

WHEN UNEMPLOYMENT DISAPPEARS: IRELAND IN THE 1990S

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Abstract

This paper examines the behaviour of the Irish labour market during the 1990s. Over the course of the decade the Irish unemployment rate fell from the highest to the lowest in the EU. Over the same period a record number of jobs was created and all the indicators suggest that full employment was achieved. The primary reason for this “employment miracle” was the output boom, which in turn may be attributed to Ireland’s “super competitiveness” in the late 1990s. Several factors contributed to this – a low exchange rate, the inflow of FDI to high productivity sectors, and wage moderation following the return to centralised wage agreements in 1987. Labour market reforms, including a tightening of the social welfare regime and a switch of spending from income support to active labour market policies, played a positive role. The fact that unemployment has risen only slowly during the current downturn points to the lasting effect of these changes.

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1. Introduction

In the 1980s 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, when two thirds of the unemployed had been out of work for six months or more, almost half for over a year. An already-low labour force participation rate fell further. At the end of the decade net emigration more than offset the rate of natural increase, leading to population decline. An influential comparative study of unemployment in OECD countries estimated that the Irish equilibrium or natural unemployment rate had risen from 9 per cent over the period 1969-79 to 13.1 per cent between 1980 and 1988 (Layard, Nickell, and Jackman, p. 436).

The picture was transformed during the 1990s. The labour market situation improved, slowly at first but then at a pace that took commentators by surprise. Between the trough in 1986-87 and 2002 total employment grew by 62 per cent, non-agricultural employment by over 78 per cent and private sector employment even faster. By 2000 the unemployment rate had fallen below 4 per cent, long-term unemployment had virtually disappeared, the labour force participation rates had risen to the European average, and the age-old Irish problems of emigration and population decline had given way to the highest rate of net immigration and the fastest growing population in the EU. There was general agreement that full employment had been reached – if not surpassed. Ireland's success over this period compares favourably with what has been labelled the US “employment miracle” (Krueger and Pischke, 1997). *And* Ireland easily met the Maastricht inflation criterion; Irish inflation was lower than German in 1997. Even at the time of writing, more than a year since the economy came off the boil, the increase in the

Irish unemployment rate has been very slight and the annual rate of net immigration is still over one percent of the population. Although the inflation rate was significantly above the Eurozone average in 2001-02, this has been attributed more to the catch-up of living standards in the non-traded sectors of the economy – *à la* Balassa-Samuelson - than to an overheating labour market.

This paper examines and interprets these developments. The next section contains a detailed description of what happened. The following section looks at the factors that may be invoked to explain the very favourable Irish experience. The paper concludes with a brief discussion of what lessons, if any, may be drawn for other countries.

2. The record¹

Ireland was for long an extreme example of a labour surplus economy. The famines of the 1840s triggered large-scale emigration and a decline in the national population that lasted until the 1960s. Even then subsistence farmers and unskilled workers predominated in the employed labour force and employment opportunities in industry and services were limited. During the 1960s there was a slight increase in the population and numbers at work, but these modest gains were dissipated in the recessions of the 1970s.

Overt unemployment was, however, kept in check by the continued operation of the safety valve of emigration, now mainly to the United Kingdom. Any widening of the

¹ For an extended account of Ireland's economic fortunes since the 1960s see Honohan and Walsh, 2002.

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 above the EU average for most of the 1960s and into the 1970s (Figure 1). It rose more steeply than the average during the first oil-price recession of the 1970s but fell back fairly quickly later in the decade. The rapid reduction in unemployment was partly due to an inappropriate fiscal stimulus in 1977 that yielded a short-lived growth spurt but launched the economy on an unsustainable debt-GDP trajectory. A pro-cyclical fiscal correction intensified the effects of the global recession in the early 1980s. The painful correction lasted well into the second half of the decade.

The effects of this long recession on the Irish labour force were devastating. The unemployment rate reached record levels – peaking at 17 per cent in 1986-87 - the labour force participation rate declined, the employment/population ratio fell sharply, and emigration resumed as soon as employment opportunities presented themselves abroad. The numbers employed in the productive sectors of the economy fell over these years whilst the numbers in all the dependent categories (except children) increased. Despite the falling birth rate, the employment dependency ratio (that is, the ratio of inactive to employed in the total population times 100) rose from an already exceptionally high 200 in 1981 to a peak of 224 in 1986. It fell back to 213 in 1991 mainly because of the continued fall in the number of children and the resumption of emigration.

The historic link between Irish and British labour markets seemed to break down in the 1980s, possibly due to the severity of the recession in the UK and the collapse in the demand for unskilled workers in construction and industry. In the second half of the

decade the gap between the Irish and UK unemployment rates was over six percentage points. The breakdown of the traditional safety value of emigration was seen at the time as a severe adverse shock to the Irish economy, although its longer-run repercussions on wage bargaining and domestic employment growth were benign (see below). Once recovery got underway in Britain it was to be expected that the pent-up tide of Irish emigrants would flow out. And in fact the initial easing of the labour market problem came in the form of renewed emigration to the UK and US as these economies emerged from recession sooner than Ireland.

Renewed emigration stabilized Irish unemployment in the late 1980s, but the continued rapid fall in the 1990s was increasingly due to the domestic employment boom, as the change in the country's economic fortunes that began in the late 1980s transformed the labour market situation. Figures 2 through 4 summarise the dramatic improvement in Ireland's labour market indices during the 1990s.² The falling unemployment rate and rising participation rate resulted in a steep rise in the employment/population ratio.³ The rise in the labour force participation rate was due mainly to the retention of more married women in the labour force. By 2002, 62 per cent of married women aged 35-44 were economically active on ILO definitions, compared with only 29 per cent in 1988. The availability of affordable childcare rather than of job opportunities is now seen as the binding constraint on higher participation rates among women with children. The long-term unemployment rate fell even faster than the overall rate, reaching 1.2 per cent in

² The definitions of labour force status used in the paper are mainly based on the ILO classification, derived from household surveys since 1988. Earlier measures are reasonably consistent with this (see Appendix 3). The first Labour Force Survey (LFS) was conducted in 1977. A Quarterly National Household Survey (QNHS) was introduced in September 1997. The introduction of a new questionnaire in 1998 over may have raised the numbers recorded as "employed" – note the kink at 1998 in Figure 2.

