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The transformation of the Irish labour markets: 1980-2003

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CENTRE FOR ECONOMIC RESEARCH

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**The Transformation of the Irish Labour Market:
1980-2003**

Brendan Walsh, University College Dublin

WP04/12

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**DEPARTMENT OF ECONOMICS
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**The transformation of the Irish labour market:
1980-2003**

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Statistical and Social Inquiry Society of Ireland

Presidential address

6th May 2004

1. Introduction.

During the 1990s we moved rapidly up the international living standards league tables, to the point where, by some measures, we were among the world leaders at the start of the new millennium. An exceptional feature of this boom was the rate of growth of the numbers employed and the fall in the unemployment rate. Having stagnated for over sixty years, the numbers at work grew at an annual average rate of over three per cent in the 1990s. Employment growth significantly outpaced population growth, so that GNP per person rose much faster than GNP per person at work or productivity.¹ By the start of the new millennium, the unemployment rate had fallen below 4 per cent and all the indicators showed that full employment had been attained.

Even though the period of exceptional growth ended three years ago, the “day of reckoning” that was widely feared during the later phases of the boom has not arrived. There were many warnings that a world recession – especially in the high-tech industries on which we were possibly over-dependent – would have dire repercussions on Ireland. However, Ireland has weathered the slowdown in the growth in the industrialised economies storm surprisingly well. Our GNP growth rate fell from 10.2 per cent in 2000 to virtually zero in 2003 but employment did not collapse and the rise in the unemployment rate has been modest. We are one of the few OECD countries – Austria, the Netherlands, Norway, Switzerland, and the US are the others - whose unemployment rate is now at or below the level recorded in the 1960s.²

That the Irish economy should have done so well in the 1990s was surprising, but that much of this out-performance should have been due to the exceptional performance of the labour market was remarkable in view of our failure in the past to generate employment opportunities for the potential growth of the labour force.

No one predicted the explosive growth of the 1990s, although after the fact some commentators interpreted it as a belated and long-overdue convergence on our richer neighbours. The Economic and Social Research Institute’s *Medium Term Reviews* sounded an optimistic note from 1994 onwards, drawing attention to Ireland’s out-performance of the EU economy before this was widely acknowledged, but their forecasts proved conservative. In 1994 they anticipated that GNP growth would average 4.5 per cent for the rest of the decade; in 1997 they raised this to just over 5 per cent for the period 1995-2004. All of these forecasts were lower than the outcome.³ Their forecasts of the fall in the unemployment rate proved equally conservative, as may be seen from Figure 1.

¹In fact, in terms of productivity growth the 1990s were less impressive than the 1960s. See Table 1, below, and Honohan and Walsh, 2002, and Cassidy, 2004.

²In fact, Ireland is the only OECD whose unemployment is now significantly lower than it was in the 1960s. See Nickell, 2004, for a discussion of these trends.

³Even as late as 1997 a predicted growth rate of over 8 per cent for the rest of the decade would have lacked credibility. The ESRI authors drew attention to the fact that since 1986 they had nearly always erred on the side of pessimism “though this has not stopped commentators as viewing the ESRI as inveterate optimists” (ESRI, 1997, p. 34)!

Figure 1

Academic studies of the Irish unemployment problem and estimates of the equilibrium or Non-Accelerating Inflation Unemployment Rate (NAIRU) were even more conservative. The consensus was that the bulk of the very high unemployment recorded in the 1980s and early 1990s was “structural” and would not be alleviated by a cyclical recovery. For example, a comparative study of the OECD countries concluded that the equilibrium or natural unemployment rate in Ireland had risen from 9 per cent over the period 1969-79 to 13 per cent in the 1980s (Layard, Nickell, and Jackman, 1991, p. 436). Another estimate, published long after the boom got underway, suggested that although Ireland’s NAIRU had fallen from a peak of 14 per cent in 1990, it was still over 9 per cent in 1999 (McMorrow and Roeger, 2000, Tables 1 and 2). Pessimism about the labour market was reinforced by the fact that during the earlier phases of the boom employment seemed slow to respond to the growth of GNP and the unemployment rate remained stubbornly high. I entitled an article on the Irish labour market published in 1999 “The Persistence of High Unemployment” (Walsh, 1999a).

In this address I look first at some features of the behaviour of the labour market during the boom. Then I explore why employment grew so rapidly and the unemployment rate fell so fast and what changes in labour market structures and institutions might account for the sharp fall in the “equilibrium” unemployment rate.

This topic is worthy of attention in light of the frequent, by now almost ritualistic, declarations that the key to improving the performance of the economies of continental Europe lies in reform of their labour markets. The forces behind Ireland’s success should have lessons for other countries faced with the problem of stubbornly high unemployment.

2. The record⁴

2.1 The transformation – the broad picture.

Table 1 shows growth rates of GNP⁵, employment, and population, and the ratio of non-agricultural employment to the total population over three sub-periods, 1961-1973, 1973-1988, and 1988-2003.⁶ While the definition of the last period joins a trough to a near-peak, and a small proportion of the recorded employment growth reflects changes in survey methodology,⁷ there is no doubting that over the past

Table 1

⁴ For an extended account of Ireland’s economic fortunes since the 1960s, on which this section draws, see Honohan and Walsh, 2002. My interpretation of labour market developments also draws on Walsh (2002).

⁵ I use GNP as the better measure than GDP of trends in the size of the Irish economy and, especially, in living standards.

⁶ Any choice of sub-periods is somewhat arbitrary. These correspond approximately to a period of sustained if unspectacular growth, the period of the oil crisis and the fiscal adjustment of the 1980s, and the prolonged recovery and boom of the 1990s.

⁷ The employment data are derived from the ILO definitions of the labour force in the results of the Labour Force Survey and its successor the Quarterly National Household Survey. The QNHS replaced the annual LFS in the fourth quarter of 1997 and the change in methodology between the two surveys is believed to added some 20,000 to measured employment, comparing 1998 with 1997.

fifteen years the Irish economy generated jobs at a world-record-breaking pace. This was all the more impressive and unexpected in light of our historical record as a labour-surplus economy where the unemployment rate was held in check only by emigration, low labour force participation rates, and a continued reliance on subsistence farming.

Figures
2 and 3

In the 1990s, the ratio of the numbers at work outside agriculture to the total population has risen sharply (Figure 2). This made an important contribution to the sudden and rapid rise in Irish living standards. Figure 3 shows the net flows into key demographic categories over our three sub-periods, which help us understand the dynamics of the rise in the employment/population ratio. During the the 1960s and early 1970s non-agricultural employment increased but so too did unemployment and the young dependent population. Things were worse during the 1980s, as the numbers of unemployed and economically inactive adults rose while the level of non-agricultural employment fell. Only the decline in the number of young dependents mitigated these negative trends. In the 1990s, however, apart from a small increase in the population aged over 64, all the dependent categories – those aged under 14, inactive adults, and the unemployed - shrank, while non-agricultural employment grew at an unprecedented rate.

We had no reason to expect such a sudden and dramatic improvement in 1990s. True, the rising birth rate of the 1970s implied that if the country were to “solve its unemployment problem” exceptionally rapid growth in employment would be required. Population and employment projections revealed job-creation requirements that far outstripped any previous employment growth and generated profound pessimism. The question of where so many jobs would come from seemed unanswerable, unless the public sector were to act as an employer of last resort, with unsustainable fiscal implications. The hope generated by the boom of the late 1970s was short-lived and more than dissipated in the protracted recession that followed, during which Ireland’s labour market was one of the worst performing in Europe. The unemployment rate rose from 7 per cent in 1979 to 17 per cent in 1986. The increasing proportion of the unemployed who had been out of work for a year or more pointed to hysteresis and the possibility that the equilibrium unemployment rate was drifting up in tandem with the actual rate. The already-low labour force participation rate fell further and by the end of the decade renewed emigration led to a decline in the population of active age while the numbers of young and old dependents continued to grow.

Figures 4
and 5

The picture changed dramatically during the 1990s. As the rate of growth of output recovered, the labour market situation improved, slowly at first but then more rapidly. Between the trough in 1986-87 and 2003 total employment grew by 60 per cent, non-agricultural employment by 80 per cent, and private sector employment even faster. The unemployment fell sharply and net emigration was replaced by immigration in the second half of the 1990s (Figures 4 and 5). The labour market moved from a situation of significant excess supply as late as 1993 to one where excess demand was the problem. Ireland’s success over this period compares favourably with what has been labelled the US “employment miracle” (Krueger and Pischke, 1997).

2.2 Some details

In this section I look in more detail at how the labour market was transformed in the 1990s.

Figure 6

As I have noted, one of the worst features of the high rate of unemployment in the mid-1980s was the preponderance of long-term unemployed in the total – a feature that led to the belief that much of the problem was “structural” and would not respond to an increase in the demand for labour. Even on optimistic assumptions about the growth of output and employment, in 1994 high levels of long-term unemployment were regarded as “virtually unavoidable” and its level was expected to increase over the rest of the decade.⁸ But in fact the long-term unemployment rate fell from 9 per cent in 1994 to 1.2 per cent in 2001, even more rapidly than the short-term unemployment (Figure 6). And by 2001 the short-term unemployment rate – often taken as a better indicator of the supply/demand balance in the labour market than the overall unemployment rate – had fallen to 2.5 per cent. This compares favourably with the United States, where there is virtually no long-term unemployment, and an overall unemployment rate of about 5 per cent is often taken to represent “full employment”.

