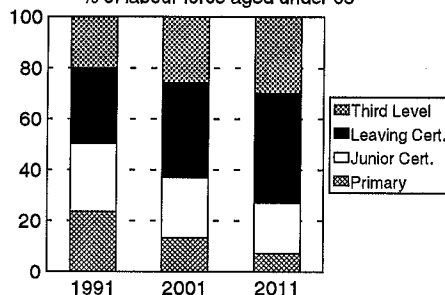


Source: Labour Force Survey, 1994

Figure 7

Educational Attainment of Labour Force

% of labour force aged under 65



Source: Labour Force Surveys and ESRI Forecast

Following on the publication of *Investment in Education*⁶ in 1966 free second level education was introduced in 1967. This development signalled the start of a strategy of investing in education which has been pursued with consistency by successive governments ever since that date. Even in the 1980s, when many other sectors suffered severe cut-backs, the education system survived reasonably intact. In fact the rise in participation rates since 1980 has been even greater than that which occurred under the first 15 years of the “free education” policy.

This change in policy has had a profound effect on the Irish economy and society and its full impact is far from complete with participation rates continuing to rise rapidly in recent years. The impact on the labour market has been complex but profound and this factor is vital in explaining the current rapid growth in employment. The fruits of a consistent policy of investment are only becoming clear in the 1990s. This issue is discussed in the next section.

⁶This study was undertaken with the help of the OECD. It was commissioned in 1962 and published in 1966. Among its authors were Professor P. Lynch of UCD and Professor M. O’Donoghue of TCD.

This long-tailed impact of the change in educational policy is not surprising. Many of the other countries of Northern Europe, which invested heavily in education in the immediate post-war years, saw rapid rates of growth up to and including the 1970s. Ireland began 20 years late and is seeing the benefits of the investment 20 years after its Northern European counterparts.

The effects of the change in participation on the educational attainment of the population are shown in Figure 5. For those borne 65 years ago, who are now reaching retirement age, approximately two thirds of the cohort left school with only primary education. On average women have been slightly better educated than men in the Republic throughout the last two generations but, as can be seen from Figures 5 and 6, the gap has been relatively small.

For those borne in the late 1960s, aged 25 to 30 in 1994, early school leavers were down to only 10% of the cohort with around 60% having at least a leaving cert.⁷ and around a quarter having some form of third level education. This increase in participation rates has continued apace with around 80% of the 1995 school-leaving cohort having a leaving cert. and approximately 50% continuing on to some form of third level education.

In forecasting future trends in educational attainment it is assumed that there is a small additional increase in participation at third level with a small reduction in numbers with only a junior cert. It is also assumed that the proportion leaving with no qualifications remains constant at its current low level. The resulting forecasts to the year 2011 are shown in Figure 7. (The assumptions on migration, which also affect the picture, are discussed later.) This Figure illustrates how, even after a number of decades of investment in education, the impact of the continuing change in the level of human capital will affect the economy and society for some considerable time.

Marriage

The changing educational profile of the population casts a wide shadow over social and economic behaviour. In the past, the proportion of women who were married was affected by the level of education which they had attained. (This also holds true for males.) Women with third level education were less likely to be married than other women and they also tended to marry at a later age (Figure 8). The changing educational profile of the young population is thus one of the factors which has resulted in a decline in the marriage rate but it is much less important than other factors affecting attitudes to marriage among the generation now aged between 20 and 40. As a result of these factors, in spite of a rapid increase in the number of men and women in the "marriageable" age groups, the marriage rate has continued to fall (Figure 9).

Figure 8

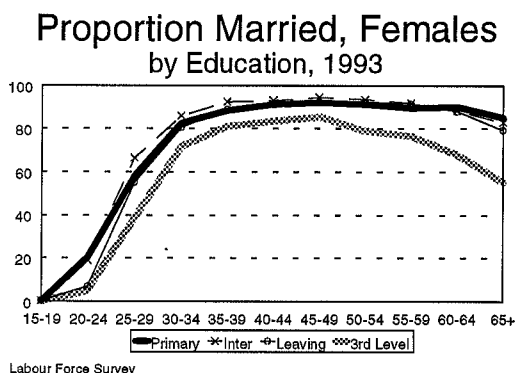
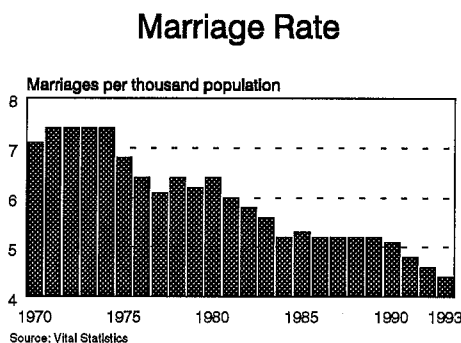


Figure 9



Fertility

The birth rate in Ireland in the period up to 1980 was well above the norm for most of Western Europe. Since then it has fallen fairly steadily (Figure 10). Even after 15 years of decline it is still above the rates common in other Western European countries. However, as shown in Figure 11, completed family size, (proxied by the Total Fertility Rate - TFR) is now close to that in the UK. This paradox of a high birth rate coinciding with

⁷Broadly equivalent to the Scottish "Highers".

relatively low fertility is explained by the fact that a relatively high proportion of the female population is "at risk" (in the age group which potentially has babies). Figure 11 shows the implications of the continuing decline in fertility for Ireland in 2006. As can be seen from these data, on present trends Ireland is heading for a relatively low fertility rate, closer to that in Southern Europe than to the higher Scandinavian norm. This would be lower than the expected fertility rate for Northern Ireland (Compton, 1995).

Figure 10

Birth Rate

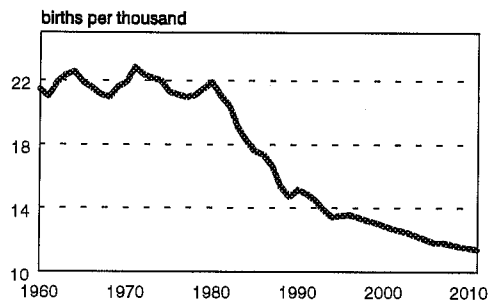
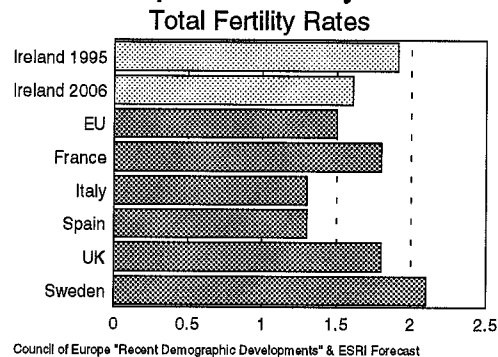


Figure 11

Completed Family Size



The future path of the fertility rate still remains very uncertain. The increasing prosperity and opportunities for skilled work will probably tend to reduce it further. What is particularly interesting is the fact that for women aged 25 to 34 the labour force participation decision is now little affected by marriage. It is the decision to have children, whether the parents are married or not, which is associated with a change in participation.⁸ Marriage is proving to be a diminishing factor in explaining fertility in Ireland with one third of all first pregnancies occurring to single mothers. Unravelling the precise relationship between the decision to have children and the decision on labour force participation is not something this paper can attempt. It is possible that the recent rapid fall in the birth rate may only represent a decision to postpone having children and that the forecast for fertility, shown here, could prove low.

Migration

In the past the single most important factor rendering demographic projections for Ireland obsolete has been errors in forecasting migration. While a model which explains the Irish unemployment rate as a function of the UK unemployment rate (the Irish rate being 4% above the UK rate in equilibrium, Honohan, 1992), worked in the past it may not hold good in the changed circumstances of the next decade.

Set out below in Figures 12 and 13 is an analysis of net emigration classified by the educational attainment of the migrants. These figures are, perforce, estimates based on some interpolation of past Census data. They show a fairly similar pattern in the late 1980s to the late 1960s in terms of the proportion of the cohort of 15 to 29 year olds emigrating. However, the second half of the 1980s saw a big change in the educational attainment of the emigrants. Around a third of the emigrants had a third level education in the late 1980s compared to under 20% in the 1960s and in the late 1980s there was very little emigration by people with only a primary education whereas they accounted for the bulk of emigrants in the 1960s. This latter change reflects the fact that the Irish welfare system was more generous than that of the UK by the late 1980s.