2000. The short-term unemployment rate – usually taken as a more sensitive measure of labour market conditions - fell to 2.5 per cent and the traditional differential between youth and prime age unemployment rates among males disappeared.

Broader measures of the potential labour force support the view that very little labour market slack remained by the end of the decade. Supplementary measures of potential labour supply have been published since 1998. The aim of these is

..to take into account, in addition to the unemployed, groups outside the labour force who have indicated some interest in obtaining a job. These extra groups include discouraged workers (who are not looking for work as they believe they are not qualified or that no work is available) and other groups who want work but do not meet the ILO criteria to be classified as unemployed. (Central Statistics Office, notes to QNHS)

A broad rate of labour availability that includes all these extra categories (as well as underemployed part-time workers) in both numerator and denominator was 23 per cent in 1988, compared with an unemployment rate of 16 per cent; in 2002 it was 8 per cent compared with a 4 per cent unemployment rate. Subtracting the narrow unemployment rate from the broad measure we obtain a “discouraged worker and underemployment rate”. Figure 5 shows that this measure remained fairly stable until 1997 and then declined steeply.

By the end of the decade, the proportion of industrial employers reporting that labour shortages were a constraint on increased production reached almost 10 per cent. The general perception was that unemployment had ceased to be an aggregate problem and

³ The continued fall in the number of children in the population further contributed to reversing the rise in the dependency ratio, which had fallen to 121 by 2002.

the media became preoccupied with labour shortages, unfilled vacancies, and the issues raised by substantial immigration.

The effects of the employment boom on income distributed have been widely debated in Ireland. Not surprisingly, the trend towards higher participation among married women increased the number of households with more than one employed member. However, the polarization of households into work-rich and work-poor noted in Britain (Gregg, Hansen, and Wadsworth, 2000) was not a feature of the Irish boom. While work-rich

Table 1: Distribution of households by economic activity of members

| | “Work rich” households | “Work poor” households |
|---|---|---------------------------|
| | % of all households | |
| 1988 | 22.8 | 9.8 |
| 1997 | 30.9 | 6.8 |
| 2001 | 37.6 | 3.2 |
| | % of households with at least one economically active member | |
| 1988 | 29.4 | 12.6 |
| 1997 | 41.0 | 9.0 |
| 2001 | 50.0 | 4.3 |
| A “work rich” household has two or more employed and no unemployed members | | |
| A “work poor” household has at least one unemployed and no employed member | | |
| Source: Labour Force Survey 1988 and 1997 Table 41 and QNHS 2001 Q 2, special tabulation. | | |

households – those with no-one unemployed and two or more employed – increased both as a proportion of all households and of households with an active member, by 2000 the share of work-poor household – those with at least one unemployed person and no-one employed – had fallen to only one third its 1988 level whether expressed as a proportion of all households or of households with an active member (Table 1). The fall in the

proportion of workless households has brought substantial social benefits. The proportion of households living in “consistent poverty” fell from 16 per cent in 1987 to 6 per cent in 2000 (Nolan et al, 2002).

2.1 How genuine was the employment boom?

In most OECD countries part-time contracts have contributed more than half of all recent employment growth. The extreme example was 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. Women working part-time accounted for only 26 per cent of the total growth in employment between 1988 and 2002 (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.

Table 2: Contribution to employment growth by gender and part-time/full-time, 1988-2002

| | | % |
|---|-----------|-------|
| Men | | |
| | Full-time | 36.2 |
| | Part-time | 6.2 |
| Women | | |
| | Full-time | 32.1 |
| | Part-time | 25.6 |
| Total | | 100.0 |
| Source: Quarterly National Household Survey | | |

Nor was the growth in the numbers at work or the decline in unemployment unduly dependent on the expansion of public sector employment schemes designed to provide work for the long-term unemployed and other hard-to-employ categories. The employment boom started during a period of fiscal austerity when the numbers at work in the core areas of public administration were reduced and employment in public services such as health and education were held in check. However, a variety of special employment schemes was introduced during the 1980s and 1990s to alleviate unemployment. These comprised a mixture of (i) subsidies to regular employment in the private sector, (ii) support for unemployed persons starting enterprises, and (iii) direct employment on special schemes. The numbers employed on the largest of these – 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 2001.⁴ 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. But since many participants churn through the system, interrupting spells of unemployment with spells on schemes, the impact on the long-run term unemployment has been greater (O’Connell, 2000). Nonetheless, the low the short-term unemployment rate suggests that the displacement from long-term to short-term unemployment was not significant. However, because so few participants in these schemes move on to normal employment, they have increasingly been viewed as part of the problem of structural adjustment rather than part of the solution. At a time when work permits are being issued to non-EU immigrants to take low-paid jobs in the private sector at a rate equaling about 2 per cent of the labour force each year, the rationale for public sector schemes to provide

⁴ These figures are from special tabulations of the QNHS furnished by the Central Statistics Office. They

work for the hard-to-employ is being queried. The provision for these schemes in 2003 has been reduced by about a quarter.

The social welfare system has also been used to encourage some of the unemployed to reclassify as retired. During the 1980s the system was modified to encourage people approaching retirement age (65) 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 (less than 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 affected by these measures – dropped from 60.6 per cent in 1988 to 55.6 per cent in 2002. Some of this reduction may be due to the changes in the social welfare code, but other factors, such as improved private sector pension provision and the declining number of farmers, would also have contributed to early retirement among this group. Moreover, the Irish participation rate among older males remains considerable above the average for OECD-Europe.

To summarise, the Irish employment boom and fall in unemployment cannot be dismissed as artifacts of make-work schemes or policies designed to disguise unemployment. While there has been a growth in part-time employment of women, this appears to be voluntary and underemployment among them is very low. While special employment schemes absorbed an increased proportion of the labour force in the 1990s, by the end of the decade their impact on the aggregate labour market statistics was modest. The same is true of social welfare inducements to early retirement. The broadest

refer to those reported as employed on “government schemes” at the time of the Survey. The flow through

measure of potential labour supply, which includes those with only a marginal interest in employment, has fallen as rapidly as the conventional unemployment rate.

