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The influence of pension provisions on early retirement in Ireland



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This article looks at the international evidence linking social security pensions and early retirement, examines what influence Ireland's social security system has on retirement behaviour, and looks at how more flexible retirement might be facilitated by our social welfare system without introducing an actuarial bias. It recommends that a facility for accelerated savings towards an earlier choice of retirement date should be provided through the PRSI system. Social welfare early pensions which are actuarially reduced might have limited appeal, but should be considered in the interests of promoting choice and flexibility. An early start to pension saving offers the best chance of retiring earlier, but pension cover for the young is unlikely to improve if such cover is purely voluntary.

INTRODUCTION

In common with other developed countries, men in Ireland now retire significantly earlier than they did a generation ago. International evidence suggests that social security systems have been a major influence on retirement behaviour. This article reviews that evidence, examines how the Irish welfare system currently influences early retirement decisions and explores how it might facilitate a greater choice of retirement age.

Economic theory suggests that individuals will continue to work rather than retire as long as the benefits (both intangible and financial) of work outweigh the attractions of retirement. Changes in pension or social security rules can alter the balance of advantage and influence the retirement choice.

The share of pre-retirement income which is received as a pension (the replacement rate) is one obvious way to measure the financial benefit of retirement. Another important factor is whether the pension paid is actuarially neutral or is biased towards early retirement. A measure of this is the change in pension wealth for remaining at work for an extra year.^[1] If pension wealth falls, there is an incentive to retire.

[1] Pension wealth is the capitalised value of the stream of pension income to be received over the course of retirement. A discount value is used to convert this income stream into an equivalent capital sum.

Throughout the early and middle years of working life, people typically build up pension rights and their pension wealth every year through social security and pension contributions. Once the maximum pension has been reached, further working years no longer add to pension value and delaying retirement becomes less attractive.

Pension schemes are often structured such that postponing retirement brings a lower lifetime stream of pension income, because the pension paid to those who retire later either does not vary at all or does not rise by enough to reflect the shorter period over which it is received. Postponing retirement reduces total pension wealth, so there is an actuarial bias or incentive to retire. This fall in pension wealth can be considered as an additional 'tax' on continuing to work (Gruber and Wise, 1997).

This actuarial bias towards retirement is a feature of most social security systems in the developed world, especially those that offer an early retirement option. Defined contribution pension schemes have no actuarial bias, as a fixed sum at retirement is spread over the years in retirement and earlier retirement means a full downward adjustment in the pension payable. Some defined benefit pensions are actuarially biased, others are neutral depending on the specific terms of the pension schemes.

THE INTERNATIONAL EXPERIENCE

Economic studies of many developed countries have shown consistent links between the introduction of social security early retirement provisions and an increased incidence of early retirement by older men. Two major international projects on the economics of ageing, by the US National Bureau of Economic Research (Gruber and Wise, 1997) and the Organisation for Economic Co-operation and Development (OECD, 1997), have modelled the economic influences on early retirement behaviour.

RETIREMENT PEAKS AT MINIMUM SOCIAL SECURITY RETIREMENT AGE

Many social security systems in developed countries offer an early retirement option: for example, Spain, Sweden, Finland and Canada at 60, the US at 62 and Germany at 63, with standard age at 65. All the developed countries with an early retirement option feature rates of social security pension actuarially biased towards early retirement. There is strong evidence that these provisions determine when most workers retire and the rate of departure from the workforce accelerates sharply at the minimum social security retirement age. In France, for example, 60% of workers leave the workforce at the minimum social security retirement age of 60. In the US retirements peak at their social security minimum of 62.

OTHER WELFARE BENEFITS INDIRECTLY SUBSIDISE EARLY RETIREMENT

In Belgium, France, the Netherlands and Germany, up to 20% of older workers still under the official minimum retirement age retire every year and high departure rates are associated with high unemployment. Studies show that, especially in Europe, social security unemployment and disability benefits - often awarded on easier terms to older workers - play a role similar to retirement benefits for people below minimum pension age. However, they are not as important a factor as pension benefits proper (Blöndal and Scarpetta, 1998). The link between these pension substitutes and early retirement does not prove which causes what. If people in this age group are unlikely to get further work, more lenient rules to qualify for benefit tend to emerge.

SCALE OF INFLUENCE ON EARLY RETIREMENT

Some studies for the US suggest that changes in pension and social security cover account for about a quarter of the decline in older men's participation in work. A study of Germany suggests pension incentives explain a third of early retirement. However OECD simulations suggest that labour force participation would rise by a modest amount in most countries - ranging from one to four percentage points - if social security pensions moved to actuarial neutrality. Only for Italy do they indicate a substantial impact on participation (Blöndal and Scarpetta, 1998). For Ireland the OECD simulations suggest that men's labour force participation in the 55-64 age group would be about 3.5 percentage points higher if our welfare pensions were fully neutral. If disability and unemployment payments were to also function in an actuarially neutral way, that participation would be another 1.8 points higher. So in total, these estimates suggest that design of our welfare system may reduce older men's participation by about five percentage points.

OCCUPATIONAL PENSIONS AND THE DECISION TO RETIRE

Most studies show that having pension from work in addition to a social security pension increases the likelihood of early retirement, and estimates range from 16% more likely to retire early to 40% more likely. Later entry into a pension scheme is associated with later retirement (Hurd, 1990; Quinn et al., 1998; Miniaci, 1998; Miniaci and Stancanelli, 1998). One recent study suggests that the influence of occupational pensions on men's retirement decisions is more ambiguous, with men in pensionable jobs less likely to retire at younger ages but more likely to retire in their sixties (Ruhm, 1996).

OTHER FACTORS IN RETIREMENT DECISION

Some common patterns in retirement behaviour show up in studies of different countries. As would be expected, people in poor health retire earlier everywhere. People with high skills, good education, or in interesting jobs retire later, those with poor skills tend to retire earlier, except at the lowest extreme. The shift to higher skilled work

has partly offset the underlying trend towards earlier retirement. Self-employed people retire later, as do those working in private services, but public servants retire earlier. Home ownership increases the likelihood of early retirement. Part-time workers also retire earlier than average. The family situation also affects retirement age. People with working spouses (other than a high-income spouse) retire later. People with dependent children retire later, but care for older family members may lead to earlier retirement. Evidence on women's retirement patterns is ambiguous. Recent studies of Germany and the US show that women are more likely to retire early than men, other things being equal; while recent studies of Italy and Norway found the opposite (Quinn et al., 1998; Antolin and Scarpetta, 1998; Miniaci, 1998; Hernoes et al., 2000).