Looking to the future there must be some doubt about the stability of the relationship which held in the past where the Irish unemployment rate was about 4 percentage points above the UK rate in equilibrium. Figure 14 compares Irish and UK unemployment rates for 1994 by educational attainment. It shows that for those with at least a leaving cert. (or its equivalent) the gap in unemployment rates in 1994 was less than 4 percentage points and unemployment rates were lower in Ireland for graduates. With the proportion of the population who have reached at least leaving cert. standard of education continuing to rise, the result may be a reduction in the potential gap between unemployment rates in Ireland and the UK.

⁸See Walsh, B. M., 1993. "Labour Force Participation and the Growth of Women's Employment, Ireland 1971-1991", *The Economic and Social Review*, Volume 24 No. 4.

Figure 12

Proportion of Cohort Emigrating

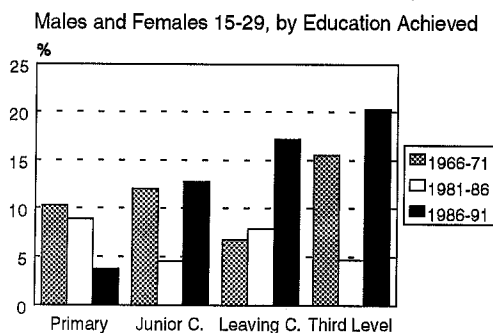
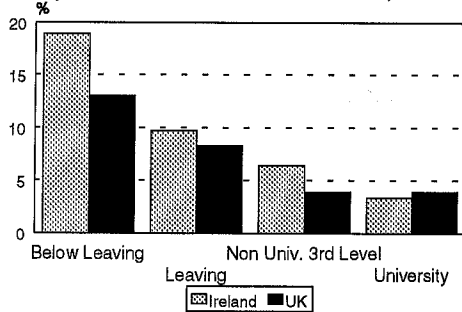


Figure 14

Comparative Unemployment Rates by Educational Attainment - Ireland v UK, 1994



Source: OECD Education at a Glance, 1996

Figure 13

Education of Emigrants

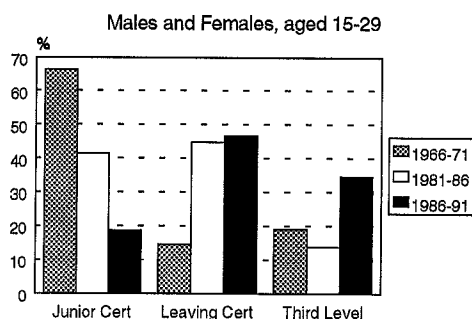
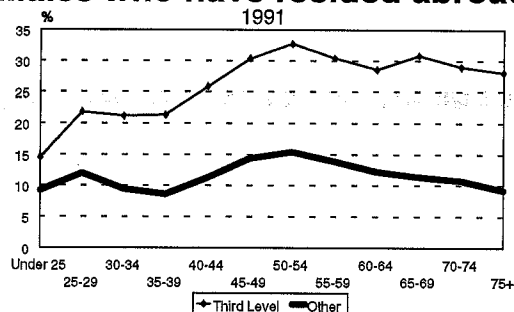


Figure 15

Males who have resided abroad



Source: CSO Census of Population

While those with a good education are more likely to emigrate than those with only a primary education, they are also more likely to come back. As shown in Figure 15, in 1991 over a quarter of all those in the country (males and females) with a third level education had lived abroad for at least a year. For all other educational categories the proportion was 10 or 15%. While the latter figure is exceptionally high by the standards of other EU countries, it still suggests a much lower return rate than for those with third level education. This has important implications in terms of calculating the return on investment in education. It means that even in the face of continuing substantial gross outflows, the fact that individuals return with additional experience from working abroad may actually enhance the return from education. As discussed later, the experience of work in a different culture also has a wider impact on society.

Over the period 1991-96 there was a return to small net immigration reflecting the boom in the domestic labour market. For the future, as discussed later, it seems likely that there will not be a return to net emigration. There is even the possibility that there could be significant net immigration, including immigration non-Irish citizens. Even with zero net migration there are still likely to be considerable gross flows in and out of Ireland in the future as in the past. It is assumed that there continues to be a continued immigration of children (with their parents) over the period. These would be families formed abroad by former emigrants in an earlier period. While this has been an important feature of Irish migration experience in the past, it could prove different in the next decade as the stock of former emigrants, still resident abroad, falls.

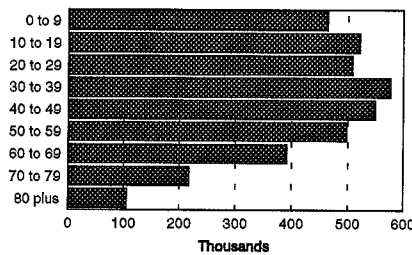
Population

The assumptions set out above provide the backdrop to our forecast which sees the population rising to 3.835 million in 2011 if there is no net migration over the intervening period. While this is within the range foreseen in the CSO's projections, published 2 years ago, the structure of the forecast population is rather different. The biggest single difference between these figures and the CSO forecast arises from the changed assumptions on migration. The CSO figures assumed a lower bound for net emigration of 7,500 out to 2006 where we are assuming zero net migration over the period. On this basis Figure 16 shows how the population structure will

look in 2011. The assumption concerning immigration by children explains the fact that, even with a substantial fall in fertility and a reduction in the number of births, the numbers of children in Ireland may not show as rapid a decline in the future as they have over the last decade.

Figure 16

Population Structure, 2011



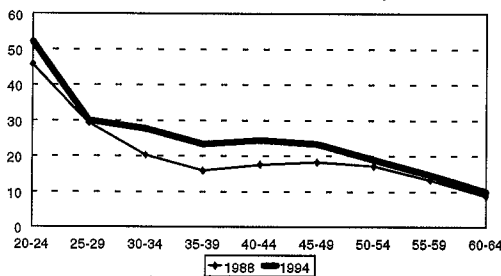
Labour Force Participation

A crucial factor in the growth in the labour force in the last decade has been the increased participation of women. Participation by women in the labour force was very low by European standards in 1980. Even today it is well below the EU norm. The pattern of participation by women is strongly affected in the long run by their educational attainment. It is also affected by changing circumstances in the labour market (Walsh, 1992). For women with a minimal education their participation rate is still very low, reflecting the fact that the costs of working (in terms of child care) are high and the potential gains have been low (Figure 17). While there has been some rise in participation among this group in recent years it still remains very much below average. In addition, as with men, women with only a primary education are much more likely to be unemployed. In fact the proportion of women with a primary education in the younger age groups who are employed is not that different from that for men; women with only a primary education show a lower unemployment rate than men which cancels out their lower participation rate. In the younger age groups it seems likely that a significant number of these women have children and that this is affecting participation.

For those women with a third level education the participation rate was traditionally much higher reflecting much greater financial incentives (Figure 18). Between 1988 and 1994 participation rates rose particularly strongly for those with leaving certificates.

Figure 17

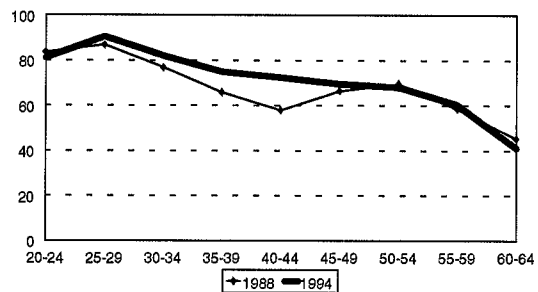
Female Labour Force Participation by completed education - Primary, %



Source: Labour Force Survey

Figure 18

Female Labour Force Participation by completed education - Third Level, %

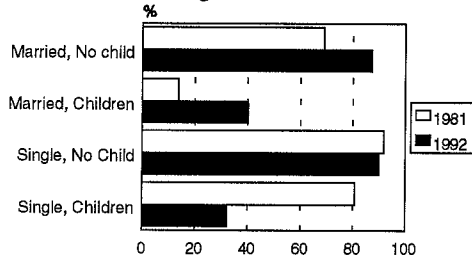


Source: Labour Force Survey

In the past a woman's marital status played an important role in determining whether she remained in the labour force. However, this no longer appears to be the dominant factor for women under 40. Figure 19 shows that whether or not a woman has a child is a much more important factor than marriage in determining participation. Where women have children there is a higher participation rate for married than for single mothers.