Figure 7

During the early 1990s it was believed that the official unemployment rate – based on the ILO criterion of active job search – excluded many “discouraged workers” who had given up looking for work because they saw no point in searching for what wasn’t there. Since the late 1980s a more comprehensive indicator of labour market slack has been available. This treats as unemployed those who express any interest in, or passive search for, employment. Figure 7 shows the “discouraged worker rate”, measured as the difference between the unemployment rate defined to include all those marginally attached to the labour force and the conventionally-defined rate. This rate fell from 7 per cent of the (broadly defined) labour force in 1993 to 4 per cent in 2001.⁹

The fall in the unemployment rate and rise in the participation rate led to a sharp fall in the proportion of households where no one was working. The proportion of households where there was at least one economically active person – employed or unemployed – and no-one employed fell from 12.6 per cent in 1988, to 9.0 per cent in 1997, to 4.3 per cent in 2001. Not surprisingly, over the same period there was an increase in the proportion of “work-rich” house, that is, with two or more employed members – from 29 to 50 per cent of all households.

Table 2

In most OECD countries, part-time contracts have contributed more than half of all recent employment growth. The extreme example has been the Netherlands, where women working part-time in the service sector accounted for over half the total increase in employment between 1983 and 1997 (Garibaldi and Mauro, 2002). In contrast, the Irish employment boom was biased towards full-time jobs. If we

⁸ O’Connell and Sexton, 1994, p. 27.

⁹ The erraticness of this series in 1997-98 may reflect the change-over to the QNHS.

allocate the total increase in employment – almost 700 thousand jobs – between men and women, full-time and part-time, we see that full-time jobs accounted for over two thirds of this total (Table 2). While the share of part-time working among women rose from 16.5 to 30.4 per cent, the proportion of these declaring themselves “underemployed” was only 0.7 per cent. The number of men working full-time increased by one third, which is very striking in view of the substantial decline in male employment in most industrialised economies over this period.

I now briefly discuss the development of unemployment rates by (i) age group, (ii) education level, and (iii) region of the country. We shall see that on all of these dimensions the fall in unemployment was fairly evenly shared across sub-groups.

Figure 8

Age-specific employment and unemployment rates are displayed in Figure 8. The absolute differentials in unemployment rates between the labour market entry and “prime-age” groups fell sharply as the overall rate declined, although the ratio of the age-specific rates remained fairly stable. Despite the continuing upward trend in education participation rates, employment rates in the 15-24 year age group rose. The marked increase in employment rates among women aged 25-44 was one of the salient features of the boom, and a fairly widespread phenomenon, but the rise in employment rates for both men and women in the older group was unusual by European standards.

Figure 9

Figure 9 shows employment and unemployment rates classified by educational attainment.¹⁰ The fall in unemployment rates was marked at all educational levels – especially among men. But while the absolute differentials between the education groups fell, the ratio of the rates remained fairly stable. In 2001 the unemployment rate among males with only primary education was still more than five times that among those with third level education. However, the unemployment rate among males with Leaving and Junior Certificate education did fall in relative terms, as well as absolutely.

The fall in the overall unemployment rate reflects both the reduction in age- and education-specific rates and the shift in the structure of the labour force towards demographic groups with lower unemployment rates. (The share of the labour force accounted for by those with only Primary education fell from 25 per cent to 10 per cent.) To allocate the actual decline between these sources, I constructed an “education-standardised” unemployment rate, based on the actual 1988 unemployment rates in each educational group and the 2001 shares of these groups in the labour force, which yields a rate of 12.9 per cent. As the actual unemployment rate declined from 16.7 per cent in 1988 to 6.4 per cent in 2001, 37 per cent of the observed decline might be attributed to the changing education composition of the labour force, and over 63 per cent to the decline in unemployment rates within groups. But this calculation overestimates the contribution of the higher educational attainment to the fall in the unemployment rate because the educational structural of the labour force is endogenous. Had the labour market situation remained as

¹⁰ These are based on Principal Economic Status rather than ILO definitions. I am grateful to John FitzGerald for providing me with the relevant LFS data.

depressed as it had been in the late 1980s, the “brain drain” would have accelerated and the average educational attainment of the labour force would have risen less.

The trends in employment rates by educational level were mixed. Among males only small changes were recorded within each educational category, showing that the rise in the overall male employment rate was mainly due to the increasing share of groups with high employment rates rather than to the rise in rates within each category. On the other hand, there were large increases in female employment rates within each educational category, which added to the effect of the increased shares of the better-educated groups in the labour force to produce a very large increase in the overall female employment rate.

Figure 10

Using the regional groupings adopted in 1995, Figure 10 shows the evolution of regional unemployment and employment rates during the boom. The unemployment rate fell, and the employment rate rose, in all regions. The fall in Dublin’s unemployment rate is welcome in view of its disadvantaged position at the start of the period. The absolute dispersion in employment and unemployment rates between the regions fell markedly, but the relative dispersion increased somewhat.¹¹ I have argued elsewhere that these differentials are not evidence of a regional “problem” but may be plausibly attributed to the different structural characteristics of the regions such as their size and the density of their labour force (Walsh, 1999b). Although the evolution of the regional distribution of economic activity during the boom may have been sub-optimal from several points of view, there is no compelling evidence of increasing regional imbalances in labour market supply-demand balances.

2.3 Where did all the jobs come from?

As already mentioned, it was difficult during the dark days of the 1980s to see where employment growth on the scale needed to make a dent in Ireland’s labour surplus would come from. With the benefit of hindsight, some interesting features of the employment boom may be noted.

First of all, the numbers of at work grew mainly because of the expansion in the numbers working in “real jobs”, that is employment in the open labour market, not dependent on subsidies or taxpayer’s support. To a lesser extent, pressure on the labour market was alleviated by an expansion of special employment schemes and social welfare measures designed to reduce long-term unemployment.

2.3.1 The growth in “real jobs”.

Not all sectors of the economy offered increased employment opportunities during the boom (Figure 11). Employment in agriculture continued its secular decline. Employment in the traditional industrial sectors – clothing, textiles, furniture, and so on - was more or less static over the entire period and declined in recent years. In the

Figure 11

¹¹ The coefficient of variation of regional unemployment rates rose from 12.3 to 17.6 per cent and of employment rates from 3.4 to 5.3 per cent.

early years of the boom, employment in the public sector and in tax-financed public services was held in check.

Strong employment growth in export-driven manufacturing was a particular feature of the boom. This went against the trend of the OECD countries generally, where industrial employment declined. Most of the Irish expansion occurred in newer sectors such as electronics, pharmaceuticals, and medical instrumentation where foreign-owned firms account for over 90 per cent of output. However, these sectors were badly affected by the slowdown after 2001, leading to an overall decline in manufacturing jobs. From the peak of 2001, employment has now declined by 9 per cent, with employment in “Optical and Electrical Equipment” declining by over a quarter. At the end of 2003 manufacturing as a whole accounted for only 16 per cent of total employment, compared with almost 20 per cent in the mid-1980s.

Employment in construction has more than doubled since the early 1990s, increasing at the fastest rate of any sector. It now accounts for 11 per cent of all employment, compared with only 7 per cent in the mid-1980s. The expansion reflects a catching-up phase in residential and office accommodation and must be expected to go into reverse over the medium term.

The predominance of “market services” as a provider of new jobs is striking. This heterogeneous category ranges from financial services (banks, insurance companies, etc), legal services, accountancy firms, to hotels, catering, restaurants, pubs, and so on. It includes employment in what might be regarded as ‘economic base’ activities (such as tourism and internationally traded financial services) as well as ‘induced’ activities (such as local commercial services). Employment in the publicly financed health and educational services has also increased quite rapidly, especially in recent years, but the numbers in core public administration have been contained.

There is little prospect of further employment growth in manufacturing or construction over the medium term, so in the future employment is likely to be even more concentrated in the services sector of the economy.

2.3.2 Special Employment Schemes and Related Measures

Although public sector employment was held in check during the 1990s, special employment schemes financed from tax revenue and designed to provide work for the long-term unemployed and other hard-to-employ categories played a role in reducing unemployment. The numbers employed on the largest of these schemes – the Community Employment Scheme - rose from about 1 per cent of the labour force in the late 1980s to a peak of 2.8 per cent in 1995, falling back to 2 per cent by 2001 and only 1.5 per cent at present.¹² It has been estimated that about half of those leaving these schemes return to unemployment, so they may be credited with taking about one percentage point off the total unemployment rate, although because many participants churn through the system, interrupting spells of unemployment with

¹² These figures are from special tabulations of the QNHS furnished by the Central Statistics Office. They refer to those reported as employed on “government schemes” at the time of the Survey. The flow through the schemes in the course of a year is higher. Many of the supported jobs are part-time.

spells on schemes, the impact on the long-term unemployment rate has been greater (O’Connell, 2000). Nonetheless, the low short-term unemployment rate suggests that the displacement from long-term to short-term unemployment has not been significant. However, because so few participants in these schemes move on to regular paid employment, they have increasingly been viewed as part of the problem of structural adjustment rather than part of the solution. With the economy close to full employment, the rationale for large-scale schemes to provide work for the hard-to-employ is questionable. The provision for these schemes was reduced substantially in both 2003 and 2004. To date there is no evidence that this has adversely affected labour market indicators.