RETIREMENT IN IRELAND AND THE SOCIAL WELFARE SYSTEM

In common with other developed countries, Ireland has seen a steady trend towards men's earlier retirement over the past forty years. Nevertheless, older labour force participation rates here are significantly higher than the OECD average. Our high participation rates reflect key differences in our pension arrangements.

Ireland's social welfare pensions are paid from a relatively high minimum age compared with other developed countries. The social insurance Retirement Pension is paid at 65 and Old Age (contributory) Pension and the means-tested non-contributory Old Age Pension at 66.^[2] Those who postpone retirement to 66 get no pension bonus for that deferment as contributory Old Age Pension and Retirement Pension are paid at the same rate. There is no early retirement option under social insurance but there is a means-tested Pre-Retirement Allowance payable at age 55.

Unlike most other developed economies, our social security pensions are not linked to previous earnings and fewer than half the workforce are in an earnings-related pension scheme at work. So the pension replacement rate for previous earnings is low on average.

The weakness of the link in our system between paid social insurance contributions and pension benefits gives an actuarial bias towards earlier retirement. Comprehensive social insurance cover for the workforce was not achieved until the 1990s, so many older workers have incomplete insurance records even after a lifetime of continuous work. To compensate, there are quite generous contribution rules for qualifying for pension. An annual average of 48 to 52 weekly contributions since starting work

[2] Retirement Pension, unlike the Old Age Pension, is subject to a retirement condition and to more stringent contribution conditions. Full rate pension in both cases is £106 per week (2001) for a single person. The non-contributory Old Age Pension is £95.50 for a single person. There are additional amounts payable for adult and child dependants.

qualifies for maximum pension, but an average as low as 20 will earn 98% of the maximum pension.^[3] Thus, there is very little incentive to remain on at work to build up future welfare entitlements unless close to one of the crossover points to a higher pension rate.

WELFARE PAYMENTS FOR UNDER 65s

Those who retire before pension age usually draw another type of welfare payment, and as in other European countries, social welfare payments in respect of unemployment and disability may constitute a de facto early retirement package. In 2000 a quarter of men in their late fifties and a third of those in their early sixties were on welfare. Over two-thirds get social insurance payments which are not offset against a pension from work or a spouse's income. Pre-Retirement Allowance is less attractive because it is means-tested and only accounts for a small proportion of our early retired.^[4]

Over half the men aged 55-64 claiming welfare are on some type of sickness or disability payment, the most common being Invalidity Pension. Disability and unemployment payments for under 65s are subject to the standard conditions (unable to work through sickness or disability; genuinely seeking work). In practice older people may find these easier to satisfy if there is a presumption that they are not likely to find work. Disability payments may be received indefinitely up to pension age provided the medical conditions are met. Unemployment Benefit lapses after 15 months.

A person who draws unemployment or disability payments receives credited PRSI contributions that count towards social welfare pensions. So early retirement on one of these payments allows a continued build-up of future state pension entitlements.

To the extent that these social welfare payments form a proxy early retirement package, remaining on at work means forgoing alternative welfare income and the loss of welfare wealth may be seen as a 'tax' on continued work. Table 1 below presents illustrative calculations of this 'tax rate', based on an assumption that someone who opts to retire early in Ireland could draw a payment to the value of Disability Benefit or Pre-Retirement Allowance up to age 65.^[5] It is clear from the table that at lower earnings and for couples this 'tax rate' is significant. Where deferring retirement would mean forgoing an actuarially favourable occupational pension, even higher 'tax rates' would apply.

[3] A yearly average of 20-47 contributions gives a pension in 2001 of £103.90 a week as against a maximum £106. Those with a yearly average of 15-19 contributions get £79.50, and 10-14 contributions, £53 a week.

[4] In 2000 10% of all welfare recipients and 16% of recipient men aged 55-64 were on Pre-Retirement Allowance.

[5] In 2001 these are both worth £85.50 for a single person and another £54 for a spouse.

TABLE 1: IMPLIED 'TAX RATE' IN IRELAND (2001) FOR DELAYING RETIREMENT BEYOND 60

	Single	Married
Social welfare "pension wealth" to 65		
– retiring at 60	£20,361	£33,221
– retiring at 61	£16,526	£26,964
Difference	£3,835	£6,257
<i>Difference as % of disposable income</i>		
2/3rds average earnings	28.3%	43.0%
average earnings	20.6%	29.3%
twice average earnings	12.0%	17.9%

Notes:

1. Eligibility for full Disability Benefit or Pre-Retirement Allowance from the date of retirement until age 65 is assumed.
2. Pension wealth is calculated to age 65. With social insurance credits, pension wealth after 65 is unaffected by the date of retirement.
3. The discount rate applied is 3%.
4. Average earnings are taken as £24,000.

PROPOSED REFORM OF THE IRISH SYSTEM

A number of proposals for reform of the Irish system are discussed in the following sections. These would facilitate greater flexibility in choice of retirement age here.

A NEW SOCIAL INSURANCE OPTION FOR EARLY RETIREMENT?

People should have a range of choices on when to retire. It is clear that many people would like to retire early.^[6] At present, the only formal early retirement option is means-tested unless a relaxed attitude is taken to availability or incapacity for work conditions of other payments. An alternative would be to introduce an actuarially-fair social insurance Early Retirement Pension.

This could be achieved either through heavier saving in working life or by taking a reduced pension. Accelerated saving looks over the longer term to be the more attractive way to fund flexible retirement, given that the reduced pension route runs the risk of inadequate income in old age. Accelerated saving would spread the cost of an early retirement option over the working years rather than the retirement years.