Figure 19

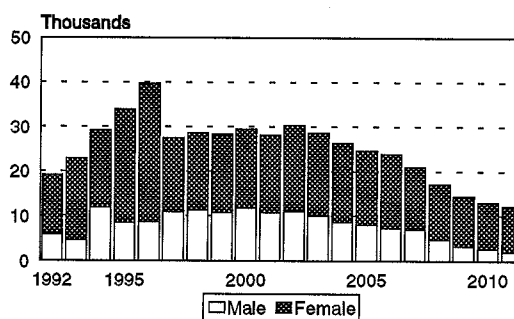
Women's Labour Force Participation Aged 25-34



Source: Census 1981 and Labour Force Survey, 1992.

Figure 20

Change in Labour Force



The rapid rise in participation in education has had the effect of greatly reducing participation rates for men and women under 25. However, the rising educational attainment of successive cohorts of young men and women entering the labour force will tend to boost participation in older age groups. We do not have sufficient information on fertility cross-classified by educational attainment to allow us to use it as a basis for forecasting. Instead we have based our forecasts for participation on the expected breakdown of the female population by level of education. The result of this analysis suggests that participation rates for women will continue to rise over the next decade. When taken together with the baby-boom bulge moving through the educational system, it means that labour supply will rise by more than 2% a year over the next decade (Figure 20).

4. Who Put the Tiger in the Tank?

I will not attempt to provide a comprehensive account of the recent economic history of the Republic. Instead I want to concentrate on 4 key areas where important changes in the structure of the economy have had, and are continuing to have a major impact on economic performance:

- Human Capital and the Labour Market
- The rate of dependency
- Openness and the EU
- Domestic Policy Reforms.

Human Capital and the Labour Market

Over the last 30 years the Irish labour market has been profoundly affected by a number of different policies pursued domestically which have altered the supply of labour: changes in the education system and changes in the social welfare system. These have had the effect of increasing the supply of skilled labour and gradually reducing the supply of unskilled labour.

Changes in the world economy have affected the demand for labour in Ireland. In 1960, with a high level of protection, the demand for unskilled labour in the economy was high. There was little competition from suppliers in the Far East who faced much lower labour costs. However, over the past 30 years labour costs have risen in Ireland at the same time as the Irish and the EU economy has opened up to world-wide competition resulting in a fall in demand for unskilled labour in Ireland. By contrast, the demand for skilled labour has risen world-wide. In Ireland the interaction of these different forces has determined the rates of return for different kinds of labour and the numbers employed.

In the 1950s, at a time when the UK had developed a sophisticated social welfare safety net, no such protection was available in Ireland. As a result, unskilled labour in Ireland faced a choice between emigration to the UK, generally to take up employment there, or employment at any price in Ireland. Figure 21 illustrates this position for unskilled labour (L). Initially the going wage rate in Ireland W_L^0 was above the rate of social welfare payments W_s^0 leaving unskilled employment at L^0 . The shape of the supply curve for unskilled labour was greatly influenced by the propensity of unskilled labour to emigrate to the UK. The evidence suggests that in equilibrium the Irish unemployment rate was 4 percentage points above the UK rate fixing labour supply at

L^* . Irish unemployment then settled at U^0 . However, over the period from 1960 to the early 1980s there were substantial improvements in the rates of social welfare payments (Figure 22). By the early 1980s the rate of social welfare payments W_s^1 effectively set a minimum wage pulling up the market wage rate W_L^1 so that the supply curve for unskilled labour became horizontal at the rate of social welfare payments. The result was a fall in employment to L^1 . In turn this tended to reduce the labour force as people emigrated to the UK keeping the unemployment rate 4 percentage points above the UK rate.

Thus the impact of improvements in the social welfare system was to reduce the supply of unskilled labour. The ultimate effect on numbers unemployed in the 1970s was probably small; the social welfare system in the UK was more attractive than that in Ireland and rates of pay for unskilled labour in the UK exceeded those in Ireland making emigration a feasible option. However, over the course of the 1980s, as the Irish social welfare system was improved, it became more attractive to be unemployed in Ireland than unemployed in the UK. In addition, there was a rapid rise in unemployment in the UK, especially among unskilled, which had a knock on effect in Ireland. Finally, the rates of pay for unskilled labour in Ireland approached, and in some cases exceeded, those in the UK. An example of this is the relative rates of pay for the textile sector in Ireland compared to the UK shown in Figure 23. As the textile sector has one of the highest percentages of unskilled labour of any manufacturing sector, the data in Figure 23 provide a reasonable proxy for relative movements in unskilled pay rates in the two economies.

Figure 21: Market for Unskilled Labour

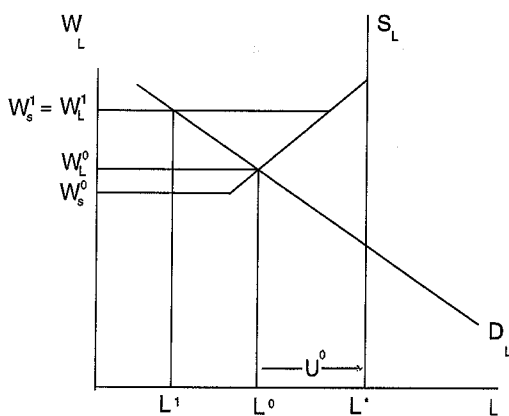


Figure 22: Estimated Replacement Rates

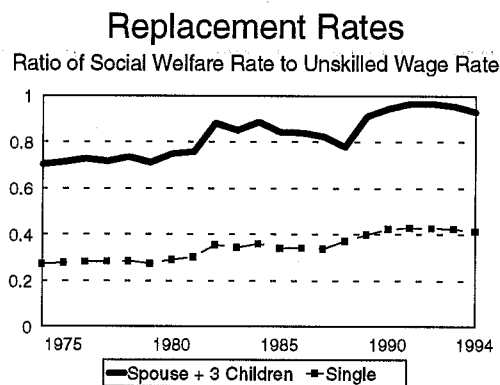


Figure 23



Simultaneously with these changes in the supply of unskilled labour there was a fall in demand. The opening up of the economy to competition meant that those companies operating in the tradable sector which depended on unskilled labour faced increasing competition. Corcoran, Hughes, and Sexton, 1993 document the effect of this on employment of unskilled labour. Since the early 1970s the absolute number of unskilled labourers has been cut by almost 50%, with smaller declines in other categories of unskilled labour.

The impact of the investment in education was also to reduce the supply of unskilled labour. Figures 24 and 25 illustrate the impact of increased educational investment. In the market for skilled labour (Figure 24) potential supply was increased by educating a proportion of the supply of unskilled labour, $H^a - H^b$. This shifted the intercept of the supply curve for skilled labour outwards. However, faced with a downward sloping demand

curve, employment of skilled labour increased from H^0 to H' leaving $H^b - H^0$ of the newly educated labour supply without skilled jobs. It is assumed that they then get first choice of unskilled jobs (if they do not emigrate). The result is $H+$ more skilled people employed.

Figure 24: Market for Skilled Labour

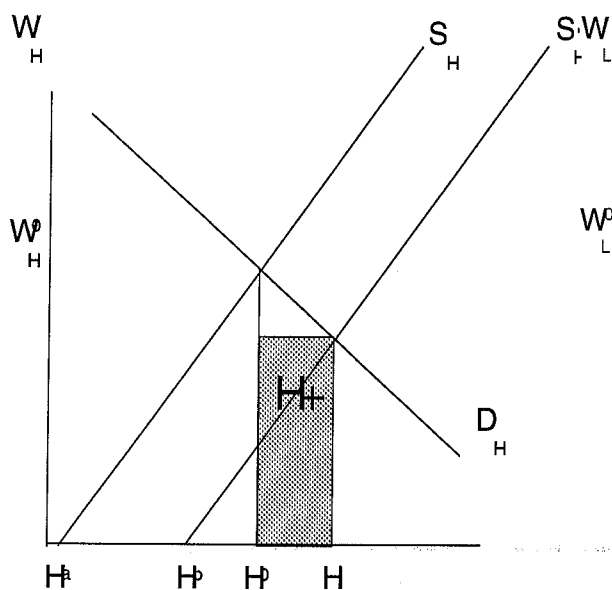
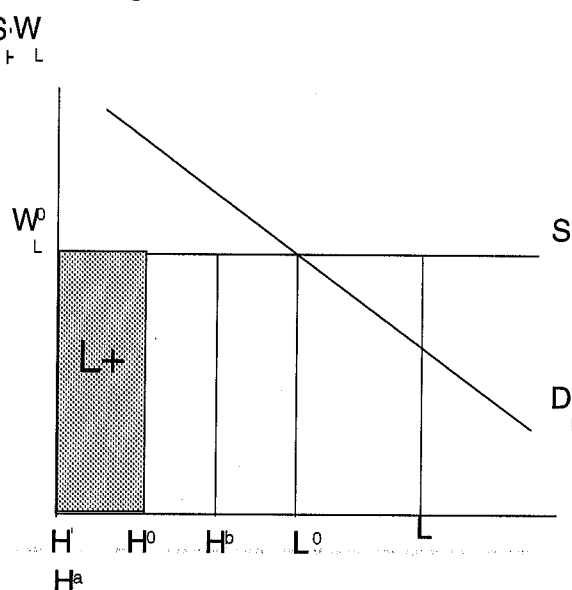