The social welfare system was used to encourage some of the unemployed to reclassify as retired or disabled. During the 1980s new inducements were put in place to encourage the older unemployed to change their unemployment allowance into a “pre-retirement allowance” on condition that they withdraw from the labour force. The numbers on this scheme reached 15,000 (about one per cent of the labour force) in the early 1990s but fell to less than 12,000 in 2001. The labour force participation rate among men aged 60-64 – the principal category likely to be affected by these measures – dropped from 61 per cent in 1988 to 55 per cent in 2003 but remains high by EU standards. Some of the reduction may be attributed to changes in the social welfare code, but other factors, such as improved private sector pension provision and the declining number of farmers, have contributed to earlier retirement.

2.4 The fall in “equilibrium” unemployment.

From the perspective of the elusive concept of the “equilibrium” unemployment rate, it is crucial to relate the trend in unemployment to wage and price developments. The economy enjoyed a very favourable constellation of demand side shocks in the late 1990s, as real interest and exchange rates fell and the world economy boomed. These developments would have been expected to push the unemployment rate to a cyclical low, but if the labour market had not changed radically there would have been a marked build-up of inflationary wage and prices pressures. (This is the argument used by European policy makers today when they claim that fiscal and monetary expansion would not be appropriate remedies for the continent’s unemployment problem.) In Ireland, however, the trade-off between inflation and unemployment improved dramatically and the Phillips Curve shifted steadily leftward during the 1990s. Figure 12 compares shows the situation in 1981-1986 and in 1999-2003. While factors like the global subsidence of inflation and the change in the Irish exchange rate regime are the main reasons for the inward movement of the Phillips Curve, it is hard to believe that we could have achieve an unemployment rate below 4 per cent without an explosion of wage inflation had the labour market remained unreformed. Moreover, analysis suggests that the surge in inflation following our entry into the European Monetary Union was more closely linked with exchange rate developments than with labour market conditions (Lane and Honohan, 2003), a view supported by the speed with which it has subsided over the last twelve months even though the unemployment rate remained well below what would have been identified as the NAIRU just a few years earlier. This calls to mind Robert Solow’s remark that

Figure 12

A natural rate that hops around from one triennium to another under the influences of unspecified forces, including past unemployment rates, is not natural at all. (Solow, 1986)

However, it is perhaps possible to shed light on these forces, a task to which I turn.

3. Understanding the transformation.

It is beyond the scope of the present paper to analyse in detail the reasons for Ireland's exceptional economic performance in the 1990s. My focus is narrower, on the success story of the Irish labour market. In trying to establish the factors that account for the fall in the Irish unemployment rate in the late 1990s, I am conscious of the limits to how much light can be shed on how labour markets in general function by looking at the experience of one country in isolation. More robust inferences require a comparative perspective (see Nickell, 2004, and the studies cited there).

My interpretation is basically that during the 1990s the Irish economy experienced a series of favourable demand-side shocks, emanating from exchange rate and interest rate developments, the global economic boom, and increased mobility of FDI and its increased sensitivity to tax differentials.¹³ The dramatic response to these developments was facilitated by a set of favourable supply side developments – an elastic labour supply underpinned by a strong demographic situation, the growing stock of human capital due to rising levels of education attainment in the inflow to the labour force, wage moderation induced by centralised wage bargaining and declining union power, a reduction in the tax wedge on earnings, a fall in the unemployment replacement ratio, and a stricter approach to unemployment benefit claimants.

The juxtaposition of so many favourable demand and supply side developments makes the economic “miracle” relatively understandable!

3.1 Demographic forces.

At the height of the economic crisis of the 1980s it was not uncommon to blame the inexorable rise in Irish unemployment partly on “our young and rapidly growing labour force”. It was claimed that the unemployment rate would have been much lower had the rate of natural increase of the labour force been zero rather than about two percent a year. However, demographic pressures contribute little to understanding the variations in unemployment rates across Europe – high unemployment persists in continental economies where demographic pressures have for long been absent – and it is apparent that the dramatic fall in Ireland's unemployment rate during the 1990s was not a reflection of reduced demographic pressure. Ironically, as the economy recovered it became popular to include our healthy demographic structure among the explanations of the employment boom – the young and rapidly growing labour force was no longer seen as part of the problem, but part of the solution! The lesson to be learned is that under favourable

¹³ On this last point see Hines, 2003.

macroeconomic conditions, a well-functioning labour market can absorb a rapidly growing labour force into employment. Portugal in the 1970s and Israel in the 1990s, for example, absorbed large and sudden increases in their population into employment and the United States, with its rapidly growing labour force, has maintained a relatively low unemployment rate. Ireland in the 1990s can be added to this list of examples of favourable labour market outcomes.

3.2 Economic Growth, Employment, and Unemployment.

The growth of employment and fall in unemployment were part cause and part effect of the exceptional rate of economic growth recorded in the 1990s. However, let us pose the question: making no allowance for reverse causation, treating the rate of growth of output as exogenous to the labour market, does it account for the growth of employment and the fall in the unemployment rate? The short answer is *yes* – the link between the growth of output and the growth of employment, and the growth of output and employment and the fall in unemployment seems to have been stable, comparing the 1990s with earlier periods. On the basis of past experience, the exceptional growth spurt after 1993 would have been expected to transform the labour market situation in the manner that was recorded.

I summarise the link between these variables by regressing the rate of change in non-agricultural employment (Y) on the GNP growth rate (X) – plus a dummy D to allow for the impact of the change in definitions in 1998. This yields the following result for the period 1961-2003 (t -ratios in parentheses):

$$Y = -2.30 + 0.46 X + 0.19 X_{.1} + 0.32 X_{.2} + 3.76 D \quad R^2 = 0.80 \quad D. W. = 1.32$$

(5.3) (5.9) (2.1) (3.9) (3.2)

There appear to be significant lags in the transmission of GNP growth to employment, as was apparent in the first half of the 1990s.¹⁴ But of most interest to the theme of present paper is that there was no break in this relationship in the 1990s. While this was bad news from the perspective of the growth of productivity and living standards, it was good for the impact of output growth on employment.

A second simple check on the links between economic growth and the labour market is Okun's Law, which has proved reliable over the decades in tracking the links the growth of output and changes in the unemployment rate. Regressing the change in the unemployment rate (Y) on the GNP growth rate (X) yields the following result for the period 1961-2003:

$$Y = 1.77 - 0.28 X - 0.11 X_{.1} \quad R^2 = 0.57 \quad D. W. = 1.71$$

(6.3) (4.8) (2.1)

or using a two-year moving average of the GNP growth rate:

¹⁴ The differences between the coefficients on GNP growth rate and its lags are not statistically significant. Using a three-year moving average of the GNP growth rate, the following result is obtained: $Y = -2.2 + 0.95 X + 3.6 D \quad R^2 = 0.79 \quad D. W. = 1.22$

(5.1) (10.6) (3.1)

$$Y = 1.84 - 0.41 X \quad R^2 = 0.56 \quad D. W. = 1.78$$

(6.3) (7.2)

Figure 13

This implies that a GNP growth rate of about 4.5 per cent is needed in the long run to prevent the unemployment rate from rising. Of course, this would be expected to fall as the rate of natural increase of the labour force slows. Figure 13 displays the traditional Okun graph. The statistical results reveal no significant break in the relationship in the late 1990s. The largest single decrease in the unemployment rate (2.8 percentage points) was recorded in 1998 – the year after the change in methodology – but a dummy variable for this year is not highly significant, although it has the expected negative sign. On the other hand, the largest single increase in the unemployment rate was recorded in 1981 - 2.6 percentage points. It might be inferred that it is harder to explain why unemployment rose so rapidly in the early 1980s than why it fell so fast in the late 1990s!

We can think of the Okun approach as implying that GNP growth generates employment growth and employment growth reduces the unemployment rate. The last step in this analysis is summarised by the following results, where Y is the change in the unemployment rate and X the rate of growth of employment (lags and the 1998 Dummy were not significant):

$$Y = 0.90 - 0.42 X \quad R^2 = 0.64 \quad D. W. = 1.36$$

(5.6) (8.5)

The result suggests that on average over the entire 40-year period employment growth of about 2 per cent was needed to stabilise the unemployment rate.¹⁵ Of greatest relevance to the theme of the present paper, once again, is the finding that there appears to be no structural break in this relationship in the 1990s.

Viewed in the context of the longer-run performance of the Irish economy, given the growth rate of GNP in the 1990s, the increase in employment was not exceptional, and given the growth of employment, fall in unemployment rate was not exceptional. According to this view, the dramatic fall in the Irish unemployment rate in the 1990s was “simply” a reflection of the economy’s exceptional growth rate. None the less, although these regressions are highly significant, the R^2 leave plenty of room for excluded variables factors to have played significant roles, even if many of these are difficult to model econometrically.

3.3 Wage Moderation and Centralised Wage Bargaining.

Traditionally, overt unemployment in Ireland was kept in check by the operation of the safety valve of emigration, and since the Second World War this was predominantly to the United Kingdom. Any incipient widening of the Irish-UK unemployment rate differential was quickly closed by higher outflows. This ensured that the Irish unemployment rate was typically only three or four percentage points

Figure 14

¹⁵ However, this does not control for the rate of net migration, which was in the past an important mechanism for stabilising unemployment in Ireland.

above the UK rate average for most of the 1960s and into the 1970s. It can be seen from Figure 14 that the two rates were closely linked and indeed cointegration analysis confirms this (Honohan and Walsh, 2002). However, it is also evident that the historic relationship between Irish and UK unemployment rates broke down in the 1980s, most likely due to the collapse in the demand for unskilled workers in construction and manufacturing in the UK. In the second half of the decade the gap between the Irish and UK unemployment rates reached an unprecedented six percentage points. The closure of the traditional safety valve of emigration was initially a severe adverse shock to the Irish economy, but I shall argue below that its longer-run repercussions on wage bargaining and domestic employment growth were benign. As recovery got underway in Britain during the Lawson boom, it was to be expected that a pent-up tide of Irish emigrants would flow out. And in fact the initial easing of the Irish labour market situation in the late 1980s came from renewed emigration to the UK and US. However, the rapid fall in unemployment in the late 1990s and the narrowing of the Irish-UK unemployment gap was due to the domestic employment boom rather than to the traditional mechanism of heavy emigration.