3. Accounting for the transformation⁵

I approach the task of explaining Ireland's phenomenal labour market success in two stages. First I identify the exogenous factors that accounted for the output boom, and then I look at the factors that translated the output boom into an employment boom and in particular the interaction between labour market structures and change in the level of unemployment. This approach makes the topic tractable even though an understanding of the growth of the economy cannot be divorced from an analysis of the performance of the labour market.

3.1 Exogenous explanations for the boom

We have seen that Irish unemployment rose sharply during the global recession of the 1970s. Domestic fiscal stimulus provided only short-term relief and created macroeconomic imbalances that deepened and prolonged the recession of the 1980s. At the same time the rise in UK unemployment shut off the traditional safety valve of emigration, with the result that the Irish unemployment rate reached unprecedented levels.

All of these factors went into reverse in the late 1980s and 1990s. As we have seen, unemployment was stabilized as the Lawson boom in the UK re-opened the safety valve of emigration. But by the end of 1980s the Irish economy had begun to outperform the

the schemes in the course of a year is higher. Many of the supported jobs are part-time.

EU and in the 1990s truly exceptional output growth rates were achieved. Between 1993 and 2000 the real GNP growth rate averaged 8 per cent.⁶ Since there was no marked change in the rate of increase in (labour) productivity, this output boom was accompanied by a very rapid increase in the numbers at work and eventually a sharp reduction in the unemployment rate.

Several exogenous factors contributed to the Irish boom. It coincided with the strongest expansion in the US economy since the Second World War. The buoyancy of the global economy spilled over to Ireland through the increased flow of FDI from the US, as well as through strong demand in exports markets in Britain, Europe, and the US. Having redressed the imbalances that emerged in the domestic economy in the late 1970s, and offering a low corporation tax regime to manufacturing firms, the Irish economy was well positioned to benefit from these favourable external developments. Growth was further fuelled by the fall in Irish real interest rates following the virtual collapse of the European Monetary System in 1993 and the period of generalized exchange rate floating that followed. Irish real interest rates have been negative since nominal rates fell to German levels after the launch of the euro in 1999. By then the Irish economy had become “super competitive”.

The inflow of FDI to Ireland has attracted considerable international attention and tends to be given much of the credit for the boom. For example, a recent study claimed that “the exogenous driving force [in Ireland’s] success was a well-thought out strategy to

⁵ This section draws heavily on the relevant sections of Honohan and Walsh, 2002.

⁶ It is preferable to use GNP rather than GDP when tracking the performance of the Irish economy. The reasons – which relate to the importance of MNCs in the economy - are discussed at length in Honohan and Walsh, 2002. See also Appendix 1 to this paper.

attract foreign direct investment’ (Garibaldi and Mauro, 2002, p 73). But this interpretation ignores the fact that the Irish inducements to FDI had been in place for many years – in fact they were scaled back over the 1990s, although possibly they became better targeted. Moreover the impact of the new firms on the economy is easily exaggerated. It is true that their direct contribution to the employment boom was not trivial. The “high tech” manufacturing sectors where MNCs predominate increased their share of total employment from 7.3 per cent in 1985 to 9.0 in 2000, accounting for about 13 per cent of the total employment growth. The growth of industrial employment in Ireland over this period bucked the general downward trend in OECD countries. But employment in “marketed services” (as distinct from public sector service employment – including everything from international financial services to tourism) grew fastest, contributing over 40 per cent of the total increase.⁷

Another favourable exogenous development – whose importance is also often exaggerated – was the increased inflow of EU structural funds from 1988. They came at an opportune time, helping to fund a resumption of public capital spending which had been pared down as part of the fiscal adjustment and acting counter-cyclically by insulating Ireland from the Gulf War recession. These very substantial transfers are estimated to have lifted the *level* of Irish GDP on a sustained basis by as much as 4 per cent. While not trivial, this boost is dwarfed by the exceptional growth rates recorded after 1993.

⁷ But we should not overlook the fact that the preferential 10 per cent Corporation Tax rate was extended to

3.2 Translating output growth into extra employment

It would not have been possible for real GNP to grow by 8 per cent a year over the period 1993-2000 without a very elastic labour supply. Since the initial high level of unemployment contributed to this elasticity, the rate of growth of output was not a purely exogenous variable that can be used to explain the fall in unemployment.⁸ None the less it is worth noting that despite the rise in the participation rate and the reversal of migration flows, the link between the growth of GDP and the fall in the unemployment rate during the 1990s is similar to that estimated over earlier periods (Walsh, 2000). The correlation between these variables remained high ($\bar{R}^2 = 0.70$) and the implied steady-state GDP growth rate of 4.3 per cent is much the same as earlier estimates (Figure 6).

In addition to the high initial level of unemployment the factors that contributed to the elastic labour supply included:

- A high rate of natural increase of the working age population, as the baby boom of the 1960s and 1970s came on the labour market. Increased expenditure on education in earlier years assured that the labour force entrants were well-qualified.
- The low initial labour force participation rates, especially among married women.

internationally traded financial services located in a designated area of Dublin during the 1980s, where over 8,000 people are now employed.

⁸ See Walsh (2000) for a more technical discussion of this point.

- The openness of the labour market to migration flows. The initial inflows contained a significant proportion of returning emigrants, but in later years non-Irish immigrants predominated.

In the early phase of the expansion, the growing demand for labour could be met from the natural growth of the labour force and returning emigrants. The impact on the non-employed population lagged, giving rise to concerns about “jobless growth”. As late as 1997, the OECD survey of the Irish economy noted that “despite rapid employment growth the unemployment rate remains high, participation rate are low, and net emigration has been substantial”,⁹ but this was already changing dramatically.