ACCELERATED CONTRIBUTIONS

Facilities for Additional Voluntary Contributions are widely available in private sector pension schemes. A similar facility for public sector workers to save faster towards

[6] A recent (2001) Ark Life survey found about two thirds of Irish respondents wanted to retire at 60 or earlier.

earlier retirement has been accepted by Government on the recommendation of the Commission on Public Service Pensions. A similar savings mechanism should be provided through the PRSI system with the National Treasury Management Agency (who already manage the Social Insurance Fund and the National Pension Reserve Fund) to provide for accelerated savings towards an earlier social insurance pension. This would offer a low-cost way for individuals to save for extra pension flexibility, using established collection and investment mechanisms which avoid excess overheads or commission. A savings rate set high enough could earn an early retirement pension at the full standard rate.

AN ACTUARIALLY-ADJUSTED EARLY RETIREMENT PENSION

The alternative way of introducing a social insurance early retirement option would be to offer a reduced pension for those who retire early. Table 2 below is an illustrative exercise, based on simplifying assumptions for different retirement ages. It sets out the comparison with existing payments to under-65s which already may be proxies for an official early retirement pension.

TABLE 2: AN ACTUARIALLY-ADJUSTED EARLY RETIREMENT PENSION

Age of retirement	Early retirement pension	Alternative welfare payments	
	£	PRETA/UB/DB	Invalidity pension
	£	£	£
60	86.45	85.50	89.10
61	89.55	85.50	89.10
62	93.00	85.50	89.10
63	96.84	85.50	89.10
64	101.15	85.50	89.10
65	106.00		

Average life expectancy taken as 16 years from age 65.^[7] 3% annual discount rate. To simplify calculations, no account is taken of the loss to the Social Insurance Fund of PRSI income from date of retirement to age 65.

PRETA (Preretirement Allowance), UB (Unemployment Benefit), DB (Disability Benefit), PRA (Pre-Return Allowance).

The actuarial principle which means lower pensions for those who retire early could come into conflict with the fundamental anti-poverty principle of the social welfare code for someone completely relying on a reduced-rate Early Retirement Pension. The low-

[7] Equality laws require the same welfare payments for men and women. A common rate of Early Pension based on average life expectancy would be more attractive to women as they live longer.

rate Early Retirement Pension could be topped up to the minimum income guaranteed by the social welfare code.^[8] In those circumstances it would no longer represent an actuarially neutral package. For example, a single person retiring at 60 on an early pension of £86 could qualify at age 66, if there was no other income, for a top-up of an additional £13.50 a week in non-contributory Old Age Pension. The combined pension would no longer be actuarially neutral.

Table 2 shows the actuarially-adjusted pension at age 60 would be just above the corresponding Disability or Unemployment Benefit or Pre-Retirement Allowance and marginally below the Invalidity Pension rate.^[9] However, since accepting a reduced early retirement pension would involve a *permanent* reduction in pension income over the remaining lifetime, it would be more attractive for a qualified individual to draw Disability Benefit or Pre-Retirement Allowance up to age 65 and then switch to a full-rate Retirement Pension. The take-up could therefore be modest. Nevertheless, a reduced rate Early Retirement Pension could be attractive to people with a good second pension from work who would be ineligible to claim another welfare payment if they retired before 65. An early retirement option through accelerated savings would take time to mature and introducing actuarially-set Early Pensions based on existing contributions could facilitate wider choice fairly quickly.

Overall, to maximise personal choice, it is recommended that greater flexibility in choice of retirement age should be facilitated by the social insurance system through introducing both of the measures discussed: namely, an accelerated pension saving option through PRSI and an option to take an actuarially-adjusted Early Retirement Pension. The same benchmark would need to be used to uprate both Early Retirement Pensions and Old Age Pensions over time.

OCCUPATIONAL PENSIONS

Occupational or private pension cover for those who have it is a key part of financial planning for retirement. Public service pensions actuarially favour early retirement. Up to half of Irish private sector defined benefit pension schemes, the most frequent type of private scheme, also offer favourable early retirement provisions.^[10]

[8] Supplementary Welfare Allowance for those under 66, and Non-Contributory Old Age Pension for those aged 66 or over.

[9] This is given the simplifying assumption of no adjustment for the absence of PRSI income to the Social Insurance Fund in respect of the person who has retired early. True actuarial neutrality would require that a somewhat lower Early Retirement Pension be set.

[10] A 1998 survey by the Irish Association of Pension Funds of private sector pensions indicated that 21% of participating firms offered actuarially favourable early retirement benefits as of right and a further 24% offered favourable early retirement terms on a discretionary basis (Commission on Public Service Pensions, 8.15.3).

LIMITED COVERAGE OF OCCUPATIONAL PENSIONS

Fewer than half the Irish workforce were covered by occupational pensions in the latest year, 1995, for which comprehensive data are available. About 60% of private sector workers and about 17% of public sector workers had no occupational pension cover at that date. The longer-term trend has been for a fall in pensionable employment with increasing use of contract, temporary and part-time work.

Many private sector schemes only provide cover for workers over 25 and pension cover is particularly low for workers in their 20s. This means that pension cover for lengthening periods in retirement is being earned over quite a short period of working life. As pensions are a remote concern for most young people, it is unlikely that pension cover for this group will increase significantly without making pension cover an automatic feature of employment.

Occupational pensions are compulsory in Japan, France, Sweden, Finland and the UK, but the Government's pension proposals, which adopt the National Pension Board's strategy outlined in "Securing Private Income" (1998), do not envisage any compulsory cover for Ireland. Instead, the Pensions Bill 2001 envisages a new defined contribution savings instrument, Personal Retirement Savings Accounts (PRSAs), to encourage an increase in second pillar coverage. While it will be obligatory on employers to offer a PRSA scheme, it will not be obligatory for them to actually ensure that employees avail of pension cover nor for them to contribute as employers to that cover.

Given the profile of those who lack occupational pension coverage - low-paid workers, those working for smaller employers, younger workers, women, and part-time and contract workers - there must be severe doubts as to whether a purely voluntary strategy will be successful in raising the overall pension coverage from under 50% to the official target of 70%. Social insurance provision will continue to play a key role for the future.

CONCLUSIONS

Individuals have different preferences and public policy should support diversity and choice on an issue as personal as when to retire. Like most choices, early retirement has a cost. If the cost is carried in full by those who opt to retire early, no costs are imposed on the wider society.