My interpretation of the transformation of the Irish labour market during the late 1980s and 1990s is that the widening of the Irish-UK unemployment differential and the unprecedented rise in the Irish unemployment rate brought about a painful internal adjustment and eventually led to a moderation of nominal wage inflation, mediated through a return to centralised wage bargaining. When measured in a common currency, the moderation of the rate of growth in nominal wages relative to our main competitors was further helped – somewhat fortuitously – by the devaluations of 1986 and 1993, and the low level at which the Irish pound entered the European Monetary Union. Wage moderation was reinforced by tax cuts that allowed take-home pay to rise faster than labour costs, and sustained into the 1990s by a very elastic labour supply as reservoirs of under-utilized work effort were drawn into employment.

Figure 15

An elastic labour supply was not a new phenomenon in Ireland, but in earlier periods it had not led to wage moderation. For example, in the first half of the 1980s, despite the rising unemployment rate, wage rates rose relative to our trading partners, and Ireland's competitive position deteriorated. The trend was, however, sharply reversed after 1986. Figure 15 shows relative hourly earnings¹⁶ in a common currency and in national currencies relative to a weighted average of our trading partners. Both series were rising (that is, showing a loss of competitiveness) until 1986 but this adverse trend was reversed over the period 1986-1997 in national currencies and for a further three years in a common currency. The dips in the common currency series after 1992 and 1997 reveal how devaluations boosted competitiveness, at least temporarily. In Honohan and Walsh, 2002, we showed that deviations of the competitiveness index from its trend are closely associated with the trend in employment.

In addition to exchange rate movements, the key factor to be considered in relation to the behaviour of the competitiveness series is the role of centralized wage bargaining or “social partnership” after 1987. The unprecedented unemployment rate –

¹⁶ That is, average hourly earnings, not including employer's taxes and social charges. Note that this series does not include any adjustment for productivity, which is strongly influenced by sectoral shifts and the growth of the *entrepôt* industrial sectors.

attributable not only to the economy's poor performance but also to the exogenous shock of high British unemployment – created a consensus that generalized belt-tightening was needed. The result was a National Wage Agreement followed by four others, negotiated over successive 3-4 year horizons extending from 1988 to 2003, designed to deliver industrial peace and moderate rates of wage inflation in exchange for reductions in the burden of direct taxation and an increasingly ambitious agenda of social and economic changes.

Figure 16

Admirers of the partnership approach claim that it deserves much of the credit for the exceptional growth in employment in the 1990s. True, the strike rate fell to a much lower level after the new wage bargaining system was launched and by the end of the decade had ceased to be a general problem. However, real wages continued to rise – there was no significant break in trend in the late 1980s, although there was a pause in the mid-1990s (Figure 16). Indeed, once the influence of exchange rate fluctuations are allowed for, it is hard to identify a statistically significant role for the domestic unemployment rate, much less the pay bargaining regime, in the behaviour of the wage series (Curtis and FitzGerald, 1996; Walsh, 2000). Nonetheless, despite the inconclusive econometric results, most observers regard the coincidence of the reversal of the deteriorating trend in competitiveness with the new approach to pay bargaining as suggestive that it did pay dividends, if only by facilitating reductions in taxes on wage earners and the backward shifting of this to employers.¹⁷

In summary, the combination of declining union density (see below) and the return to centralized wage bargaining may plausibly be regarded as factors that tended to offset the upward pressure on wages exerted by unions and to have contributed to the improved trend in Irish relative wage costs during the late 1980s and the first half of the 1990s.

3.4 Structural Labour Market Reforms.

In addition to the change in the wage bargaining system, there were several other structural changes in Irish labour market between the 1980s and the 1990s. For the most part these were in the direction that economists identify as likely to contribute to a lower equilibrium unemployment rate by reducing labour market rigidities. Changes of this type are viewed as the key to reducing continental Europe's high rate of unemployment¹⁸ and indeed Nickell (2004) concludes they “enable us to understand why some European countries have been able fully to recover from the employment disasters of the early 1980s whereas some have not”. It is hard to imagine more favourable circumstance for implementing such reforms than during the buoyant labour market conditions that prevailed in Ireland in the 1990s.

I turn now to an examination of some salient changes in the structure of the Irish that would be expected to have lowered our equilibrium rate of unemployment.

3.4.1 Union density.

¹⁷ We pointed out elsewhere that the correlation between overall share of taxation in GNP with the index of competitiveness is very high (Honohan and Walsh, 2002).

¹⁸ See the OECD Jobs Study (1994) and the Jobs Strategy based on these studies.

The disastrous labour market trends of the 1980s had hit the Irish trade union movement very hard. Union membership, which had been growing rapidly from the 1960s, peaked in 1980 and then declined steadily. Union density declined even more rapidly and did not recover, as most of the new jobs created in the booming economy were in union-free workplaces. From a peak of over 60 per cent in the early 1980s, union membership as a percentage of the employed labour force fell to 44 per cent at the end of 1990s. Although we do not have a public/private sector breakdown of these rates, it is likely that membership and density declined more rapidly in the private sector and has become increasingly concentrated in public sector employment.¹⁹

Arguably the role of unions was changed by the revival and deepening of a centralized bargaining process that went beyond wages to cover taxation and other aspects of economic policy. A reduction in union power would be expected to ease upward pressure on wage rates and this, combined with greater co-ordination in the exercise of this power, would be expected to lower the equilibrium unemployment rate.

3.4.2 A leaner, meaner social welfare system and a less punitive tax system

The point of departure in Ireland in the 1980s was a social welfare system that was not unduly generous by continental European standards. However, there were serious disincentives and anomalies, as well as a lax attitude towards eligibility for benefits and assistance, and some commentators cited these as reasons for the persistence of high unemployment.

During the 1980s the view gained ground that allowing unemployment assistance to be collected more or less indefinitely without any evidence of active job search contributed to the excess numbers claiming to be unemployed on the Live Register (LR) relative to the ILO measure of unemployment obtained from the Labour Force Survey (LFS). By the mid-1990s this discrepancy had reached 50 per cent, the largest in any OECD country. This prompted the Central Statistics Office in conjunction with the 1996 LFS to conduct a special study of the labour force status of persons on the LR (CSO, 1996). A random sample of one per cent of claimants was included in the LFS. Over a quarter of the sample was not located as usual residents at the addresses given. When the LFS questionnaire was administered to the remainder of the sample, only half were classified as ILO unemployed. The other half was divided equally between ILO employed and ILO inactive. As a result of these findings, more stringent tests of the job search criterion were included in the Irish National Employment Action Plan (Department of Enterprise and Employment, 2002). Since September 1998 all those under 25 who have been unemployed for six months are called for interview to assess their suitability for an existing vacancy or training. This approach was subsequently extended to other age groups according to the schedule set out in Table 3. In a review of the Plan the OECD noted that “a surprisingly high

¹⁹ In the 1990s, union density increased in Public Administration, and Professional Services and Health and Education, but fell Industry and Construction. These figures have been made available to me by Bill Roche and are taken from the UCD DUES Series.

share of [claimants] can be dealt with in this fashion: nearly half either failed to attend the interview or refused intervention, and 28 per cent were struck off the rolls . . .” (OECD, 1999, p. 127).

Table 3

However, reductions in the numbers claiming unemployment benefits do not necessarily translate one-for-one into reductions in the numbers unemployed according to the ILO definition. After all, many of those targeted by the “activation measures” were believed not to be unemployed in the ILO sense because they were not actively seeking employment. The ratio of LR to ILO unemployment peaked (at 260 per cent) in 1999 and fell sharply in 2000 and 2001, although it remains very high among those aged 25 and over, especially women.²⁰ This suggests that the activation measures were effective in reducing the numbers claiming benefits that were not ILO unemployed.

The dip in the long-term unemployment rate after 1998 might be taken as evidence that these measures had a significant impact (see Figure 6). However, the growth in GNP in the late 1990s was so rapid that it on its own might account for this outcome, as is shown by the regression of the change in LTU (Y) on GNP growth (X) using data for the period 1989 - 2003:

$$Y = 0.005 - 0.19 X \quad R^2 = 0.52 \quad D. W. = 2.7$$

(1.6) (4.4)

No structural break after 1997 is evident in this relationship. Although these results are based on just eleven years data, they suggest the need for caution in attributing the fall in LTU to anything other than the exceptional growth spurt.