An elastic labour supply was not a new phenomenon in Ireland in the 1990s but success in absorbing it into employment – rather than dissipating it in emigration, unemployment, and non-participation – was. The immediate reason for this change was improved wage competitiveness, which made the country a more attractive location for investment (Honohan and Walsh, 2002). Figure 7 shows Irish (i) wages¹⁰ and (ii) unit wage costs in a common currency relative to a weighted average of our trading partners.¹¹ Whereas the latter declined steadily since 1980, the former deteriorated until the mid-1980s and then reversed trend in 1987. This is more closely correlated with the pattern of employment and there are reasons for believing it to be a truer reflection of the changing competitiveness of Irish industry (see Appendix 1).

⁹These were sub-headings in the section on the “Labour market and economic performance” in the OECD *Economic Survey of Ireland 1997*.

¹⁰ That is, average hourly earnings, not including employer’s taxes and social charges.

¹¹Note the very different scales on the y-axes: the second measure shows a much more dramatic improvement than the first.

The improvement in competitiveness was, in turn, due to several developments. The devaluation of the Irish pound in 1986 and 1993 played a part. While a weaker currency is not likely to bestow a permanent advantage, it did provide temporary boosts at key junctures in the recovery. Higher productivity may also be invoked, but this was partly endogenous – reflecting the dramatic impact of new industries on the aggregate figures (see Appendix 1). There was no marked jump in the rate of improvement of productivity in existing firms. The main factor that needs to be considered – and the one that receives the lion’s share of the credit from many Irish commentators – is the return to central wage bargaining or “social partnership” in 1987.

3.3 The return to centralised wage bargaining

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 declined steadily until the 1990s. 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. However, there was no explicit government agenda to curb union power, along Thatcherite lines. On the contrary, the role of unions was strengthened by the revival and deepening of a centralized bargaining process that went beyond wages to cover taxation and other aspects of economic policy.

In 1987 a new centralized agreement was negotiated in very altered circumstances from Ireland’s earlier experimentation with corporatism at the end of the 1970s. The much-weakened unions were glad of the lifeline thrown to them by social partnership. The unprecedented unemployment rate – attributable not only to the economy’s poor performance but also to the exogenous shock of high British unemployment - led to a

widespread consensus that generalized belt-tightening was needed. The first National Wage Agreement was followed by four others, negotiated over successive 3-4 year horizons extending from 1988 to 2003, each exceeding the previous in its ambition and scope. The range of objectives now extended far beyond the basic goal of promoting industrial peace and keeping the economy competitive to objectives like ‘bringing about a fairer and more inclusive Ireland’ and ‘promoting an entrepreneurial culture’ (see Appendix 2).

Admirers of the partnership approach, with its use of a broad tax-based incomes policy, claim that by almost eliminating industrial disputes and moderating real wage growth it deserves much of the credit for the exceptional growth in employment in the 1990s. 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, although militancy has recently increased among public sector unions.

How much of the improved competitiveness should be attributed to the new pay negotiation environment? Several authors have analyzed why the upward relative trend of Irish wages was halted in 1986 but the underlying factors have proved resistant to an agreed econometric explanation. Much of the short-term fluctuation in the relative position is attributable to autonomous exchange rate changes involving sterling and the US dollar. Indeed, once these are allowed for, it is hard to identify a statistically significant role for the domestic unemployment rate, let alone the pay bargaining regime (Curtis and FitzGerald, 1996; Walsh, 2000). But exchange rate movements are implausible as an explanation of the sustained reversal of trend. 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 the latter did pay dividends.

A key feature of the national wage agreements was the lowering of the burden of taxation on employees. The reductions in tax rates were an implicit part of the negotiation of each agreement, with government promising income tax ‘concessions’ in return for pay moderation. As well as the rapidly falling top marginal tax rates, the income tax thresholds were raised sharply in real terms, taking more and more of the lower-paid out of the income tax net. But this was a somewhat Faustian bargain in that the process of lowering tax rates had a natural limit influenced by public perceptions of the adequacy of the provision of public services. Indeed, targeted improvements to public services became part of the later pay bargains. And these debates were overtaken by the rapid deterioration in the public finances after 2000. By 2002 tax increases were needed to contain the emerging fiscal deficit.

Moreover, by 1998 there was considerable drift in actual private sector wage rates above what was agreed in the national agreements. The era of wage restraint seemed nearing its end. Fortuitously though the weakness of the euro between 1999 and 2001 helped keep Irish labour competitive despite accelerating nominal wage increases. The recovery of the euro in 2002 accounts for the up-tick in the competitiveness series (Figure 7).

Finally, tax cuts were not dependent on centralised wage agreements. The key issue is whether their moderating effect on wage demands was significantly enhanced by the centralised bargaining system. On this the jury is still out.

In summary, while centralised wage bargaining may not have delivered much long-run wage moderation, it seemed to play some role in the timing of the economic recovery and the subsequent employment boom.

3.4 Removing structural rigidities

Although the point of departure was a fairly Spartan social welfare system and relatively market-friendly policies, serious disincentives and anomalies, as well as a lax attitude towards eligibility for benefits and assistance, existed and were invoked as reasons for the persistence of high unemployment. As the unemployment rate soared the fact unemployment assistance could be collected more or less indefinitely without any evidence of active job search received more critical attention. Whether this affected the survey-based measures of unemployment is a moot point. (The relationship between registered and survey-based measures of unemployment is discussed in Appendix 3.) It is more plausible to argue that this contributed to the persistence of high unemployment into the 1990s than to its rise in the 1980s.

The Irish case is a useful study of the validity of the emphasis in the OECD *Jobs Strategy* on reforms in the tax and benefit systems and increased labour market flexibility as preconditions for improved labour market outcomes. 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. The OECD itself reviewed progress on these fronts in its Economic Surveys of Ireland in 1997 and 1999. It recognized that Ireland made progress in many areas, notably by

- *A preventative approach to long-term unemployment.* Since September 1998 all those who have been unemployed for six months are called for interview to assess where they are apt for an existing vacancy or in need of training. To cite the OECD, “a surprisingly high share of these 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). This helped close the very large gap that had emerged between registered unemployment and unemployment as measured on an ILO basis. But while there was a fall in the long-term unemployment rate after 1988, the major reductions did not occur until much later (Figure 4a).
- *Active labour market policies.* A plethora of special employment schemes and other active labour market initiatives was introduced. Spending on these reached 1½ per cent of GDP in the late 1980s. The most costly measure is the Community Employment scheme, which has been discussed above. OECD data reveal that Ireland moved well up the league table on spending on such ‘active labour market policies’ between 1985 and 1997 - from 14% of average industrial earnings per person unemployed in 1985 to 29% in 1997, when only the Netherlands and the Scandinavian countries were higher. This level of spending has proved controversial, and 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 closer scrutiny in current more constrained budgetary context and is likely to be significantly reduced and rationalized.¹²

¹² Recent newspaper accounts suggest that places on the various training and special placement scheme exceed the numbers unemployed.