However, in practice both public and private pension arrangements in developed countries tend to favour early retirement and those who retire early rarely carry the full actuarial cost. That redistributes resources in favour of those who retire early and

against those who stay longer in work. The ideal should be to promote flexibility but on an actuarially neutral basis where people's individual choices are not a burden on others.

The experience in other developed countries has been that early retirement options under social security without a corresponding actuarial adjustment in pension rates have helped to hasten a costly decline in workforce participation, leading many of these countries to tighten their rules. Ireland starts from a very different position with a favourable age balance, modest pension levels and comparatively low incentives to retire early. We should be able to introduce greater flexibility in choice of social security retirement age in a way that avoids pitfalls encountered elsewhere. In principle we have the opportunity to design social welfare early retirement provisions which are actuarially neutral. However, given the minimum income guaranteed under the welfare code, pure actuarial neutrality is difficult to achieve for those fully dependent on welfare.

A more promising long-term route to flexibility would be to introduce an accelerated savings option through PRSI to allow people save towards an earlier full-rate pension. These additional savings could be invested by the NTMA alongside the existing National Pension Reserve Fund.

Second-tier pensions should be made compulsory not voluntary. Otherwise the poor, those in atypical work and particularly the young are likely to continue with minimal pension cover. They will have fewer effective choices about when to retire and are less likely to enjoy reasonable comfort into old age. The slow start to pensionable working life also needs to be radically changed. If people want to retire in their late 50s, paying into a pension scheme should begin from the first job.

Ireland is about to legislate for a new pensions system to take us into the next fifty years. The questions of flexibility, choice and adequate cover raised in this article should be central to the debate about the shape of our future pensions strategy.

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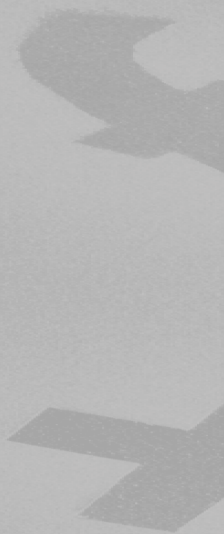
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SMOOTHING ADJUSTMENT THROUGH MODIFIED WAGE BARGAINING



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As a small, open regional economy, Ireland can anticipate having its growth prospects buffeted by circumstances beyond its control. Its economic success depends upon its ability to be an effective export platform, for which competitiveness is the crucial determinant. The changing short-term outlook and longer-term trends in the Irish economy require that domestic policy tools be adapted to provide flexibility in coping with large swings in competitiveness. This article argues that modified, centralised wage bargaining may still have a role to play in the Irish context. Modifications to add flexibility to wage bargaining, such as the use of deferred compensation options that reflect outturns in the economy would be a partial solution. This can help smooth the adjustment to economic shocks by dampening competitiveness losses that can arise from excessive wage growth and adverse exchange rate movements.

INTRODUCTION

The success of the Irish economy in the last decade is undeniable and there is a readily agreed list of ingredients that account for it. This ranges over a diverse set of factors including the following: the role of education, foreign direct investment encouraged by low corporation taxes, globalisation trends combined with a native English-speaking workforce, European Union membership and the allocated structural funds, an improved demographic profile, fiscal stabilisation, currency devaluation and social partnership. While the ingredients are known, dispute over the recipe continues.

Among the more contentious disputes is the role of the social partnership wage bargaining frameworks, which have been in place over the economy's impressive convergence in the last decade and a half. Continuance of the social partnership model in some form is most likely in the coming years.^[1] The challenge from an economic policy perspective is to modify the centrepiece wage-setting role to suit the current economic policy environment.

* This article is based on a paper delivered to the 24th Annual Conference of the Dublin Economic Workshop in Kenmare. The authors would like to thank participants who offered valuable comments. The views expressed are their own and no not necessarily reflect those of the ESRI.

[1] See O'Donnell (2001) for an excellent perspective on the evolution and analytical foundations of Irish social partnership.

Within Economic and Monetary Union (EMU), the Irish economy must operate in a globalised environment as a regional economy with limited short-term demand management tools. As a regional economy, Irish living standards are ultimately determined by the ability to be an effective export platform (Krugman, 1997). Competitiveness is the crucial determinant in creating this platform. This article focuses on a narrower macroeconomic view of competitiveness with its emphasis on prices, wages, exchange rate changes and productivity trends.

HOW CAN AN ECONOMY ADJUST?

The weakness in the euro exchange rate in the first three years of EMU has meant that Ireland has remained a strongly competitive export base, despite large nominal wage increases. Output growth in Ireland since the launch of the single currency has been by far the highest in the euro zone, but also has been a multiple of its sustainable trend rate. Typically, economies like Ireland that experience strong output growth would expect some real appreciation of the exchange rate.^[2] In a currency union a nominal appreciation cannot be depended upon to provide the real exchange rate appreciation. Instead, the adjustment is most likely to come through wage and price inflation eroding the competitive position of the economy.

In the absence of monetary or exchange rate policy tools, the onus of macroeconomic adjustment can also rest with domestically-determined fiscal and incomes policies. Over the last decade and a half these policy instruments have been inextricably linked within the context of the social partnership wage agreements. The changing short-term economic outlook and longer-term trends in the economy require that these domestic policy tools be reconfigured to provide flexibility in coping with potentially large swings in Irish competitiveness.

The existing wage bargaining structures within the social partnership agreements were designed to achieve wage moderation in return for income tax cuts so as to ensure job growth. This included rigidity on nominal wage increases, which was seen as the main attraction for the business community. These wage increases often proved to be quite modest in nominal terms given the strength of economic growth. Low inflation did little to erode the real value of incomes over the last decade – until recently at any rate.

[2] A real appreciation of a currency occurs when for a given nominal exchange rate prices in the domestic economy rise faster than abroad leading to an erosion in competitiveness.

The share of wages in economic activity went into steady decline in 1987. This trend has continued up to 2000 despite recent large increases in the national wage bill.^[3] In total the wage element fell as a share of combined wages and profits from 62% in 1992 to 48% forecast for 2001. While the economic pie has expanded considerably and the slice going to labour has also increased, it has declined relative to the share going to capital in the form of profits and rents. This trend is unlikely to persist over the medium term. In the context of a full employment economy the scarcity of labour can be expected to attract a higher price.