Figure 25: Market for Unskilled Labour



In the market for unskilled labour the wage rate is, by assumption, set by the prevailing rate of social welfare so that the supply curve is horizontal over a considerable range. Total potential supply of unskilled labour before investment in education is L . While $H^a - H^b$ unskilled labour was educated to become skilled labour not all of them found skilled employment. The reduction in the supply of labour on the unskilled market is H^0 to H' with $H^b - H^0$ skilled workers competing on the unskilled market. The result is a reduction in total supply on that market of $L+$ and a corresponding reduction in unemployment. All of this assumes zero emigration. This picture, while greatly oversimplified, characterises the situation on the domestic labour market in the late 1980s.

The implications of this analysis are that when faced with a fixed downward sloping demand for skilled labour any increase in supply will not be fully matched by an increase in employment. However, unless the supply of skilled labour is infinitely elastic there will be some increase in total employment in the economy. While the majority of the skilled workers will find employment in positions which require their skills, there will also be some increase in the number of skilled workers in jobs which do not require their full talents. In the case of skilled labour, an increase in supply will tend to reduce wage rates (provided that the supply curve is not infinitely elastic). However, the corresponding reduction in supply of unskilled labour need not affect the going wage rate if the social welfare rates already set a floor to wages in that market. In assessing the full impact of the investment in education it is necessary to take account of not only the change in employment, but also of the resulting change in wage rates.

The increase in the supply of skilled labour in Ireland over the last 30 years has been documented in the previous Section. The fact that the vast bulk of new labour force entrants now have at least a leaving certificate, compared to the 1960s when only a minority did so, indicates that there have been major changes in the shape of the supply curves for both kinds of labour. However, the ultimate impact of this major investment in human capital also depends on the demand for both kinds of labour.

If the demand curves for the two kinds of labour had remained unchanged over time, the wages of skilled employees relative to unskilled would have fallen. This fall would have been particularly acute if many of the skilled were unable to find skilled employment and were forced to work in unskilled jobs. Figure 26 shows the average earnings of those employed in 1987 and 1994 classified by their level of education (Callan, 1993 and Callan and Wrenn, 1994).⁹ These data suggest that there was little change in the differential over that seven-

⁹ These data are the average earnings of those with the different education levels. It is possible that changes in other variables, such as the average experience of the labour force, could have distorted the results. A full analysis such as that carried out by Callan, 1993, for the 1987 data is required for the 1994 sample before we

year period. Given the very substantial increase in supply of skilled labour over the same period this would indicate that the demand curve for skilled labour must also have shifted outwards, offsetting any tendency for the increase in supply to reduce the return to the investment.

Figure 26: Average Earnings by Level of Education

Returns to Education - Male

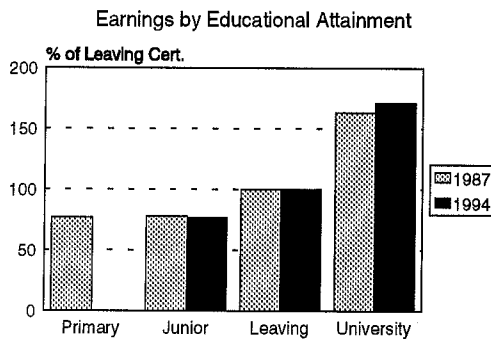


Figure 27: Index of Human Capital

Returns to Education - Female

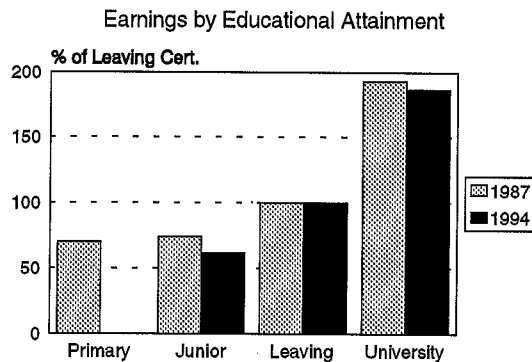
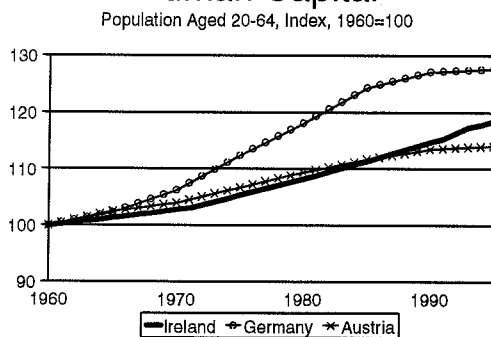
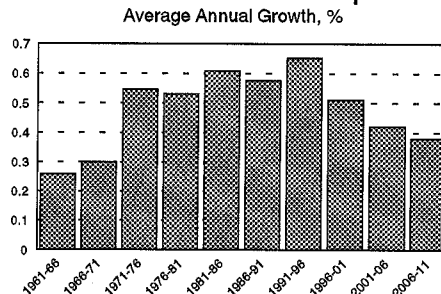


Figure 28: Growth in Human Capital

Human Capital



Growth In Human Capital



Unfortunately we do not have data on average earnings by level of education for the 1970s which would allow us to understand the impact of investment in human capital over the longer time period. The results in Callan, 1993, do indicate that the returns to education for older workers in 1987 were higher than for younger workers. This would be consistent with some fall in the returns to education as the supply of skilled labour was increased after 1970, though it is also open to other explanations. In any event, on the basis of this evidence it seems most unlikely that the returns to education rose over the period 1970 to 1987.

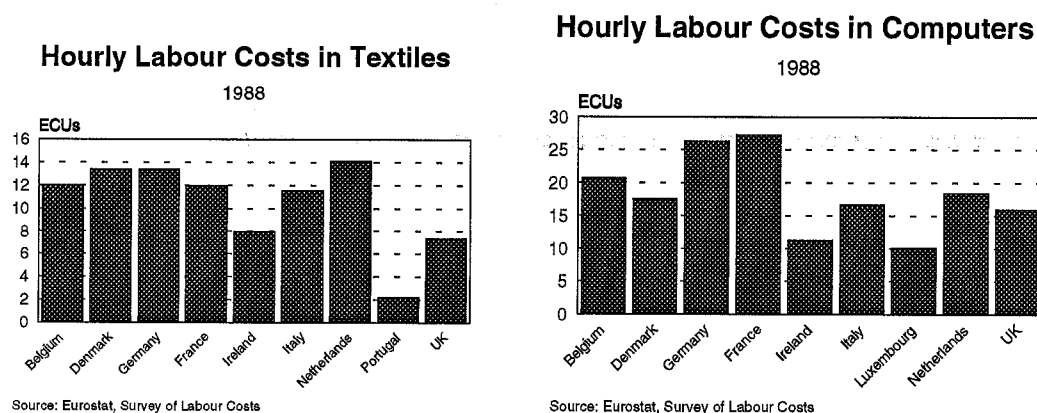
Under certain assumptions¹⁰ the results from Callan, 1993, and Callan and Wrenn, 1994, can be used to form a composite index of the supply of human capital in the Irish economy. These studies estimated a series of equations where average earnings were regressed on educational attainment and other explanatory variables. The coefficients on the different levels of educational attainment in the equations can then be used as weights to aggregate the different types of labour to form a composite human capital index. To the extent that the returns to education fell between 1970 and 1987 the index will tend to overestimate the impact of human capital on the economy over that period. However, for the 1987-94 period the apparent stability of the returns to education suggest that the index may provide a reasonably reliable guide to the impact of investment in human capital.

can be sure that the rates of return to education did not change over the period.