Higher replacement ratios (that is, the unemployment benefits as a percentage of net income from employment) were blamed for about half the rise in the Irish structural unemployment rate between the 1970s and the mid-1990s (Scarpetta, 1996). These ratios declined sharply during the 1990s. Using an average over four household types and income levels, the OECD reckons that the Irish replacement rate fell from 50 per cent in 1980-87 to 35 per cent in 1999 – by far the largest fall in the OECD area. In several European economies this ratio increased during the 1990s (OECD, 2002; Nickel, 2004). Thus falling replacement ratios may be included among the factors that contributed to Ireland’s success in lowering its unemployment rate.²¹

The tax wedge on labour, that is, the difference between employers’ cost of employing workers and employees’ take home after tax, social welfare deductions and consumption taxes, peaked in Ireland in the late 1980s and fell back during the 1990s. It is now among the lowest in the OECD countries (Nickell, 2004). A narrower measure that excludes consumption taxes declined by 18.3 percentage points between 1996 and 2003 – by far the largest reduction recorded in the OECD,

²⁰ For more details of the behaviour of this ratio by demographic group, see (Walsh, 2003).

²¹ However, micro-econometric estimates suggest that the effect of the replacement rate on the duration of unemployment is small in Ireland compared with the impacts reported in the international literature (Layte and Callan, 2001).

moving Ireland towards the bottom of the league table.²² This wedge – or least the part of it due to direct taxes on wages – is reflected in the social welfare replacement rate, but its impact is wider than this because higher taxes on labour not only contribute to higher unemployment but also to lower employment by moving employers back up their demand curve and individuals back up their supply curves in combinations that depend on the extent of shifting. The marked fall in these wedges during the 1990s would therefore be expected to have contributed to Ireland’s exceptional rate of employment creation.

During the 1990s changes in the income tax system increased the incentives to accepting paid employment. The marginal income tax rate (including social security charges) facing an unmarried industrial worker on average wages peaked at an amazing 68.5 per cent in 1984. By 2002 this had fallen to 46 per cent – by no means “low” but less of an inducement to evasion and avoidance. The marginal tax rates facing other categories of workers were initially lower and also declined, although less dramatically. Many low-paid workers were completely removed from the income net by progressively raising the tax threshold, which for an unmarried worker reached half average industrial earnings in 2002. At the same time, the introduction of “individualization” in the income tax code increased the returns to a second income earner in a household. Certain benefits such as rent supplements are no longer withdrawn on taking up employment and child benefits have been increased and uncoupled from unemployment benefits.

Several other changes in the Irish social welfare code during the 1990s would also be expected to reduce unemployment and increase willingness to accept job offers. A “back to work allowance” was introduced in 1993. This permitted the long-term unemployed to hold on to 75 per cent of their social welfare payments in the first year of employment, 50 per cent in the second, and 25 per cent in the third, thereby reducing the effective tax rate on employment for the unemployed. At its peak in 2000 there were 39,000 participants in this scheme, but by 2002 numbers had fallen to 25,000 and further reductions occurred in 2003. Evaluations have shown the scheme had an impact in terms of reducing the numbers registered as unemployed and switching them to employment, though it has proved difficult to estimate the extent of deadweight and displacement in these numbers.²³ Another form of in-work benefit - the Family Income Supplement - was introduced in the 1980s to raise the take-home pay of those on low earnings. This too reduced the disincentives for the unemployed to accept job offers.

3.4.3 Active labour market policies.

The tightening up of the social welfare system was accompanied by increased spending on “active labour market policies”. Special employment schemes and other active labour market initiatives was introduced and spending on them reached 1½ per cent of GDP by the end of the decade. As a percentage of the average industrial wage per person unemployed, Ireland’s spend on these policies rose from 14 per cent in

²² For these data see www.oecd.org/ctp/taxingwages

²³ This is based on evaluations commissioned by the Department of Social, Community and Family Affairs.

1985 to 29 per cent in 1997, when only the Netherlands and the Scandinavian countries spent more relative to the numbers unemployed (OECD, 2001, Table 1.5). The most costly measure is the Community Employment Scheme, whose scope and impact have been discussed above. Though there is some microeconomic evidence to suggest that the increased emphasis on back to work measures did help to improve the functioning of the labour market in the 1990s, its role should not be exaggerated (Martin, 2000). This expenditure has come under close scrutiny recently and has been significantly reduced and rationalized, without any apparent adverse effect on the aggregate labour market indicators.

3.4.5. Minimum wage legislation.

Not all policy changes went in the direction of greater labour market flexibility. The introduction of a statutory national minimum wage at about 55 per cent of average industrial earnings in 2000 was viewed with apprehension by employers and some economists. After all, high minimum wages have been identified as a significant factor in the high rates of youth unemployment in France and other continental economies. However, although the minimum wage has recently been increased to keep pace with inflation its effects on employment levels seem to have been small (Nolan, O'Neill, and Williams, 2002). The most likely explanation for this lies in the rapid increase in the absolute and relative earnings of less skilled workers, which has reduced the effective "bite" of the minimum wage.

3.4.6 Summary on structural labour market reforms.

Comparing the Irish labour market at the turn of the millennium with what it had been in the mid-1880s, it is clear that several structural changes had occurred that would be expected – on theoretical grounds and on the basis of international evidence - to reduce the equilibrium unemployment rate. Union density declined and the wage bargaining system became more coordinated. The tax and social welfare systems became considerably more work-friendly in a variety of ways, large and small.²⁴ While no single measure should be singled out as the magic bullet that accounts for the vastly improved performance of the labour market, and estimating the impact of individual changes with any precision is difficult, taken together these measures undoubtedly improved the functioning of the labour market and allowed us to enjoy an unemployment rate of less than 4 per cent without experiencing an explosion of wage inflation.

4. Conclusion

During the 1990s the Irish economy grew at an exceptional rate. A key feature of this rapid growth was the unprecedented employment boom. This reduced the unemployment rate, raised the participation rate, and reversed the outflow of population from the country. The resultant increase in the employment rate played a

²⁴ Other factors mentioned in the international literature – such as changes in the degree of employment protection – do not seem very relevant to the Irish story.

large part in Ireland's belated, but very rapid, catch-up in living standards with the leading economies.

In this paper the institutional and structural factors that contributed to the transformation of the Irish economy and labour market have been examined. Once the Irish economy had recovered from the effects of the policy errors of the 1970s and the protracted recession of the 1980s, it responded strongly to several favourable external shocks. A very elastic labour supply was converted into rapid employment growth through a reversal of the deteriorating trend in wage competitiveness. Favourable exchange rate developments played their part in this but pride of place is usually given to the modest nominal wage settlements negotiated under the central wage agreements reintroduced in 1987 and there is some evidence to support this view. The unprecedented rise in the unemployment rate in the mid-1980s and the reduced strength of the trade union movement helped create a new sense of realism that prevailed in wage negotiations and in the return to "social partnership". These in turn were repercussions of the very high rate of unemployment in the UK and the lack of opportunities for Irish emigrants in the wake of the Thatcherite recession. Paradoxically, in view of their eventual impact on Irish wage bargaining, these developments could be regarded as a favourable external shocks.

The exceptional performance of the Irish labour market during the 1990s was not triggered by radical structural reforms, but rather by a series of individually relatively small changes in the right direction. Disincentives to accepting offers of paid employment at prevailing wages were reduced, the administration of the social welfare system made more rigorous, and a plethora of active labour market measures was launched. While these were not sufficiently far-reaching or effective in themselves to account for much of the drop in the unemployment rate and even less of the spectacular rise in employment, they undoubtedly helped maintain the momentum towards lower unemployment created by favourable macroeconomic developments.

The Irish example is important because it shows how an output boom, supported by sensible changes in labour market structures and policies, turned one of Europe's worst performing labour markets into one of the best in less than a decade. Some of the forces behind the Irish success story could not be implemented by all countries simultaneously due their "beggar-my-neighbour" component. For example, it is not possible for all countries to improve their competitiveness by simultaneous devaluations! But a favourable environment for investment, a low tax burden, moderate growth in wage costs, a cooperative approach to industrial relations, a realistic approach to income maintenance for the unemployed, and incentives to help labour markets adjustments, are policies that played their role in reducing unemployment in Ireland and that other countries might with benefit emulate. These policies do not simply redistribute a given level of economic activities between countries, they have the potential to increase the level of economic growth and welfare in all countries.

References

- Cassidy, Mark, 2004, "Productivity in Ireland: Trends and Issues", Central Bank of Ireland *Quarterly Bulletin* Spring, 83-106.
- Curtis, John and John FitzGerald, 1996, "Real Wage Convergence in an Open Labour Market" *Economic and Social Review*, 27 (4), 321-40.
- Department of Enterprise and Employment, 2002, *National Employment Action Plan*. Dublin: Stationary Office.
- Economic and Social Research Institute, 1994, 1997, and 1999, *The Medium-Term Review* 1994-2000, 1997-2003, 1999-2005, Dublin.
- Garibaldi, Pietro and Paolo Mauro, 2002. "Anatomy of Employment Growth", *Economic Policy* 34 (April), 67-114.
- Hines, James R. 2003, "Sensible Tax Policies in Open Economies", paper to the Statistical and Social Inquiry Society of Ireland, 23rd October.
- Honohan, Patrick and Brendan Walsh, 2002. "Catching Up with the Leaders: The Irish Hare" *Brookings Papers on Economic Activity*, (1), 1-78.
- Krueger, Alan and Jörn-Steffen Pischke, 1998, "Observations and Conjectures on the U.S. Employment Miracle" in *Third Public GAAC Symposium: Labor Markets in the USA and Germany*, Bonn: German-American Academic Council, 1998, 99-126.
- Layard, Richard, Stephen Nickell, and Richard Jackman, 1991, *Unemployment: Macroeconomic Performance and the Labour Market*, Oxford University Press.
- Layte, Richard and Tim Callan, 2001, "Unemployment, Welfare Benefits and the Financial Incentive to Work" *Economic and Social Review* 32 (2): 103-130.
- Martin, John, 2000, "What works among active labour market policies? Evidence from OECD countries' experiences" in *OECD Policies Towards Full Employment*. OECD, Paris.
- McMorrow, K. and W. Roeger, 2000, "Time-Varying NAIRU/NAWRU Estimate for the EU's Member States", European Commission, Directorate-General for Economic and Financial Affairs, Economic Paper 144, September.