The solution in the private sector involves flexibility in the wage structure. This involves a move away from rigid certainty on the wage bill to one that still provides predictability, but in a conditioned manner. Wage growth in the private sector has reflected the reality of a tightening labour market with higher remuneration packages, involving share options and performance bonus etc, above the level provided for by the terms of the latest partnership agreement, the Programme for Prosperity and Fairness (PPF). As the economy slows rapidly in 2001, these flexible pay arrangements mean that wage increases at or below the PPF terms are likely to be invoked across a wide category of industries. The private sector also retains the option of redundancy to effect reductions in the wage bill, an option lacking in much of the public sector.

Drawing on the example of the private sector, modifications in the form of flexibility mechanisms such as deferred compensation options that reflect outturns in the economy would be a partial solution towards smoothing the adjustment process by dampening potential competitiveness losses from wage overshooting. Irish competitiveness over the last few years has been maintained despite rising prices and wages.

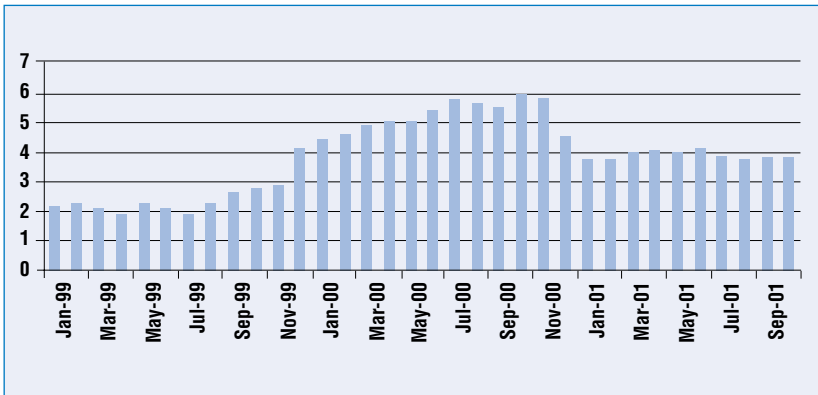
PRICE AND WAGE DETERMINATION IN THE IRISH ECONOMY

The first three years of EMU have revealed differing output growth and inflation patterns between the participating countries, with the Irish economy on the extremes. The exceptional growth performance over the last seven years, with average real GDP growth of 9.3% per annum, has been magnified within the first two years of monetary union with real GDP growth of 10.8% in 1999 and 11.5% in 2000.

[3] Caution must be exercised when drawing inferences from this falling trend in wage share within an economy like Ireland (Lane, 1998). Trends in the split between wages and profits on an unchanged industrial base would be relatively easy to interpret. This is not the case for Ireland where the composition of the economy is undergoing a transition and, given its openness to highly mobile capital and foreign direct investment flows, is capable of experiencing significant industrial structural change over a short time frame.

Irish consumer price inflation remained surprisingly subdued during 1999, averaging 2.5% on the EU's Harmonised Index of Consumer Prices (HICP), before pushing to the top of the euro-zone inflation league in 2000. The inflation rate peaked at 6% in October 2000, averaging 5.3% for the year – see Figure 1. It has subsequently dropped back to average 4.6% in the first half of 2001. Ireland has an inflation rate that is higher than the euro-zone average, but the differential has declined to a level that is currently some 1.3 percentage points above the average, having been as high as 3 percentage points during 2000.

FIGURE 1: ANNUAL HICP INFLATION RATE FOR IRELAND, 1999-2001



The price trends as captured by the consumer price index (CPI) are an inappropriate indicator of domestic overheating pressures for a small, open economy like Ireland. The small scale of the economy can be judged by the fact that Irish output forms only about 1% of the total euro zone output. Its extreme openness is measured by the share of exports and imports in GDP, over 175% in 2000. Other broader measures of price movements in the economy show that prices increased significantly during the rapid growth phase in the latter half of the 1990s. The deflators on personal consumption and GDP averaged 4% during the period 1995-2000 while the CPI was more muted at 2.5% over the same timeframe.

The change in the aggregate price level masks a striking differential between traded and non-traded price growth in the last few years. Decomposing the consumption bundle into traded and non-traded commodities, the strong growth in non-traded goods prices in Ireland is clearly evident as in Figure 2.

FIGURE 2: TRADED AND NON-TRADED GOODS PRICE INFLATION, 1999-2001



The same pattern emerges using a decomposition in terms of value added in output which classifies the agriculture and industrial sectors as traded and the remaining sectors, mainly services, as non-traded. Inflation in consumer goods prices has consistently been found to be externally determined in the Irish case although the price of non-tradables like domestically-produced services and house prices are significantly determined by wages.

Despite rising wages and prices, the sustained depreciation of the euro over the last three years has ensured that Ireland remained competitive against the dollar and sterling zones, which together still account for nearly 40% of Irish exports. The nominal effective exchange rate continued its downward trajectory since the start of EMU, with the impact on Ireland more pronounced than in other countries given our larger exposure to non-euro zone regions – see Figure 3. With its exposure to non-euro trade, Germany has received a greater competitive gain from currency weakness than converging economies like Spain and Portugal. Ireland is even more exposed to currency movements than any other EMU participant.

As Figure 4 shows, nominal wage growth in recent years has increased sharply due to the tightness of the labour market in contrast to the pay trends over the previous decade. In both nominal and real terms, when adjusted for inflation, wage trends have greatly exceeded those agreed in the social partnership framework – see Figure 5. However, this is not to say that national wage agreements have had no influence on wage growth. The agreed wage terms within social partnership provided an anchor to

expectations although they did not keep pace with actual wage growth in the economy. Moreover, the social partnership consensus approach to wage bargaining has for the most part achieved industrial peace over the last decade. While moving broadly in line with productivity, the agreed wage terms have not kept as close to productivity growth as might be expected – see Figure 6. Indeed, the rationale was to have modest wage growth in return for income tax cuts that then allowed productivity growth to increase profitability and, in turn, encourage greater employment growth.