¹⁰ Among other things, it is assumed the weak homothetic separability of labour from other factors of production holds (Pindyck, 1979). It also assumes perfect competition in the labour market so that the wage rates of the different types of labour are equal to their marginal products.

Figure 27 shows this index of human capital for the adult population. For the purpose of comparison indices of human capital for Austria and Germany are also shown. These latter indices are constructed on a slightly different basis¹¹ in Koman and Marin, 1997, but the results are likely to be broadly comparable to our own index. They tend to confirm the assertion made earlier that the benefits from investment in human capital are occurring later in Ireland than in other Northern European EU members. Figure 28 shows the rate of growth in the index for Ireland. The movement in the index of human capital reflects the fact that as each person retires, generally with only a primary education, they are replaced by a person with a good leaving certificate or a third level education. As a result of this switch, output will rise, as reflected in the increase in average earnings. The growth in the index reaches a peak in the first half of the 1990s suggesting that investment in human capital was contributing over 0.6 percentage points a year to the growth in that period. While the rate of growth in the index is falling over time, as the average educational attainment of the labour force rises, the index will still be rising at around a third of a percentage point a year at the end of the next decade. It would suggest that currently around 0.5 percentage points of the growth rate may be attributable to the rising educational attainment of the labour force. However, the full implications of this rise in human capital can only be assessed within the context of a wider model of the economy.

Figure 29: Relative Labour Costs



As discussed earlier, in the past there was significant emigration of skilled labour, especially in the late 1980s. Why is the rise in skilled labour supply now translating into increased employment rather than emigration? The answer probably lies on both the supply side and the demand side. The relative rates of return to employment for skilled labour in the Irish and foreign labour markets must have changed so as to make it attractive to remain in Ireland. It is also affected by the extent of mobile investment of a type which requires a substantial supply of skilled labour. Figure 29 shows labour cost per hour for the clothing sector and for computers for a range of EU countries.¹² These data suggest that labour costs in Ireland in the computer sector are lower than in most other EU countries, including the UK. By contrast, costs in the clothing sector are way above those in Portugal and also above the UK. These data would suggest that skilled labour is relatively cheap in Ireland and that this is a factor in attracting major investment in the high technology sector to Ireland.

Over the last five years the supply of new entrants to the unskilled labour market has been greatly reduced by the increased participation in education. While firms employing unskilled labour in the tradable sector have continued to experience pressures from manufacturers outside the EU, the demand for unskilled labour in certain parts of the services sector (retailing and catering) has risen rapidly in the face of the rapid growth in domestic demand. Anecdotal evidence suggest that the going rate for unskilled labour in the services sector has risen from £2.50 an hour to £3.50 an hour over the last two or 3 years. While still not attractive to those eligible for social welfare¹³, these rates are continuing to rise and may impact on the numbers of unemployed in the future. Alternatively, the rates may prove attractive to unskilled labour from outside the country

¹¹ Instead of weighting by the average earnings of each category of labour the weights are the total wages of the different categories.

¹² These data include all the costs to employers, including social insurance contributions.

¹³ Much of the supply of labour at these rates has come from women or students working part-time who may not be eligible for social welfare payments.

resulting in immigration of people to fill vacancies.

In addition to the rise in the average level of human capital of the population and of the labour force, the past high birth rate and the rise in female participation in the labour force have meant that the potential numbers in the labour force have risen rapidly in recent years. In the past such a rise in numbers has not necessarily translated into increased employment. For those who could not find employment in Ireland they chose to emigrate if their education was sufficiently good to guarantee them a job elsewhere. However, in the last 5 years the increase in supply of labour, predominantly skilled, has found ready employment in Ireland. Over the 1990s the labour force will rise on average by around 2% a year. Around 1 percentage point a year of this rise is due to increased female participation and 1 percentage point a year to the natural increase in the population.

When the increase in labour supply is added to the growth in human capital it would suggest a rise over the decade in the effective supply of labour of 2.5% a year. This contrasts with the situation in many other EU members where the labour force is growing quite slowly and where the major benefits of the post-war investment in human capital have already been reaped. This factor alone provides an important part of the explanation as to why the Irish economy is growing more rapidly than those of most other EU members.

Changing Dependency

The economic dependency ratio (the population which is not in employment divided by the numbers employed) reached a peak in the mid 1980s and this put a major burden on the working population (Figure 30). The rise in dependency due to purely demographic factors was aggravated in the 1980s by the rise in unemployment. This put a major burden on the public finances which simultaneously had to meet the needs of a rapidly expanding child population and also a rapidly expanding number of unemployed. Within individual households the family resources of a limited number of earners had to be spread over an unusually large number of dependants, especially of children. While output continued to rise, especially in the second half of the decade, the benefits had to be shared over an increasing number of non-workers.

Since the late 1980s the situation has reversed and now the dependency rate is falling both because of the changing demographic structure and the fall in unemployment. This decline in dependency is reducing the pressure on many publicly provided goods and services, and it is rapidly increasing the tax base. Within households individuals in employment have fewer dependants relying on their support and they have a greater proportion of their income available to spend on their own needs.

Figure 30: Dependency Ratio

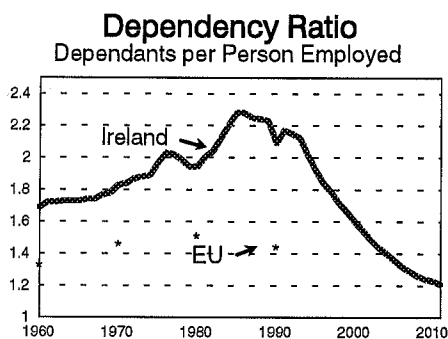
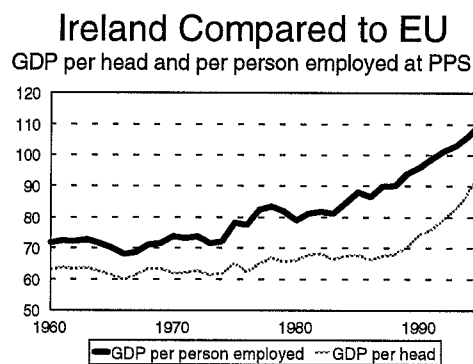


Figure 31: Output per head v per worker



The rise in the dependency ratio was quite unlike anything experienced by other EU countries and the fall in the ratio, which is currently under way will also be unusually precipitate. The effect of this factor on Irish standards of living is illustrated in Figure 31. This shows that measured in terms of GDP per person employed there has been a fairly steady upward trend since joining the EU in 1973. However, measured per head of the population little progress was made in the first 15 years of membership and it is only really since 1990 that very rapid progress has become apparent. The forecast fall in the dependency ratio over the next 15 years means that the rapidly rising numbers at work will have steadily diminishing financial responsibilities either within their own homes or in the wider community (through the tax system).

Openness and the EU

Ireland of the 1950s was not only a very closed economy but it was also a very inward looking, even claustrophobic, society. This atmosphere seems to have proved stultifying for writers, artists and business alike. The advent of free trade from the beginning of the 1960s was only one, and probably not the most important, aspect of the opening up of the country to outside influences and ideas. The advent of television played an important role in opening up Irish society to new ideas. From the 1950s onwards the ready access to BBC television on the east coast helped keep people in touch with the rapidly changing post-war world.¹⁴ It also helped raise expectations in terms of living standards and the level of provision of public services.

The emigration of so many of the young population in the 1950s was different from the emigrations of earlier generations in that the emigrants maintained contact with Irish society while feeling increasingly alienated from what they saw. (Brendan Behan, among others, does not paint a happy picture of the Ireland of the 1950s). They returned frequently to Ireland and they contributed to the work of the media in opening up a vision of an outside world where much was happening which was new and different. News of the developing UK welfare state did not take long to arrive!

When the first fruits of the economic changes taking place began to be felt in the 1970s many of the emigrants returned bringing new ideas, experience and, in some cases, capital to help stimulate new activity. I have already illustrated the extent to which emigrants have returned in the past. The fact that those with third level qualifications were more likely to return than others was particularly important given the shortage of skills in the economy in 1970.