- *Reducing the work disincentives in the benefit system.* Higher replacement ratios were blamed for about half the rise in the Irish structural unemployment rate between the 1970s and the mid-1990s (Scarpetta, 1996), but the disincentive effects that have been uncovered appear to be small compared to those reported in the international literature and the largest effects are reported among relatively advantaged unemployed groups and not the long term unemployed who constitute such a large proportion of the core unemployment problem in Europe (Layte and Callan, 2001). Net replacement ratios – which were roughly in the middle European range in the 1980s - stabilized and in some cases declined in the 1990s. This was due to changes in the income tax code and in the social welfare system. The rate of increase in basic benefits did not keep pace with the rise in after-tax pay, especially among the lower-paid. A significant innovation was the introduction of a “back to work allowance” in 1993 which permits the long-term unemployed to hold on to 75 percent of their social welfare payments in the first year of employment, 50 per cent in the second, and 25 per cent in the third. At its peak in 2000 there were 39,000 participants on this scheme, but by 2002 numbers had fallen to 25,000 and further reductions are planned in 2003.
- *The burden of taxation.* 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 68.5 per cent in 1984. By 2002 this had fallen to 48 per cent. The marginal tax rates facing other categories of workers were 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. The introduction of “individualization” in the income tax code greatly increased the after-tax 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. But while moving in the right direction, these changes were hardly sufficient to account for much of the dramatic fall in unemployment and rise in employment.

- *Increased real wage flexibility?* Greater wage flexibility may also have contributed to the improved labour market performance. Low inflation and a falling tax burden reinforced nominal wage moderation even as the unemployment rate plummeted in the second half of the 1990s. The natural rate of unemployment seemed to be shifting inwards faster than it was said to have shifted outwards during the 1980s. But as the unemployment rate fell to unprecedented levels, wage inflation pressures did build up. In the public sector in particular numerous groups clamoured for large pay increases in order to participate in the country's newfound prosperity. However, when the slowdown in global activity in the technology sectors hit Ireland, anecdotal evidence and the behaviour of income tax receipts¹³ suggest that wages and salaries adjusted downward— particularly through the non-payment of bonuses - in sectors where employment is at risk.

But not all policy changes went in the direction of greater labour market flexibility. In particular, the introduction of a statutory national minimum wage at about 55 per cent of average industrial earnings in 2000 was viewed with some apprehension by employers and

many commentators. The minimum wage has since been increased to keep pace with wage inflation but its effects on employment levels have been small (Nolan, O'Neill, and Williams, 2002).

It is also striking that the social partnership process did not result in any major legal, procedural, or institutional changes in the industrial relations framework. Thorny questions of labour union recognition and negotiation rights, and the binding nature of Labour Court recommendations, remain unresolved. The national wage agreement that expires at the end of 2002 (the Programme for Prosperity and Fairness) set up a Public Sector Benchmarking Body in an attempt to tackle recurrent relativity and productivity issues in public sector pay. Its first report - issued in June 2002 - recommended special pay increases ranging from 4 to 25 per cent for various categories of public service employees. The whole process has been severely criticized by a former member of the Body, who claimed that it failed to address the need to encourage modernization and the acceptance of performance-related pay in the public sector (O'Leary, 2002). The direct and indirect budgetary implications of implementing this report at a time of increasing fiscal strain are serious and the additional outlay incurred is unlikely to contribute much to the more efficient functioning of the labour market.

Nor did Ireland take a radical approach to product market deregulation. Such privatization and liberalization as occurred was reluctant, much of it only to comply with EU directives. The biggest effect probably came from opening up air access into the country to competition. One effect of this is that the Irish airline Ryanair has become the

¹³ Tax revenue fell much more rapidly than the numbers at work and one explanation offered has been the

largest in Europe in terms market capitalization and played a significant part in the Irish tourist boom of the 1990s.

In view of the less-than-radical nature of the structural reforms that have been implemented, it is safe to conclude that although their cumulative effect on unemployment claims may have been significant, not much of Ireland's "employment miracle" should be attributed to them. More formal support for this view comes from cross section and panel regressions that attempt to explain employment growth in the OECD countries using policy variables such as indices of employment protection legislation, taxes as a percentage of GDP, employee-employer coordination, replacement ratios, and so on (Garibaldi and Mauro, 2002). Ireland lies consistently above these regression lines, showing that actual employment growth was much larger than predicted by models that try to explain it mainly in terms of changes in labour market policies. A similar conclusion is warranted by a test for a break in the link between output growth and unemployment since the recovery from the low-point of the mid-1980s. When a post-1988 dummy is added to the Okun relationship, its coefficient is negative but it is not statistically significant. This suggests that there is only weak support for the belief that the reforms of the 1990s were on a scale sufficient to alter the historical link between the rate of growth of output and changes in the unemployment rate.

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

collapse of bonuses and performance-related pay. Recent changes in the structure of income taxation have

unemployment rate, raised the participation rate, and reversed the outflow of population from the country. The sharp increase in the employment rate played a large part in Ireland's belated, but very rapid, catch-up in living standards with the leading economies.