FIGURE 3: NOMINAL EFFECTIVE EXCHANGE RATE INDICES, 1999-2001

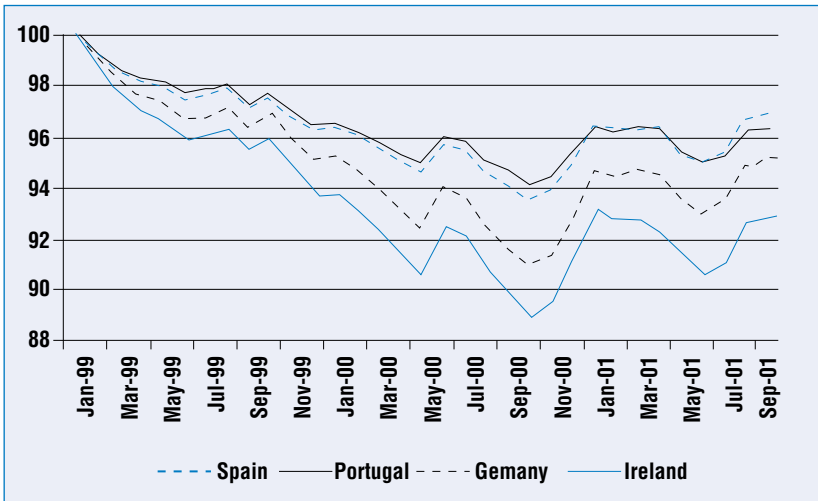


FIGURE 4: NOMINAL WAGE GROWTH – ACTUAL VS. NATIONAL WAGE AGREEMENTS RATES

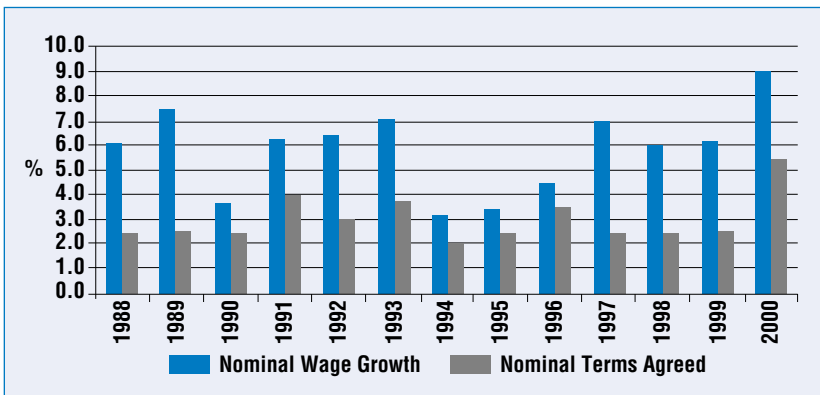


FIGURE 5: REAL WAGE GROWTH – ACTUAL VS. NATIONAL WAGE AGREEMENTS RATES

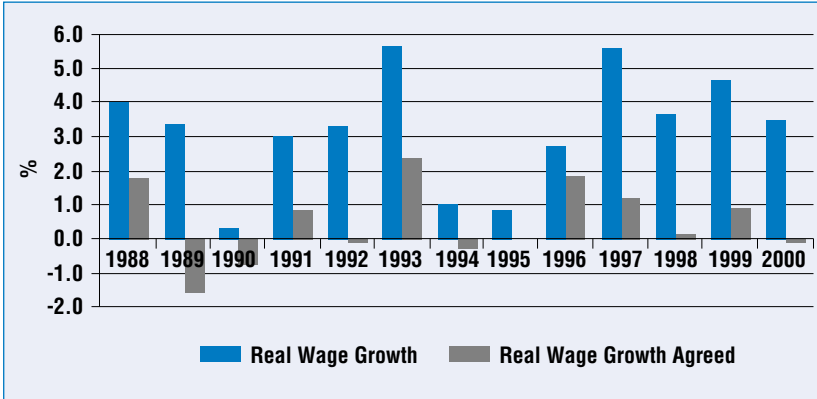
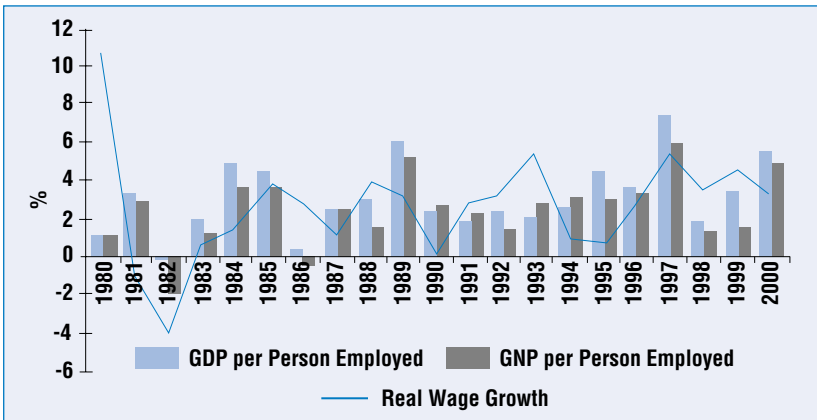


FIGURE 6: PRODUCTIVITY GROWTH AND REAL WAGE GROWTH, 1980-2000



The first three years of EMU have revealed varying inflationary pressures across the euro zone. Those economies, like Ireland, with inflation rates above the euro zone average tend to be clustered among the periphery and are usually in the process of convergence to the higher living standards of the core countries. It is argued that higher inflation in these cases is part of an adjustment of relative prices rather than an indication that output growth exceeds potential growth. Under this interpretation rising prices and wages should be of little concern in transitional economies. Such economies can expect to have higher inflation as result of differences in productivity growth between traded and non-traded sectors.

Higher productivity in the traded sector pushes up prices in the non-traded sector by bidding up wages in the economy. As the non-traded sector is forced to compete for workers, it must offer higher wages that cannot be justified by productivity growth alone and must therefore be recovered through higher output prices in the non-traded sector. Economies in transition can therefore expect to have real exchange rate appreciation, significantly coming through productivity lead wage growth and consumer price inflation.

This impact of differential sectoral productivity can be quite significant but should not lead to complacency in ignoring the role of domestic policy responses (Fitz Gerald, 2001). While the supply-side story of productivity differentials can explain a considerable proportion of the recent Irish inflation story (Mac Coille and McCoy, 2001), the correct approach should still address the demand factors that require domestic policy responses (O'Rourke and Thom, 2000). Within the institutional framework of EMU the main domestic policy responses are confined to fiscal and incomes policies. Adjusting the wage bargaining mechanisms to reflect this reality has therefore become an imperative.