The opening up of the Irish economy to the outside world with the reduction in tariff barriers from 1960 onwards was thus part of a wider process of change. This change was cemented by membership of the EEC in 1973. However, the adjustment to the changing circumstances had costs as well as benefits. The costs were seen in the closure of many businesses as the economy adjusted. This process of adjustment continued into the 1980s but it is now largely complete for the manufacturing sector and what problems remain affect the services sector. A corollary of this process of adjustment by existing industry was the introduction of new foreign owned businesses across a wide range of sectors, but especially in certain key areas of manufacturing industry. The new multinational industry came to Ireland because it offered access to the EEC market. Without such access Ireland would have been of little interest as a location for investment from the early 1970s onwards.

Membership of the EU was particularly important in the access it gave to the wider EU market for agricultural produce under the CAP. Even before membership in 1973 the impact of the impending CAP began changing Irish agriculture. While the CAP and the agricultural sector were crucial to the economy at the time of membership their significance has steadily fallen. Nonetheless the EU receipts as part of the CAP remain larger than all the receipts under the Structural Funds and the direction CAP reform will take in the next decade will still be a key issue for future Irish governments.

In the long run more important than any other economic feature of EU membership is the access to the single market. The single market reforms were expected to bring significantly greater benefits to Ireland than was the related increase in Structural Funds (Bradley *et al.*, 1992). The extent of the integration of the Irish economy into the wider EU economy means that Ireland's economic interests are now inextricably tied up with those of our EU neighbours. For example, Ireland paid part of the costs of German unification in the early 1990s as high interest rates cost up to 30,000 jobs (Bradley, Fitz Gerald and McCoy, 1991) but this was a small price to pay in terms of the wider benefits of EU membership.

In recent years the EU Structural Fund process has caught the public imagination (outside Ireland as much as in it) as a manifestation of the effects of EU membership. While Ireland benefited from receipts from the Social and Regional Funds from the mid 1970s the reforms introduced as part of the Single Market process resulted in a significant increase in receipts. These were further increased as part of the Maastricht treaty. Figure 32 shows how the receipts rose rapidly at the beginning of the 1990s. Since 1993 they have tended to fall and while they will continue significant out to 1999 they will not again attain their high level of 1992-93.

The growth in EU transfers from the Structural Funds from the late 1980s made a significant direct

¹⁴Unlike all other citizens of the former USSR, Estonians had access to Finnish television for a number of decades prior to independence. This appears to have had a significant cultural impact differentiating Estonia from other parts of the USSR (and other Baltic republics).

contribution to growth at an important time of economic change. On the demand side, as shown in Figure 33, the first CSF from 1989-93 had raised the level of GNP by 3.5% above where it would have been if there had been no CSF (ESRI, 1993). If the EU transfers had been cut off after 1993 Irish GNP would in the long run have been up to 1% above its base level due to the continuing supply effects of the CSF funded investment (e.g. in roads and education). Because of the decline in significance of the CSF transfers in recent years the demand side stimulus will actually have fallen. Far from the demand side impact contributing to growth, the growth rate in 1994-95 was actually reduced by the fall off in transfers. Of course the supply side benefits of the new capital stock (human and physical) which is continually being put in place, funded under the CSF, is building up the economy's productive potential.

Figure 32: Structural Fund Receipts

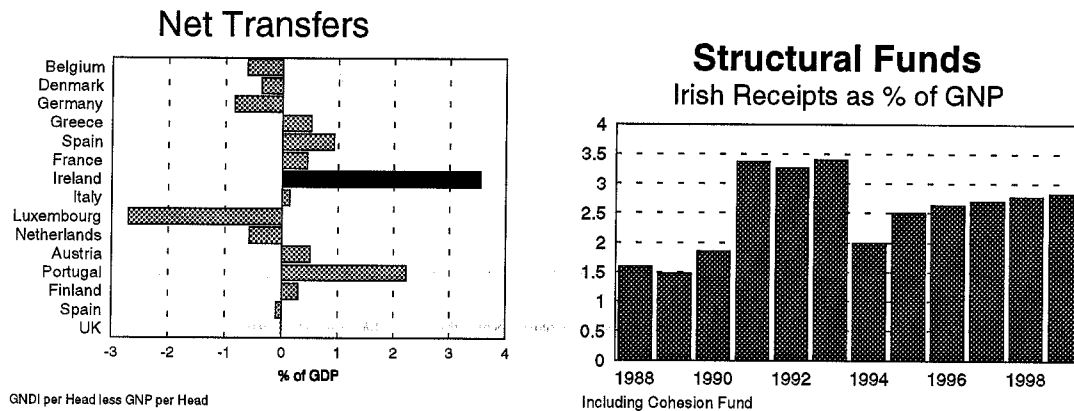
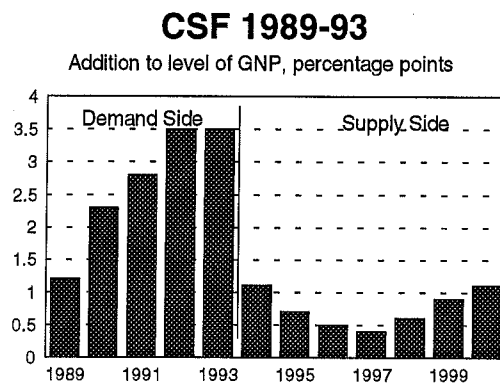


Figure 33: The Impact of the First CSF



At least as important as the actual investment has been the way the structural fund process has affected the administrative and political system. The increase under the first CSF encouraged the government to raise public investment from its extremely low level in the late 1980s. Without such a stimulus Ireland could have found itself suffering from underinvestment in the face of rapid growth in recent years.

The CSF process has forced the introduction of long-term planning. In the past there was a serious problem where investment projects stopped and started in line with short-term economic pressures on governments. This was very wasteful. Now an investment plan is formulated and subsequently implemented without major interruption.

In addition, the need to satisfy the ghost of Mrs Thatcher and the more substantial ghost of Chancellor Kohl that their money is well spent resulted in the introduction of a fairly rigorous set of evaluation procedures. As well as providing employment for external evaluators, such as the ESRI (a very important outcome!), the evaluation procedure has helped change the way the administration approaches public expenditure. In the past the only question once money had been voted was whether it had been spent in accordance with regulations. Now there is increasing interest in assessing how effective the expenditure has been. The evaluations are now frequently being published which puts further pressure on all concerned to see that the public gets value for money.

In summary, the structural funds have played an important role in developing the economy at a crucial point in Irish economic history. However, they are now of declining significance and their contribution has been very much more limited than that of the other major driving forces discussed in this Section of the paper.

Domestic Policy Reforms

In 1960 the Irish economy was heavily dependent on agriculture. This concentration on this sector was much greater than for other neighbouring countries. There was a need to shift attention to the industrial sector so that industrial growth would counter-balance the inevitable decline in the importance of agriculture. This was reflected in the change in industrial policy in the late 1950s to favour foreign investment in manufacturing. It is now clear that this process has played a very important role in transforming the economy. The strategy, which relied originally on tax breaks, now relies heavily on the availability of skilled labour to attract foreign firms. The concentration on certain sub-sectors of manufacturing, such as computers and electronics, also appears to have been beneficial.

It is not the purpose of this paper to assess the benefits and costs of industrial policy in the past. However, it is important to recognise the consistency with which it has been pursued by all governments for 40 years. Such a strategic approach to economic policy mirrors that of some Asian countries and it highlights the importance of creating an environment of certainty for foreign investors. For newly independent Central European countries the importance of developing a "track record" needs to be emphasised but it does pose difficulties for anyone in a hurry to succeed.

Finally, it must be recognised that some of the recent growth represents a bounce back from the years of retrenchment in the 1980s. While the buoyant external environment masked the full costs of the adjustment in the late 1980s these costs were still there. Much of the growth had to be directed to paying our debt, much of which was owed abroad. The essential reduction in the very high level of foreign borrowing was reflected in the turn around in the balance of payments. This meant that consumption rose very slowly with consequential slow growth in employment. Now that the public finance crisis has been resolved, in the last 3 years the growth in output has resulted in increased domestic demand, reflected in both increased consumption and increased investment in housing. This, in turn, has meant that more of the growth has been transformed into an increase in employment.