In this paper the factors that contributed to the transformations of the Irish economy and labour market have been examined. Favourable external shocks – the rapid growth of the world economy, large inflows of FDI and EU structural funds, favourable exchange and interest rate developments, and rising productivity (itself partly endogenous) – all played their part. It was argued that once the Irish economy had recovered from the effects of the policy errors of the 1970s and the protracted recession of the 1980s, rapid employment growth was facilitated by a very elastic labour supply. The catalyst that converted this potential into employment was 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. However, even if the return to “social partnership” and the government's commitment to easing the income tax burden are given credit for the improved wage bargaining outcomes, we should not lose sight of the contribution of the unprecedented unemployment rate and the reduced strength of the trade union movement to the new sense of realism that prevailed in wage negotiations. That Irish unemployment rose so high in the mid-1980s was due to the level of unemployment reached in the UK and the lack of opportunities for Irish

emigrants. Paradoxically, in light of the eventual impact on Irish wage bargaining this too could be regarded as a favourable external shock.

The exceptional performance of the Irish labour market during the 1990s was not triggered by radical structural reforms. True, the disincentives to paid employment were reduced, the administration of the social welfare system became more rigorous, and a plethora of active labour market measures was launched, but these were not sufficiently far-reaching or effective to account for the initial drop in the unemployment rate, much less the spectacular rise in the numbers in employment. However they undoubtedly helped maintain the momentum towards lower unemployment created by the favourable macroeconomic developments.

Clearly, many of the factors behind the Irish success story are not relevant to other European economies or could not be implemented by all countries simultaneously due their “beggar my neighbour” component. This is particularly true of the contribution of devaluations to improved competitiveness – by definition it is not possible for all countries to improve their competitiveness simultaneously! But it may be argued that there is also a beggar-my-neighbour element in the use of a low corporation tax regime to attract a larger share of FDI. Ireland’s low profits tax rate has provoked accusations of “unfair tax competition” in EU forums. But a favourable environment for investment, a low tax burden, moderate growth in wage costs, and a cooperative approach to industrial relations are policies that other countries might with benefit emulate. But above all the Irish example shows the importance of rapid economic

growth and how an output boom turned one of Europe's worst performing labour markets into one of the best in the course of a decade.

The Irish economy has now entered a period of below-trend growth that on past evidence will lead to rising unemployment. The changes that occurred in Irish labour market structures during the 1990s will be judged by how high the unemployment rate rises during the slowdown and how quickly it falls as the economy returns to its long-term growth path. This assessment is a task for the future, but we can be hopeful that the changes documented here have their own momentum and that the force of hysteresis will now work in our favour as it worked against us in the 1980s.

Appendix 1: Measuring competitiveness

The measurement of “competitiveness” in Ireland has to confront the question of how to take account of productivity. The structure of Irish industry has changed rapidly as new firms start up and older firms close. The new firms have been predominantly MNCs in “high tech” sectors. Many have come to Ireland to take advantage of the low corporate profit tax rate (10 per cent during the 1990s). As a consequence they inflate their recorded value added to a multiple of the comparable average for similar European firms. This phenomenon is noticeable in the industrial statistics for “Software reproduction”, “Organic and basic chemicals”, “Computers”, and “Electronic components”. The most extreme case is “Cola concentrates” where in 1999 value added per Irish employee was *€1.25 million compared with a European average of €110,000. However, it is reasonable to suppose that the mix of firms within sectors in Ireland is more favourable than the European average, with a higher proportion of new enterprises producing genuinely high value products.*

These considerations also inflate Irish GDP. Most of the excess profits generated by this process are eventually repatriated from the country and are subtracted from GDP when deriving GNP. The GDP-GNP gap is now 18 per cent. They also affect aggregates such as the functional distribution of GDP. Much of the recorded drop in labour’s share in GDP in the 1990s simply reflects the impact of the MNCs on the profit share.

A productivity-adjusted earnings series such as “unit wage costs in a common currency” is affected by the arrival of new firms of this type in a way that sheds no light on the trend in (unit) costs in established firms. Nonetheless, it may be wrong to completely ignore the influence of this source of productivity growth because it affects employers’ willingness to pay for labour.

Appendix 2: Social partnership in Ireland

In 1979 the first ‘National Understanding for Economic and Social Development’ was negotiated against a backdrop of disastrous industrial strife. While this Agreement achieved a reduction in the level of strikes, a second Agreement collapsed in 1982 and there followed a five-year period of decentralised collective bargaining. It was not until 1987 that a new National Agreement or Programme was negotiated. This was the first of several whose ambition and scope grew exponentially, as the list of organisation involved in the negotiation of the most recent one shows.¹ The range of objectives has been extended far beyond the basic goal of promoting industrial peace and keeping the economy competitive to include objectives like ‘bringing about a fairer and more inclusive Ireland’ and ‘promoting an entrepreneurial culture’. It is claimed that as many as 68 committees have been established to discuss these issues!

With the advent of full employment in 2000, and the increasing drift between the terms of the agreement and actual wage inflation, employers became increasingly sceptical of the appropriateness of negotiating a new deal for 2003.

Chronology of Irish corporatism

| Title of national agreement/programme | Period |
|---|------------|
| <i>Programme for National Recovery</i> | 1988-90 |
| <i>Programme for Economic & Social Progress</i> | 1991-93 |
| <i>Programme for Competitiveness and Work</i> | 1994-96/97 |
| <i>Partnership 2000 for Inclusion, Employment & Competitiveness</i> | 1997-2000 |
| <i>Programme for Prosperity and Fairness</i> | 2000-03 |

¹The parties to the latest negotiations included the Government, employers, trade unions, farmers and the community and voluntary sector as follows: Irish Business and Employers’ Confederation (IBEC), Irish Congress of Trade Unions (ICTU), Construction Industry Federation (CIF), Irish Farmers’ Association (IFA), Irish Creamery Milk Suppliers’ Association (ICMSA), Irish Co-Operative Organisation Society Ltd. (ICOS), Macra na Feirme, Irish National Organisation of the Unemployed (INO), Congress Centres for the Unemployed, The Community Platform¹, Conference of Religious of Ireland (CORI), National Women’s’ Council of Ireland (NWCI), National Youth Council of Ireland (NYCI), Society of Saint Vincent de Paul, Protestant Aid, Small Firms’ Association (SFA), Irish Exporters’ Association (IEA), Irish Tourist Industry Confederation (ITIC) and Chambers of Commerce of Ireland (CCI).