- Nolan, B., D. O'Neill, and J. Williams 2002, *The Impact of The Minimum Wage on Irish Firms*, Dublin: Economic and Social Research Institute Research Series No. 44.
- Organisation for Economic Cooperation and Development (OECD), 1997 and 1999. *Economic Surveys: Ireland*. OECD Paris.
- _____ 2001, *Employment Outlook 2001*, Paris.
- _____ 2002, *Benefits and Wages: OECD Indicators*, Paris.
- O'Connell Philip J. and J. J. Sexton, 1994, "Labour Market Developments in Ireland, 1971-1993" in *Economic Prospects for the Medium Term*, Dublin: ESRI.
- O'Connell, Philip J. 2000, "The dynamics of the Irish labour market in historical perspective" in *Bust to Boom? The Irish Experience of Growth and Inequality* edited by Brian Nolan, Philip O'Connell and Christopher Whelan, Dublin: Institute of Public Administration, pp. 58-89.
- Scarpetta, S. 1996, "Assessing the Role of Labour Market Policies and Institutional Settings on Unemployment: A Cross-country Study", *OECD Economic Studies*, 26, 43-98.
- Solow, Robert 1986, "Unemployment: Getting the Questions Right", *Economica* 1986 (Supplement) p. S54.
- Walsh, Brendan M. 1999a, "The persistence of high unemployment", in *Understanding Irish Economic Growth*, ed. by Frank Barry, Macmillan, pp 193-226.
- _____ 1999b, "Labour Market Adjustments in the Irish Regions", Department of Economics, University College Dublin, Working Paper.
- _____ 2000, "Cyclical and Structural Influences on Irish Unemployment", *Oxford Economic Papers* 12 (3): 119-145.
- _____ 2003, "How 'Live' is the Live Register and Other Puzzles in the Measurement of Unemployment", *Quarterly Economic Commentary* Spring, pp. 78-86.

Figure 1: Unemployment rate: Forecast and outcome

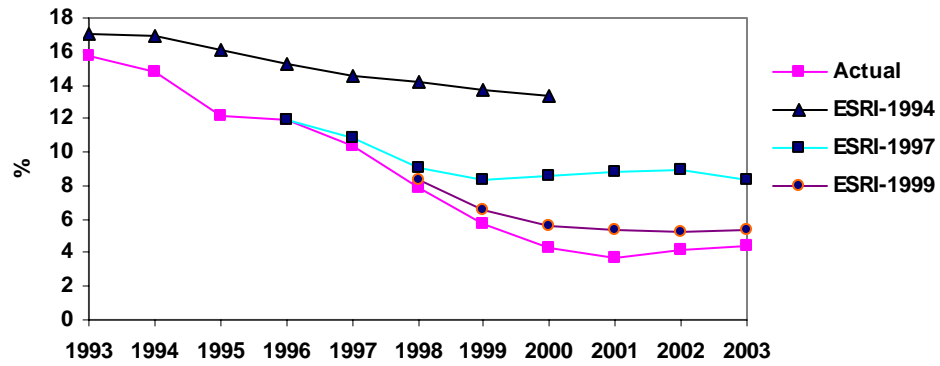


Figure 2:
Non-agricultural employment as percentage of total population

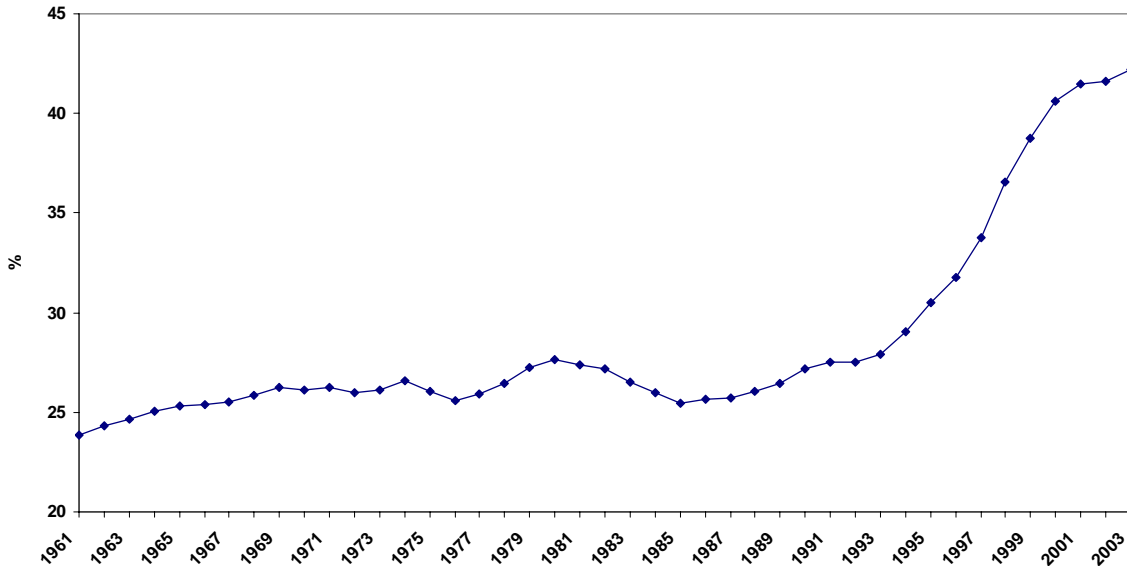


Figure 3
Population change by economic status
(Annual averages)