5. The Central Forecast

Growth and Consumption

The latest forecasts by Baker *et al.* in the *Quarterly Economic Commentary* indicate that growth last year remained very high at around 5.75% and that this year it may fall back to 5%. The consistent high growth rate in recent years and the other economic developments identified above suggest that Ireland has entered on a period of unusually rapid economic development. It seems desirable to raise our estimate of the medium-term growth potential of the economy from 4.5% to at least 5% a year as shown in Figure 34. The time path of future growth remains uncertain even if the average growth rate in the medium-term is easier to forecast. Details of our current thinking on medium-term prospects are given in Table 1. These figures are a "first approximation" in a detailed process of reappraisal which is currently under way in the ESRI. We hope to publish our *Medium-Term Review* in April which will set out a comprehensive assessment of future prospects.

We assume that EMU will go ahead as planned in 1999 with Ireland a member and the UK, while retaining the option to join, remaining outside. It seems likely that the period immediately before EMU begins may see some disruptive speculation (caused by uncertainty about exchange rates at the time of accession to the EMU) with the possibility of temporarily raised interest rates. This could see a temporary reduction in growth but it should be offset on entry to EMU in 1999 by the stimulatory effect of lower interest rates than would otherwise have obtained.

The growth of the Irish economy in the 1990s, even allowing for the likely population growth, means that the growth in GNP (and GDP) per head will be extremely rapid, certainly when compared to our EU partners. The reasons for this exceptional performance have been discussed above. As shown in Figure 35 this means that Ireland will move from a position of having a GDP per head of 75% of the EU average in the early 1990s to around 110% of the EU (15 members) average by 2000. As the threshold for EU "Objective 1 Status" is 75%, Ireland as a single region will no longer qualify for Regional Funds. Even using GNP per head, a more

appropriate measure, Ireland will be over 90% of the EU average in 1990.

Table 1: Central Forecast, Major Aggregates

	1993	1994	1995	1996	1997	1998	1999	2000	1990-1995	1995-2000	2000-2005
GNP	3.1	7.2	7.7	5.8	5.0	4.7	5.0	5.3	4.6	5.2	5.1
Consumption Deflator	1.9	2.6	2.0	2.0	2.0	2.0	2.1	2.0	2.4	2.0	2.0
Employment, April	0.4	3.0	4.8	3.6	3.4	3.5	2.3	2.3	1.8	3.0	2.1
Balance of Payments, % of GNP	4.3	3.1	3.0	0.5	0.8	1.8	2.3	2.4			
Debt GDP Ratio, %	98.9	94.9	88.3	80.4	76.6	71.1	65.4	60.6			
Exchequer Borrowing, % of GNP	2.4	2.1	1.9	1.2	1.5	0.1	-0.7	-0.6			
	Unemployment Rate, per cent of Labour Force										
Labour Force basis	16.6	15.5	13.0	12.9	11.6	10.2	9.8	9.5			

Figure 34

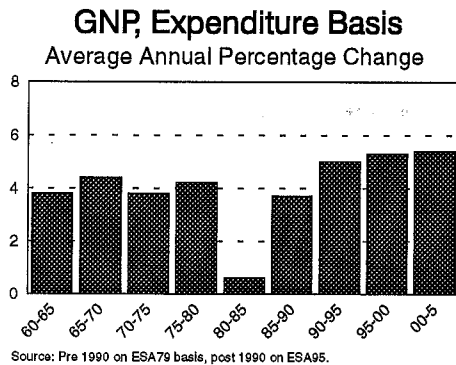


Figure 36

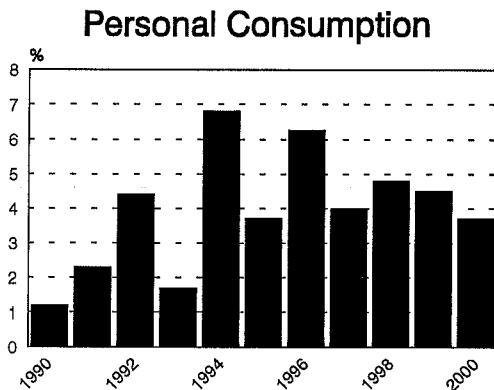


Figure 36 shows the current forecast for consumption over the rest of the decade. We currently expect a rapid growth in personal consumption expenditure out to 2000. This will be a much more favourable performance than in the 1980s and it augurs well for firms providing goods and services to the domestic market. The very high volume increase in consumption in 1996 involved a fall in the personal savings ratio to a level not experienced since 1989. This reflects a high level of consumer confidence. The savings ratio is one of the most difficult aggregates to forecast, partly because it contains many of the errors and shortcomings in the national accounts. The forecast for consumption shown here assumes a return to a stable savings rate somewhat above the current level, though still lower than observed in the past in periods of uncertainty.

Investment

A striking feature of the Irish growth experience in the 1990s has been the low level of investment which has

Figure 35

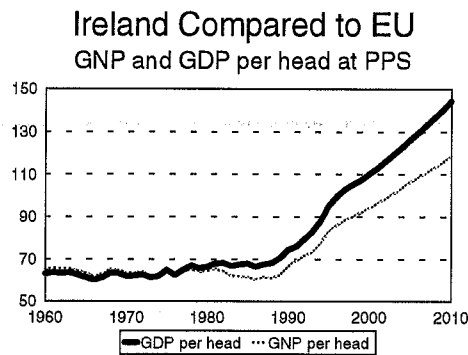
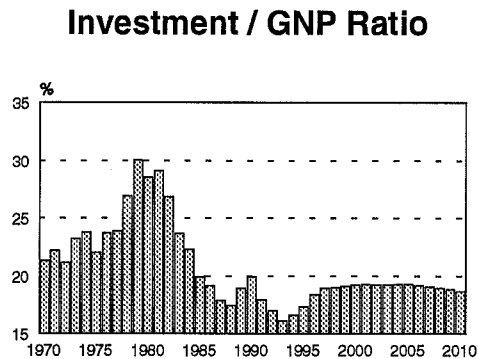


Figure 37



accompanied expansion throughout the economy. Figure 37 shows the ratio of investment to GNP which is likely to be still below 20% this year. For most rapidly growing economies the ratio tends to be above 20% so that the Irish level appears very low, especially for an economy growing so rapidly. While we envisage a growth in investment over the next 2 years at a somewhat faster rate than that of GNP it will still only leave the ratio slightly under 20%. There remains the possibility that growth in the future may require some further rise in investment above that currently envisaged.

Figure 38

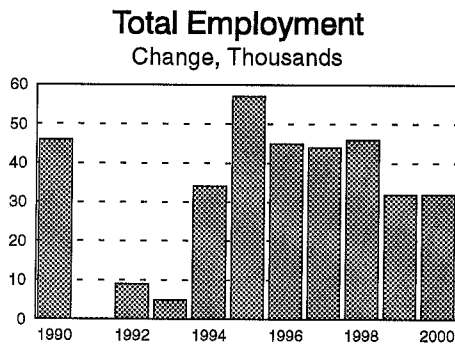


Figure 40

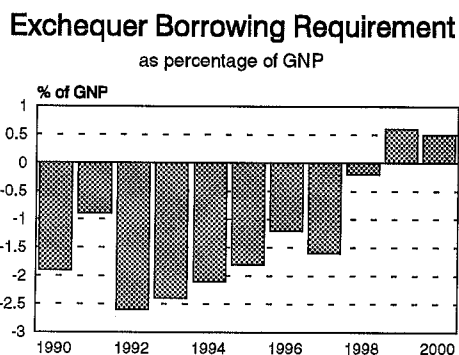
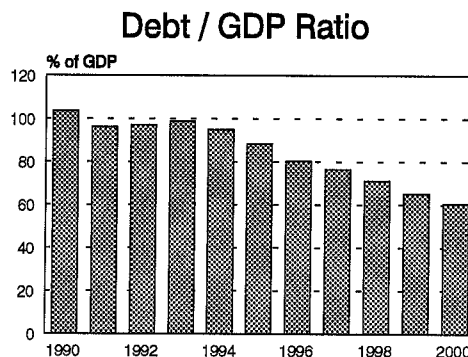


Figure 39



Source: CSO Labour Force Survey and ESRI Forecast

Figure 41



Inflation and Employment

The rate of inflation of consumer prices is forecast to remain around 2% over the rest of the decade, slightly lower than previously forecast.