ADJUSTMENT THROUGH MODIFIED WAGE BARGAINING

Most of the evidence on the wage formation process in Ireland suggests that the adjustment of wages to equilibrate the Irish labour market has not worked smoothly in the past and that external factors are important determinants. In the absence of adjustment through wages, the alternative is real adjustment through job losses. The migration option has meant that the excess labour has not stayed around to bid down wages to restore market equilibrium – resulting in protracted spells of high unemployment. Introducing flexibility into the wage element has to be a key policy response to avoid the real costs of economic adjustment within monetary union. The apparatus of social partnership may offer the opportunity to advance this objective, but serious restructuring of the wage bargaining element is required.

Smoothing the adjustment process through modified wage bargaining may be a partial response. Within the last year the centralised wage bargaining mechanism, as currently configured, has been exposed as the economy's policy environment and labour market have altered considerably. The tightness of the labour market has meant that the terms of the agreement are largely non-binding in many sectors as employers compete for scarce labour resources. Those areas where the national agreements are at least nominally binding, mainly in the public sector, are increasingly showing sign of industrial unrest that is sparked by dissatisfaction with perceived relativities in the share of the economic success.

It is arguable that the Irish economy will find centralised wage bargaining beneficial within EMU to dampen potential overshooting in wages (Leddin, 2001). However, it seems clear that flexibility mechanisms in contrast to current rigid wage setting will be required (Durkan, 1999). The protracted renegotiation of the terms of the PPF at the end of last year, with its requirement to use Budget 2001 to prop it up, merely reinforced the critical need to update the model.

Two flaws in the current model seem apparent.

- The first is the inability to reflect different *ex post* outcomes for output in the pre-set wage terms. This has been particularly acute in the last two years when output growth was well in excess of the agreed wage terms. For example, in real terms the economy grew by nearly 11% in 1999 while the terms of Partnership 2000 only provided for a 1% nominal increase. Looking forward, the danger for the economy is that large wage growth – based on the premise of favourable economic growth – may lead to excessive losses of competitiveness, particularly in the event of a sharp appreciation of the euro.
- The second flaw relates to the lack of any short-term, demand management supports that the current wage bargaining structures offer domestic policy makers. Again the renegotiation of the Programme for Prosperity and Fairness (PPF) is a clear example. The PPF was somewhat perversely motivated by a desire for indexation for faster than anticipated inflation rather than the more justifiable output increases. In the absence of mitigating but uncontrollable external influences, the additional wage terms secured will further exacerbate the demand pressures that are eroding the real value of wages.

These are not the only flaws in the process and certainly there is the danger of overlooking the idealised theoretical setting of alternative mechanisms in comparison with the imperfections of the current system in its realistic setting. Notwithstanding this, it is worthwhile considering modifications to the current system to overcome the inherent flaws. Taking as a premise that social partnership is going to be maintained, it needs to reflect the new and more dynamic context in which wage determination is likely to take place.

Two recent proposals on modifying existing social partnership address these flaws. The first by De Buitteir and Thornhill (2001) outline a formula for a gain sharing arrangement aimed primarily at the public sector where most pressures are emerging. This mechanism is based on *ex post* outcomes and is similar to profit sharing arrangements in the private sector. The second by McHale (2001) addresses the need to ensure compatibility of the wage bargaining process with short-term demand management

options. His proposal is for the use of deferred compensation mechanisms as part of the wage bargain. Both of these proposals envisage modifying the link between incomes and fiscal policy.

As an extension of these ideas, the use of contingency-based contracts between the social partners should also be considered as the next logical step to help smooth adjustment.^[4] In future national pay agreements the desired element of flexibility could be incorporated as an additional wage term. Rather than agreeing only a fixed wage increase, the total wage increase could be divided between a fixed-term and a more flexible term that is made conditional on a range of *ex-post* outcomes in the economy over a range of variables. These variables could encapsulate competitiveness factors such as developments in prices, exchange rates and productivity.

It is envisaged that this conditional wage term would be in addition to a basic wage element agreed in advance by the social partners. The basic element could be set to relate to forecasted inflation and trend productivity growth. The conditional wage term could then be used to reflect outturns in economy-wide productivity as captured by a measure such as real GNP per capita. This term could then capture both situations where the economy grew by more or less than expected, allowing for wages to respond to actual outturns in contrast to the current situation. In recent years this would have resulted in higher wage settlements than provided for in the PPF, obviating the need for disruptive renegotiations. Likewise in situations of economic downturn, this additional term could facilitate the necessary downward adjustment.

The conditional wage term can address the first flaw in the current arrangements where wage terms fail to reflect the actual growth performance of the economy. The second flaw of not providing short-term demand management support could also be facilitated by mechanisms that encourage deferment of spending of this additional wage income. One option in this regard may come through the use of fiscal policy in providing incentives for workers to have their conditional wage term payments placed in individualised special savings or retirement pensions accounts that have favourable tax advantages.

CONCLUSIONS

The prospect of a rapid turnaround in the exchange rate could severely hit Irish competitiveness at a time of high wage growth. Given the importance of trade for Irish

[4] Geary and Honohan (1995) advanced similar proposals to help manage the exposure of Irish firms to sterling shocks through modified contracts. Although this exposure to sterling has changed in recent years (Duffy and Fitz Gerald, 2000), Ireland still has a significant exposure to non-euro area currencies.

growth prospects and ultimately living standards, abrupt erosion of competitiveness should be guarded against wherever possible. The Irish economy has managed to keep a system of social partnership in place through periods of bust and boom. The time is opportune for this system of wage bargaining to be modified to take account of the new realities of a regional economy within a monetary union.

To help smooth the necessary adjustment process, this article's proposal is to incorporate an additional term into future national wage agreements. This additional wage term could reflect a greater set of contingencies based on *ex-post* outcomes. It is in contrast to the *ex ante* nominal wage rigidities that are now in place backed by less defined taxation cuts. The proposal is not a solution for avoiding real economic adjustments, but it can go some way towards smoothing the adjustment process.