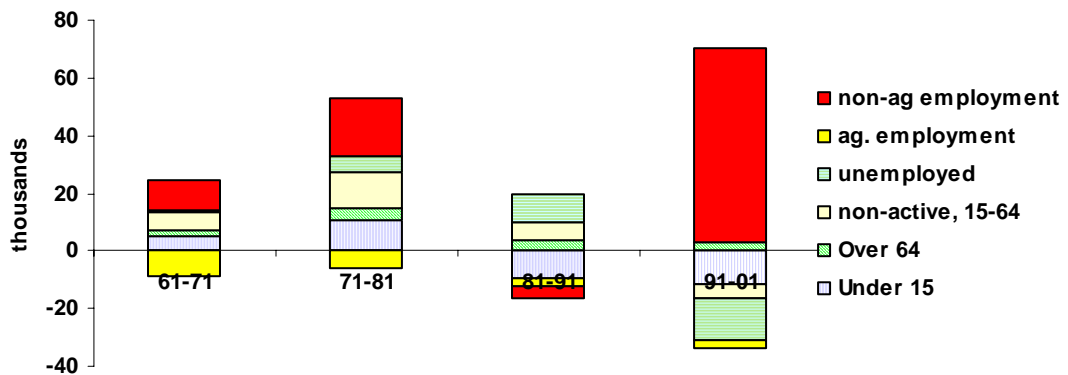


Figure 4: Unemployment rate

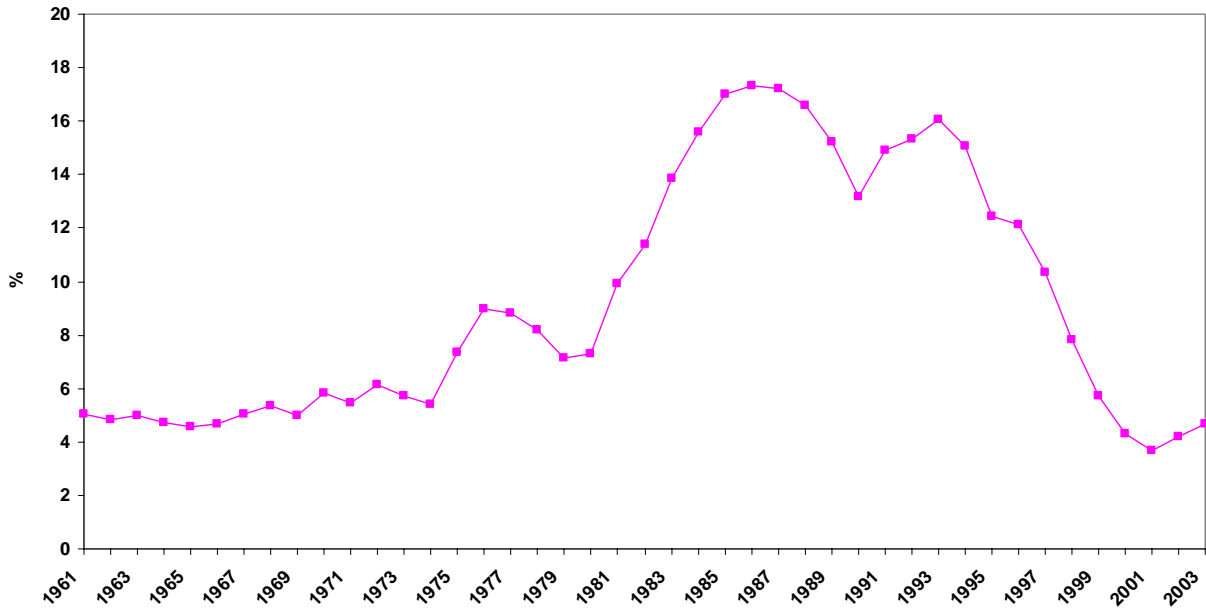


Figure 5: Net Migration Rate

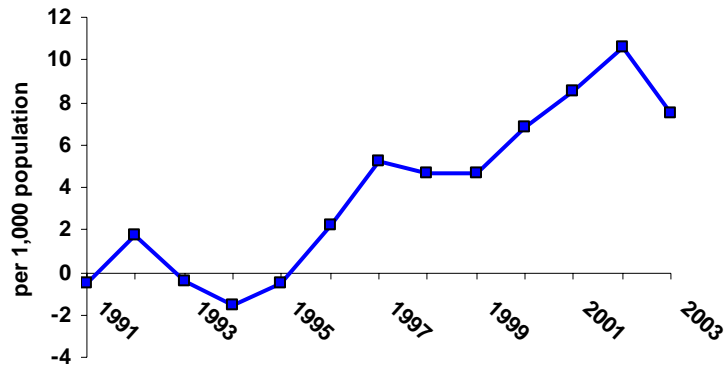
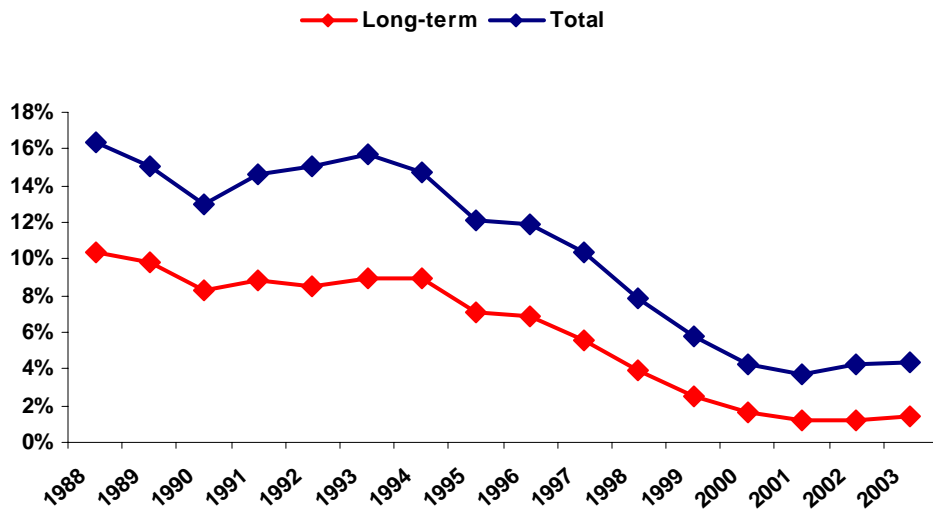
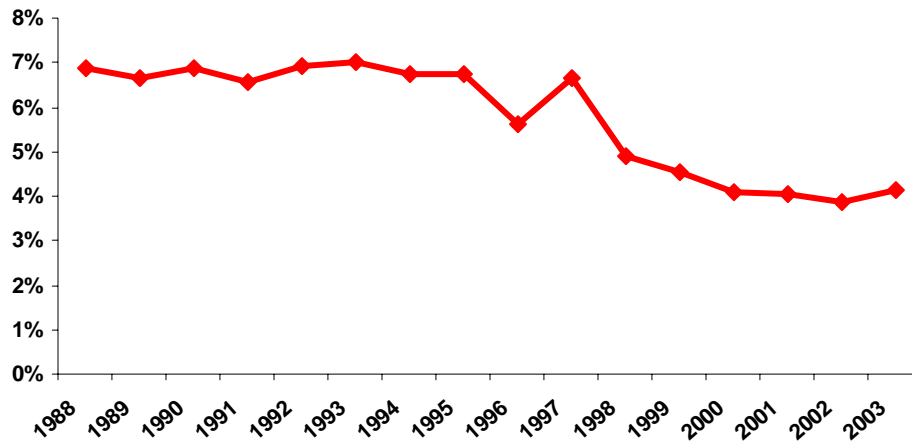


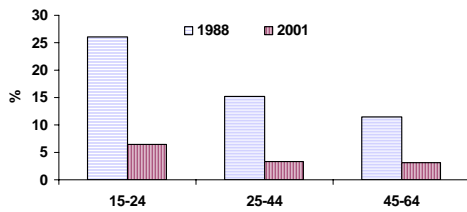
Figure 6
Total and long-term unemployment rates



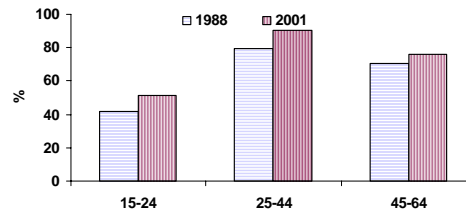
**Figure 7:
Discouraged worker unemployment rate**



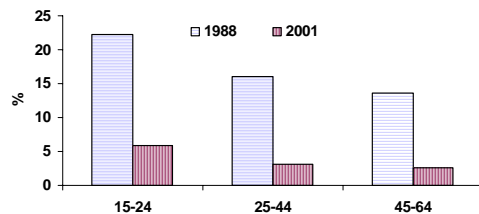
**Figure 8a: Unemployment rates by age, 1988 and 2001
Males**



**Figure 8b: Employment rates by age, 1988 and 2001
Males**



**Figure 8c: Unemployment rates by age, 1988 and 2001
Females**



**Figure 8d: Employment rates by age, 1988 and 2001
Females**

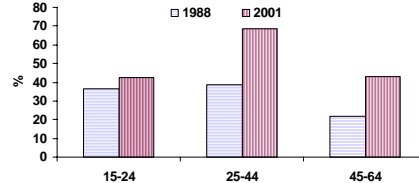


Figure 9a: Unemployment rates by education
Males

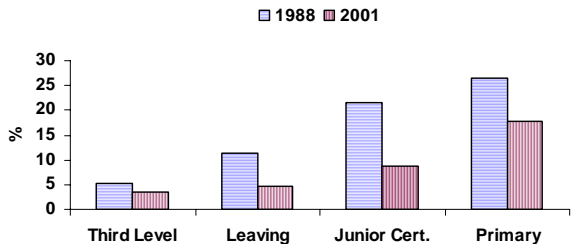


Figure 9b: Employment rates by education
Males

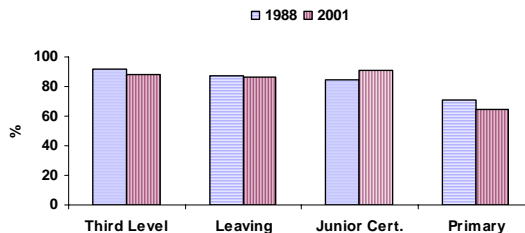


Figure 9c: Unemployment rates by education
Females

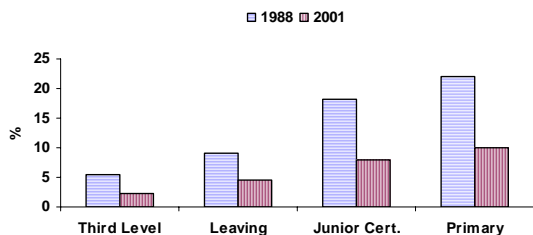


Figure 9d: Employment rates by education
Females

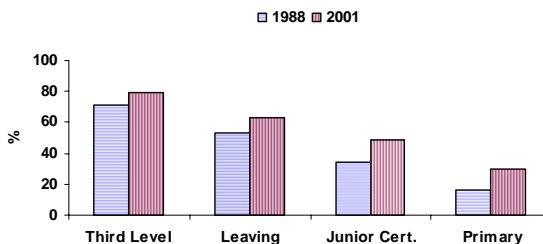


Figure 10a: Unemployment rates by region, 1995 and 2003

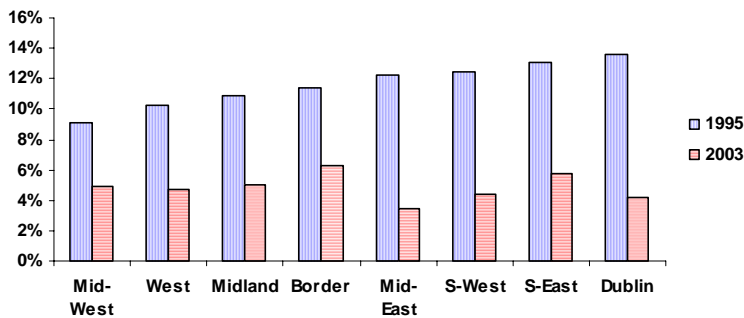


Figure 10b: Employment rates by region, 1995 and 2003

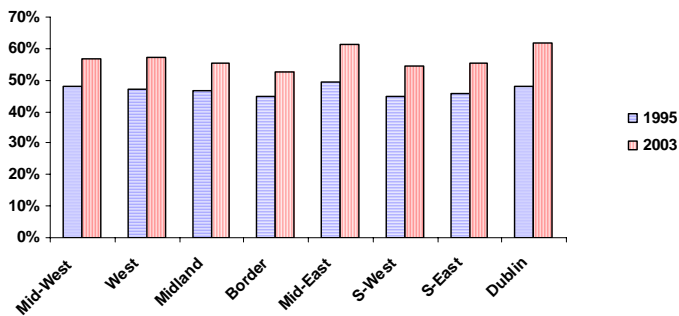


Figure11: Structure of employment, 1985 and 2003 (000s)