With a continuation of rapid growth over the next few years we envisage a substantial further increase in total employment. Over the period to April 1998 employment will probably continue rising at over 2.5% a year and thereafter we forecast an average increase of over 2% a year (Figure 38). This is substantially higher than previously forecast and it reflects the slightly higher forecast growth rate and the evidence of favourable developments in the labour market in recent years.

The rapid rise in the labour force, however, means that this growth in employment will be slow to affect the unemployment rate defined on a labour force basis. (This gets away from the problems associated with the live register measure of unemployment.) The combined effects of employment growth, the increase in the labour force, and zero net emigration will mean that the unemployment rate, on a labour force basis, should fall slowly from its current high level of 12.9 per cent to around 9.5 per cent in 2000 (Figure 39). This represents more rapid progress than was forecast 3 years ago in the last *Medium-Term Review* with the Irish unemployment rate already at the EU average or even below it for the first time in many years.

Recent definitional changes have greatly reduced the recorded balance of payments surplus for the last few years. It now appears much more realistic than it did in the past. However, the official figures now underestimate the strength of the Irish balance of payments position as definitional changes mean that much of

the EU structural funds are now excluded from the current account of the balance of payments. While this may be correct from an accounting point of view, because the payments are grants (there is no requirement to repay) and because they will continue till at least 1999, they can appropriately be considered as resources available to fund domestic investment. When these are taken into account, the external position of the Irish economy can be seen to remain strong. The rapid rate of growth in the coming years, if realised, will be consistent with a continuing balance of payments surplus. As a result, the balance of payments is not likely to prove a restraint on growth in the foreseeable future.

Finally, the combination of substantial growth in the economy and the assumed stance of fiscal policy could see the Exchequer maintaining a small borrowing requirement, or even a surplus out to the end of the decade (Figure 40). In spite of the expenditure overruns in recent years the rapid growth and resulting revenue buoyancy has meant that exchequer borrowing has fallen more rapidly than might have been anticipated. Because of the likelihood that EU structural funds will begin to fall from 2000 onwards it seems desirable that government borrowing should at least be eliminated by 1999 to make way for the state to take over the ongoing funding of important infrastructural investment. The debt to GDP ratio should fall steadily so that by 2000 it could be close to 60 per cent (Figure 41).

Uncertainty

The one certainty is that the Central Forecast will turn out to be wrong! However, we feel that it is as likely to prove pessimistic as optimistic. Prudent planning normally involves paying special attention to possible unfavourable surprises which I do here.

Talking to this audience I need not stress the importance for the economy of the Republic that a proper peace is established in Northern Ireland. Of all the unpleasant surprises for the Republic the most unpleasant would be a serious deterioration in the economic and political situation in Northern Ireland.

Possibly the most serious potential danger to the apparently benign medium-term growth scenario is the possibility of a shock to the international financial system. We do not consider here how such a shock might occur; German unification was just such a shock and it was totally unforeseen. The run up to EMU may also occasion a significant degree of instability which might be characterised as a potential "shock".

As a very indebted country the direct effect of a rise in world interest rates is to increase substantially the outflow of interest payments to foreign creditors. The need to finance this outflow has meant that Irish governments have had less room to manoeuvre in the first half of the 1990s than if interest rates had remained lower.

Of all the possible ways of committing economic suicide, or at least producing a major self-inflicted wound, possibly the most likely is a return to the wage formation behaviour which characterised the period 1960-80. Since at least the late 1980s the rate of increase in wages has kept more in line with the domestic rate of inflation. This has meant that the economy has, at worst, maintained competitiveness and in many cases actually improved its position compared to its EU partners.

A return to the "bad old ways" could put this at risk by pricing many businesses out of their foreign markets. If wage rates were to rise by 1 percentage point a year more than we have forecast this would have a major cumulative effect on the economy. While this adverse effect would take time to materialise its most notable manifestation would be a deterioration in the forecast for unemployment.

There remains the possibility that some government could repeat the mistakes of the late 1970s and overexpand the economy through an expansionary fiscal policy. Alternatively, and possibly more likely, a government could prove weak in the face of an external shock and fail to take necessary corrective action to prevent a spiralling borrowing requirement. Either course of action could have an adverse effect on the medium-term growth rate. However, the advent of EMU will place additional restraints on fiscal policy which, while in no way restricting a sensible application of fiscal policy, will reduce the likelihood of very unwise decisions in the future.

Finally, Probably the most likely force to bring to a halt the gallop of the economy will not be a catastrophic encounter with the sun, as in the case of Icarus, but the cumulative effect of congestion in many forms on prices in factor markets. Some of the infrastructure of the Republic is less developed than that in, for example, Northern Ireland and this may contribute to traffic congestion costs. In particular in urban areas the pressure from rapid employment increase will affect land prices and, therefore, housing prices. The problems of commuting in congested areas will eventually change the relative desirability of different locations for mobile

skilled workers. If handled properly this process will result in a gradual rise in prices and an improvement in the terms of trade simultaneous with the unemployment rate approaching full employment. However, if badly handled and if bottlenecks are not seen Icarus could come to a premature landing, if not to a fiery end.

6. Conclusions

The demographic changes currently under way will continue to affect the economy and the wider society for the next decade. The falling dependency ratio represents a window of opportunity of up to 20 years. As a result the Ireland of 2000 will be a rather different country than any of us expected 10 years ago. The long-standing cliché of Ireland as a small vulnerable economy on the periphery of Europe is certainly looking a little threadbare. The process of coming of age may not always be comfortable but it has its compensations.

This window of opportunity will probably not be permanent. It can be viewed as similar in character to the wasting nature of the major Norwegian asset – oil. As with Norway, it may be appropriate to use the opportunity which it presents to run a higher rate of saving than would otherwise be the case. This may happen naturally as the young adult population makes provision for its retirement through saving. However, it will also involve the public sector reducing and possibly eliminating its debt. In this context the Maastricht guidelines and the stability pact are probably of little relevance as a guide to the appropriate stance of fiscal policy in the medium term.

The fact that our level of output is rapidly approaching the norm for the EU as currently constituted will itself change our relationship with the outside world. While we may continue to be a net beneficiary from the EU for some time to come, at some stage in the next decade Ireland is likely to become a net contributor to the EU budget. Probably the most painful change will not be the gradual phasing out of the Structural Fund payments but rather the reform of the CAP which will be an essential precursor to Poland's membership of the EU. If it involves some renationalisation of funding of agriculture it will prove politically divisive in what is an increasingly urban society.

The likely expansion of the EU to the East will also pose a potential challenge. It will force changes in the structure of the Union which may not be easy for small countries. It will necessitate a redirection of EU funding and it will open up new markets for foreign multinational investment. However, the expansion of the EU market will probably more than offset any disadvantages for Ireland. Already 3 of the top 200 multinational investors in Poland are Irish and the advent of what will hopefully be rapidly growing markets will be a new opportunity for domestic producers.

The rapid economic progress may at last effect a serious reduction in the numbers unemployed. However, for those who remain unemployed the gap between them and the rest of the community may widen. The growing importance of education in both the labour market and in driving other aspects of social behaviour could heighten contrasts which are already there. The growth in the number of single parents could presage an increase in the share of children living in poverty. However, there is no inevitability about this as many single parents are already in stable unions or subsequently marry.

An aspect of poverty which received scant attention over the last decade was housing. Because of the success in dealing with this aspect of poverty in the 1980s it has fallen from view on our social priorities. However, the rapid growth in household numbers is already putting severe pressure on the housing market and the way social housing needs are tackled in the future will be an important issue determining the position of those with low earning power in the next decade.

As discussed above, sustaining the current growth in output and employment may necessitate a rapid increase in investment in physical infrastructure at a time when EU funding in this area is falling. If properly managed this need not pose a problem for the public finances. However, failure to make adequate and timely provision could see a premature truncation of the current rapid growth in output and employment.

Finally, the rapid economic growth will put serious pressure on the environment. This is obvious already in the major urban areas where pressure for rezoning of land is a political issue. However, one area where the current growth spurt could meet a brick wall is the necessity to limit emissions of green-house gases to slow the trend to global warming. If there were a move to impose national quotas rather than to use market based instruments to achieve the necessary objective of limiting emissions within the EU it could have a disproportionate impact on the Irish economy significantly reducing the trend rate of growth. However, if properly handled the costs of an environmentally friendly policy need not be excessive.