Appendix 3

Registered Unemployment and ILO Unemployment

Until the 1990s there was little controversy over the measurement of unemployment in Ireland. The data collected on registrants at local employment offices, the Live Register (LR), were relied on to track trends in unemployment. The Labour Force Survey (LFS), first conducted in 1975, supplemented this information first with data on “Principal Economic Status” (PES) and, since 1988, with data on the ILO labour force categories. Initially the unemployment series derived from these three sources differed little from one another. The numbers reporting job-search unemployment and those reporting that their PES was “unemployed” were consistent with the numbers on the LR. The fact that it was possible to register as unemployed and receive benefits or assistance more or less indefinitely without evidence of active job search did not seem to significantly inflate the LR figures.

Over the 1990s, however, the discrepancy between registered unemployment and the survey-based measures increased steadily. By the mid-1990s the numbers registered as unemployed were some 50 per cent higher than the ILO unemployed – the largest discrepancy in the OECD. The Central Statistics Office investigated the reasons for this in 1996 and concluded that up to half those who were registered as unemployed did not fulfil the key ILO criterion of “active job search”. As a result the published LR series now contains a disclaimer to the effect that “the Live Register is not designed to measure unemployment.” Among the reasons given are that the LR includes part-time, seasonal, and casual workers, and others¹⁴ who may not meet the ILO unemployment criteria.

The factors that influence whether males not employed according to the ILO criteria sign on the LR have been studied using the returns of the 1993 LFS (Murphy and Walsh, 1996). They found that the ILO unemployed were more likely to sign on than the ILO inactive, but that in addition the probability is increased by factors that reflect the likelihood of qualifying for benefits and the value of these benefits, as well as other factors that may be proxies for the level of wealth and non-wage income, as well as various social factors.

The evidence that many of the registered unemployed were not actively seeking employment prompted stricter conditionality for the payment of benefits after 1996, first for younger people and then for the prime aged. This might have been expected not only to reduce the numbers registering as unemployed but also to increase the numbers reporting active job search and consequently categorised as ILO unemployed. As a consequence, the LR/ILO ratio would have been expected to decline after 1996. In fact a slight decline did occur among those aged under 25, but the ratio continued to increase among older persons, until it peaked at over 200 per cent in 2000-01.

Figure A1 shows the behaviour of the LR/ILO ratio in four demographic groups (males and females, aged under 25 and 25 and over) and the ILO unemployment rate. The ratio has been consistently higher and more variable among older than younger persons. In the second half of the 1990s the ratio rose sharply among women aged 25 and over, until by 2000 three times as many of them were on the LR as were recorded ILO unemployed. The numbers classified as ILO unemployed declined by two-thirds between 1996 and 2001, but the numbers on the LR fell by only one half. This could reflect the rapid rise in the female

¹⁴ More than one in eight of the females on the LR are signing on for “credited contributions” and not entitled to either Unemployment Assistance or Benefit.

labour force and the fact that women interrupting or leaving employment may qualify for unemployment benefits or wish to register for “credited contributions” even if not available for employment. It could also reflect the growing proportion of the LR comprising seasonal, casual, and part-time workers as the number of fully unemployed persons shrank.

The correlation of the LR/ILO ratio with the unemployment rate is negative for all groups, but much higher for those aged 25 and over ($r = -0.89$ for males, -0.91 for females). The negative correlation is consistent with the view that the LR numbers are the sum of genuine unemployment and another component (“noise”) whose level has remained fairly constant over the years.

The reasons for the relatively high level of registered unemployment in Ireland, and the effect - if any - of this on the ILO measure of unemployment, require further study.