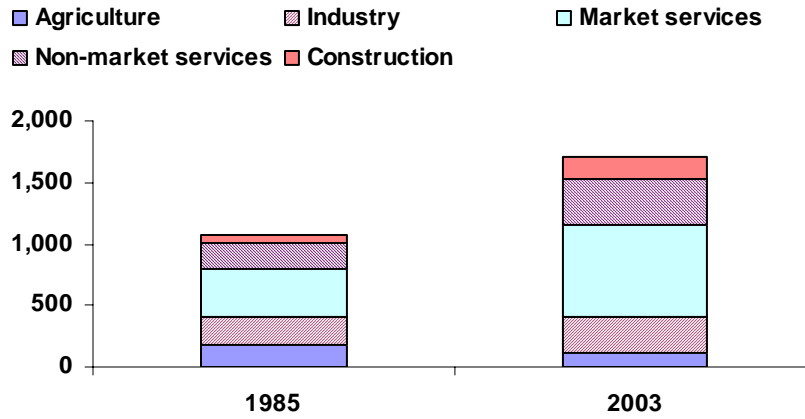


Figure 12: Unemployment and Inflation, 1981-86 and 1999-2003

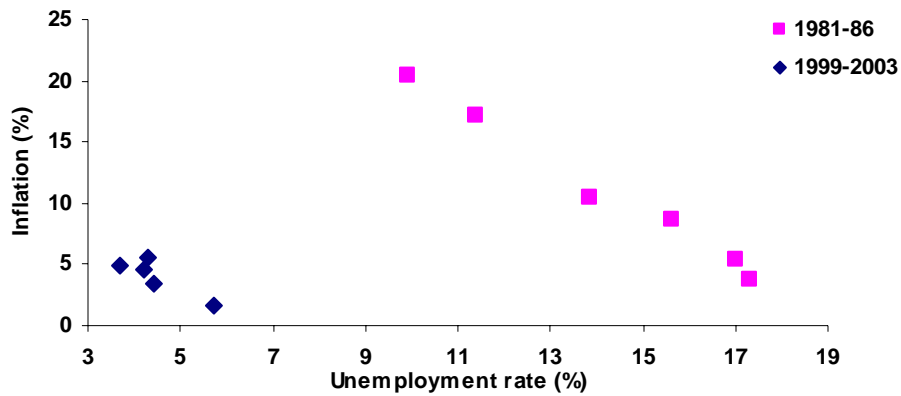


Figure 13: Okun's law, 1962-2003

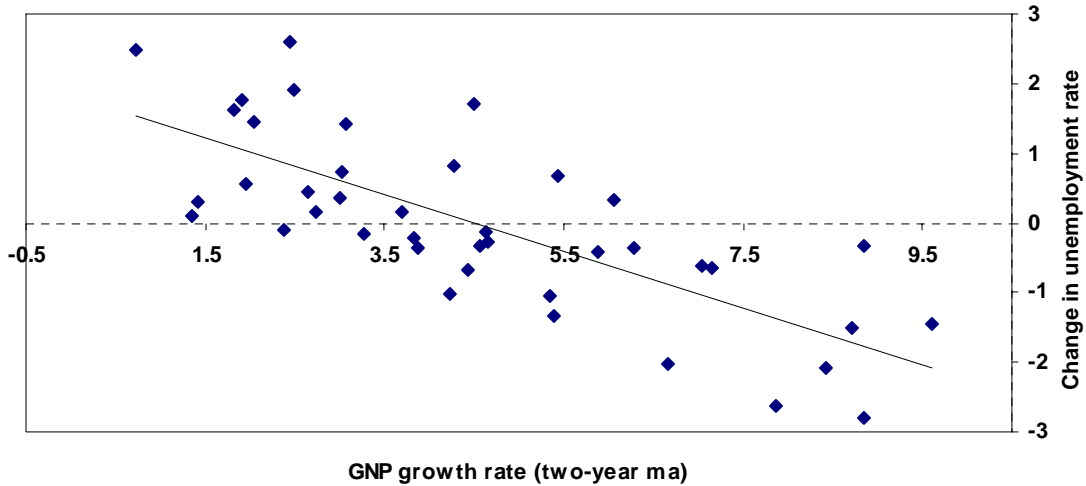


Figure 14: Irish and UK Unemployment Rates, 1962-2003

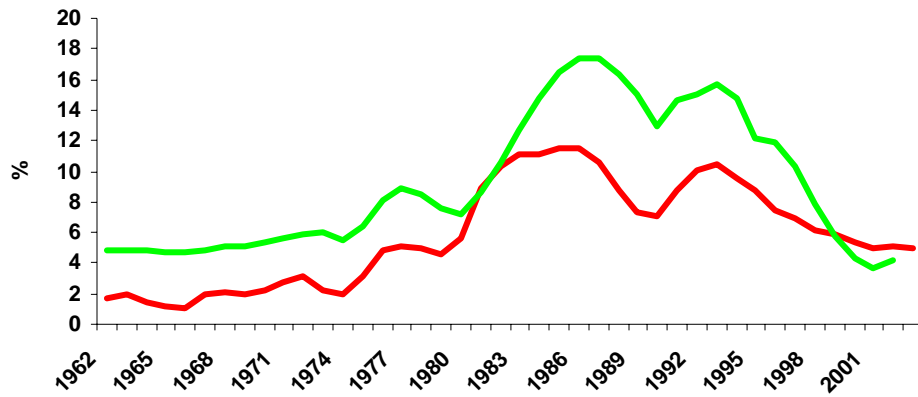


Table 15:
Indices of relative hourly earnings, 1990 =100

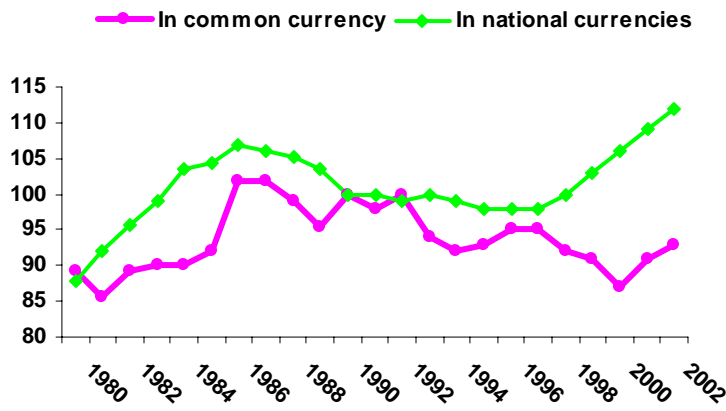


Figure 16:
Index of real earnings, 1982-2003
1985 =100

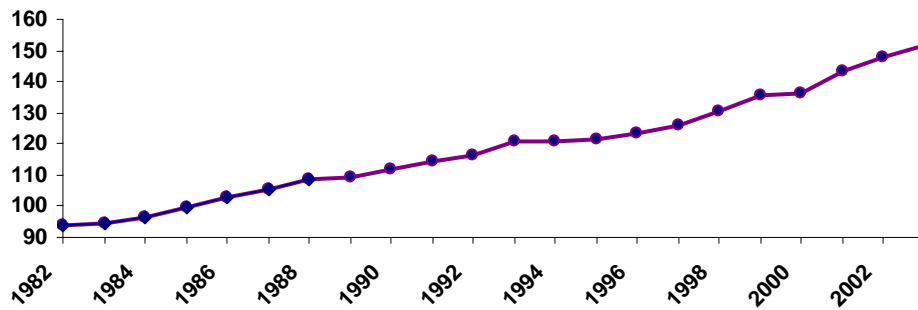


Table 1: Key statistics for three sub-periods

| GNP | Numbers at work | Average hours worked* | Labour productivity | | Population | Non-agricultural employment as % of total population | | |
|-----------------------------|-----------------|-----------------------|---------------------|--------------------|------------|--|------|-------|
| | | | GNP / Employment | GNP / Hours worked | | | | |
| Annual average growth rates | | | | | | | | |
| 1961-1973 | 4.2% | 0.1% | n. a. | 4.1% | n. a. | 0.1% | 1961 | 23.9% |
| 1973-1988 | 3.3% | 0.1% | n. a. | 3.2% | n. a. | 0.9% | 1976 | 25.6% |
| 1988-2003 | 5.7% | 3.6% | -1.0% | 2.0% | 3.1% | 0.8% | 2003 | 41.1% |

*Average economy-wide hours worked declined from 43.1 a week in 1988 to 37.3 in 2003 – roughly one per cent a year. Some of the fall in hours – perhaps one hour a week – reflects the change of survey methodology in 1997. Data for earlier periods are unavailable.

Table 2: Contribution to employment growth by gender and part-time/full-time, 1988-2003

| | | Per cent |
|-------|-----------|----------|
| Men | Full-time | 36.6 |
| | Part-time | 6.1 |
| Women | Full-time | 32.0 |
| | Part-time | 25.3 |
| Total | | 100 |

Note: Average hours worked per week by the employed labour force fell from 43.1 in 1988 to 37.3 in 2003.
Source: Quarterly National Household Survey

Table 3: Schedule of “Activation Measures” under the Irish National Employment Action Plan

| Age group | Live Register threshold for activation | Date |
|---------------------------|--|-----------|
| 18 – 19 year olds (pilot) | Six months | Oct 1996 |
| Under 25 years | Six months | Sept 1998 |
| 25-34 years | Twelve months | May 1999 |
| | Nine months | July 2000 |
| 35-54 years | Twelve months | Feb 2000 |
| | Nine months | July 2000 |