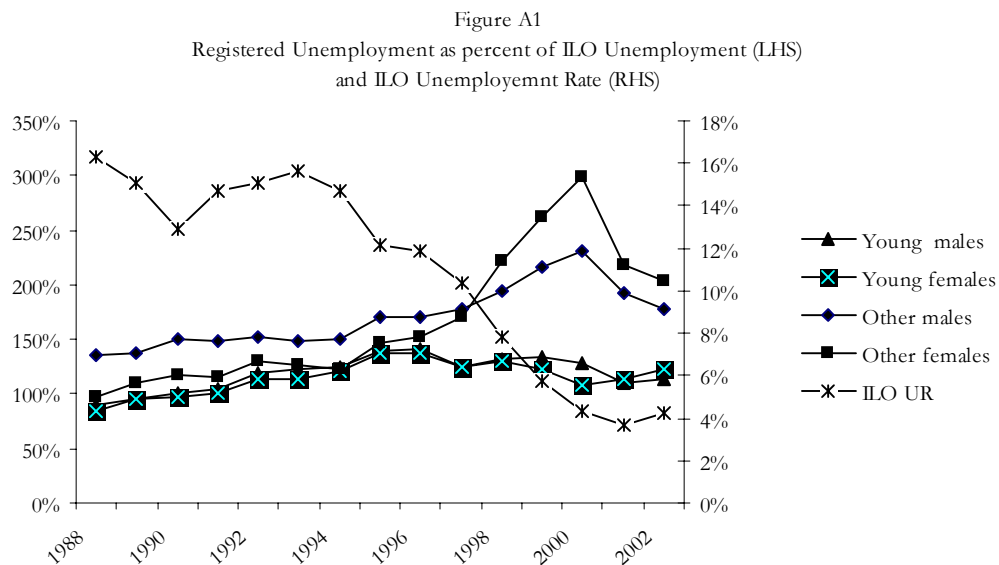


Figure 1:
Irish and EU Unemployment rates

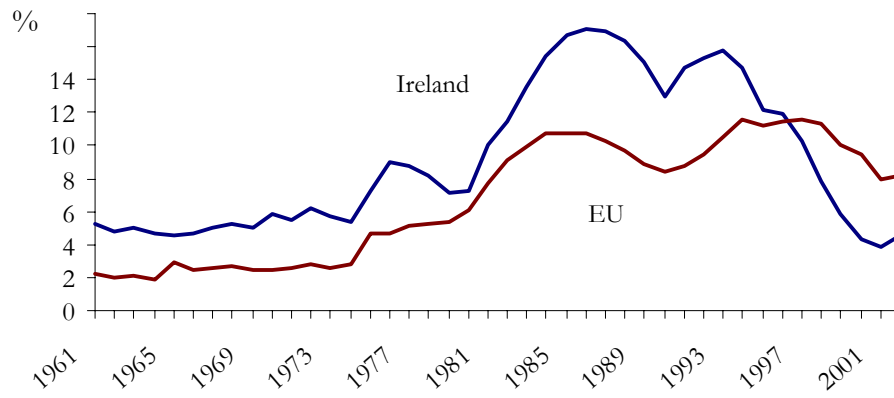


Figure 2:
Participation rate, population aged 15 and over

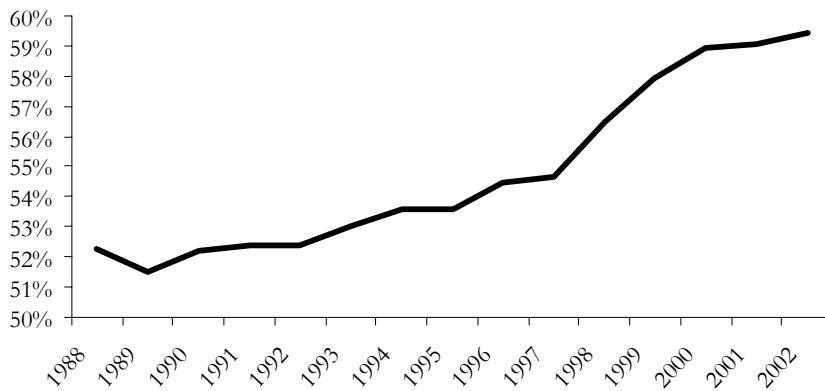


Figure 3:
Employment rate, population aged 15 and over

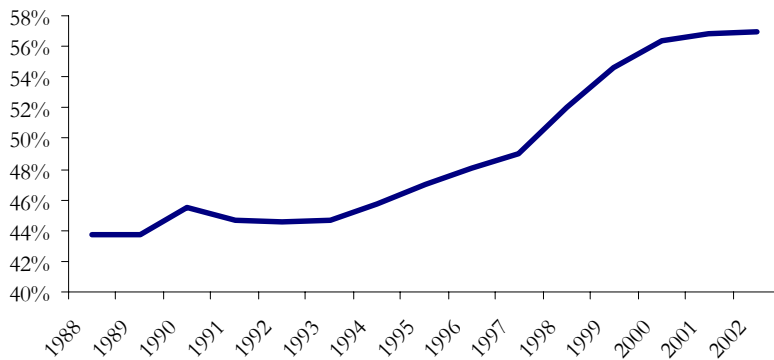


Figure 4a
Long-term unemployment rate

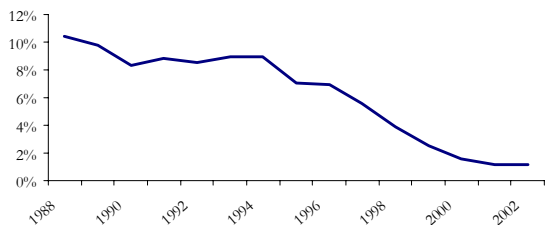


Figure 4b
Short-term unemployment rate

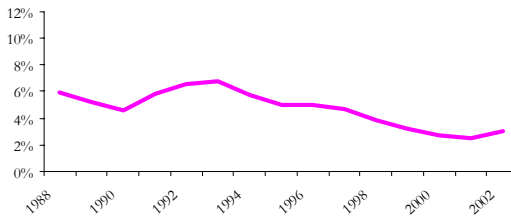


Figure 5:
Discouraged worker rate



Figure 8
Okun's Law, 1988-2002

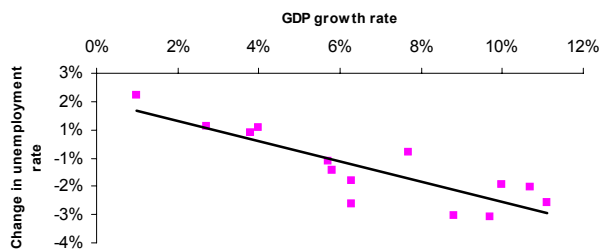


Table 7a:
Relative wage costs in a common currency

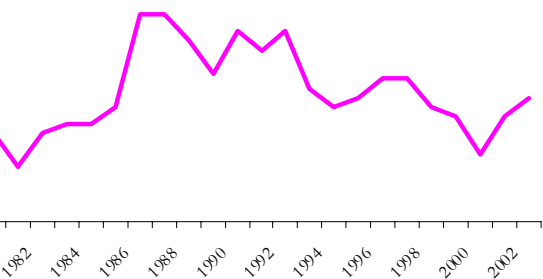


Table 7b:
Relative unit wage costs in a common currency



References

- Curtis, John and John FitzGerald, 1996. "Real Wage Convergence in an Open Labour Market" *Economic and Social Review*, 27 (4), 321-40.
- Garibaldi, Pietro and Paolo Mauro, 2002. "Anatomy of Employment Growth" *Economic Policy* 34 (April), 67-114.
- Gregg, Paul, Kirstine Hansen, and Jonathan Wadsworth, 2000. "Poles Apart: Labour Market Performance and the Distribution of Work Across Households" *World Economics* 1 (2), 55-72.
- 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.

Murphy, Anthony and Brendan Walsh, 1996. "The Incidence of Male Non-Employment in Ireland", *Economic and Social Review*, **25** (5), 467-490.

Nolan, B., B. Gannon, R. Layte, D. Watson, C. T. Whelan and J. Williams, 2002, *Monitoring Poverty Trends in Ireland: Results from the 2000 Living in Ireland Survey*. Dublin: The Economic and Social Research Institute.

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.

O'Leary, J. 2002. "Benchmarking the Benchmarkers" Dublin Economic Workshop, Kenmare, October (mimeo).

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.

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.

Walsh, Brendan M. 2000. “Cyclical and Structural Influences on Irish Unemployment”, *Oxford Economic Papers* 12 (3): 119-145.

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