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How Important is Agriculture and the Agri-Food Sector in Ireland?



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Conventional estimates of the economic contribution of agriculture and the agri-food sector suggest that overall it still accounts for around 10% of total employment, GNP and exports, even after the structural changes brought about by the Celtic Tiger economy in the 1990s. However, these estimates conceal the extent to which primary agriculture, in particular, is now dependent on public policy transfers. This article undertakes a statistical deconstruction of agriculture's contribution to the Irish economy to highlight its dependence on subsidies. It goes on to query the sustainability of these subsidies to commercial agriculture in the light of WTO agricultural negotiations and EU enlargement and argues that more vigorous steps are now needed to prepare a more competitive agriculture that would be viable at world market prices.

INTRODUCTION

Agriculture's role in the Irish economy has come under increasing scrutiny in 2001 for a number of reasons. Farmers have taken action to close down milk plants, beef factories and the country's only sugar processor in disputes over the prices they are paid. The measures put in place to prevent a major outbreak of foot-and-mouth disease hit farmers and non-farmers alike. Protection of Europe's agricultural sector became one of the 'make or break' issues at the Doha, Qatar meeting of the WTO Ministerial Council in November 2001 and nearly prevented the launch of a new comprehensive round of trade liberalisation negotiations from which other economic sectors in Ireland expect to benefit significantly.^[1]

These various attempts to maintain or improve farm incomes and to safeguard agricultural production put the spotlight on the role of agriculture and the agri-food sector

* This article is adapted from a paper presented to the Dublin Economic Workshop, Kenmare, October 2001.

[1] "Ireland has a greater interest in launching a new trade round than most WTO members". See comments by Mr Tom Kitt, T.D., Minister of State at the Department of Enterprise and Trade, Irish Times, November 12, 2001.

in the modern Irish economy.^[2] As this article shows, conventional estimates of the economic contribution of the agri-food sector overstate the contribution of primary agriculture and, in particular, conceal the extent to which value added in agriculture arises as a result of public transfers. While there is widespread agreement on the need to continue these transfers to secure the environmental and rural development benefits of farming in marginal areas, the sustainability of subsidies to commercial agriculture in the light of the ongoing WTO agricultural trade negotiations and EU enlargement comes in for questioning. If support for productive agriculture is reduced in the future, how well prepared is Irish agriculture to meet the challenge of producing at world market prices?

AGRICULTURE'S ROLE IN THE IRISH ECONOMY

The standard measures of agriculture's economic importance are its share of total employment, GDP and exports. Around 124,000 people had their principal occupation in farming in 2000 and a further 54,000 in the food industry. They accounted for 7.3% and 3.2% of total employment respectively or a total of 10.5% between the two sectors – see Table 1. In fact, around double the number of those whose principal occupation was farming make a labour contribution to the sector. In 1999, the latest year for which agricultural structures data are available, it was estimated that around 270,000 persons worked in agriculture accounting for 191,700 'annual work units' in total (DAFRD, 2001). In employment terms, agriculture remains a substantial activity.

TABLE 1. EMPLOYMENT IN AGRICULTURE AND THE FOOD INDUSTRY, '000s, 1996-2000

	1996	1997	1998	1999	2000
Agriculture	136.9	136.9	129.6	132.9	123.8
Food Drinks & Tobacco (FDT)	44.6	52.5	52.7	53.3	54.4
Total Agriculture + FDT	181.5	189.4	182.4	186.2	178.2
Total Employment	1,329	1,426	1,521	1,616	1,692
Agriculture as % of Total	10.3%	9.6%	8.5%	8.2%	7.3%
Agriculture Food Drinks & Tobacco as % of Total	13.7%	13.3%	12.0%	11.5%	10.5%

Source: DAFRD Annual Review and Outlook 2000/2001, 2001

[2] The argument draws on Matthews (2000). One of the themes of that book was the contribution made to farm incomes by the total support provided to agriculture and the measurement of the transfer efficiency of current support mechanisms. It also defined a measure of agriculture's economic contribution similar to that developed in this article.

As you can see from Table 2, the contribution of agriculture and the food industry to GDP is of a similar order of magnitude, amounting to 10.5% in 1999. However, the relative importance of the components is reversed, with agriculture contributing 3.9% of this and the food industry (including drinks and tobacco) accounting for the remaining 6.6%. The implication is that, relative to the national economy, average labour productivity in agriculture is low and is high in the food sector.

TABLE 2: GVA IN AGRICULTURE AND THE FOOD INDUSTRY

	1996	1997	1998	1999	2000
	£m	£m	£m	£m	£m
Gross Domestic Product (GDP) at factor cost	40,978	47,142	53,910	61,263	71,550
GVA in Agriculture at factor cost	2,886	2,589	2,632	2,376	2,538
GVA in Food	1,604	1,684	1,630	2,239	-
GVA in Drinks & Tobacco	1,727	1,773	1,888	2,216	-
Total (Agriculture Food Drinks & Tobacco)	6,018	6,046	5,830	6,103	-
GVA in Agriculture as % of GDP	7.0%	5.5%	4.9%	3.9%	3.5%
Agriculture Food Drinks & Tobacco as % of GDP	14.7%	12.8%	11.4%	10.5%	-

Source: DAFRD Annual Review and Outlook 2000/2001, 2001

Finally, agricultural exports amounted to about 6% of total exports in 1999; if processed foodstuffs are included the proportion increases to about 10% – see Table 3. A feature of agri-food exports is that their import content is lower than industrial exports and the share of profit repatriations and other outflows is smaller. Measured in terms of net foreign exchange earnings from exports of goods, the importance of the agri-food sector increases to 27% of the total (1997 data) (DAFRD, 2001).

DECONSTRUCTING AGRICULTURE'S CONTRIBUTION

THE ROLE OF SUBSIDIES

The measure of agriculture's GDP contribution used in Table 2 is Gross Value Added (GVA) at factor cost. In 2000 it amounted to £2,538 million. It is a measure of the returns to the factors of production employed in agriculture including any subsidies paid to producers net of taxes. Two types of subsidies to farmers are distinguished in the agricultural accounts: those directly linked to a product and non-product-specific subsidies. The former are mainly arable and livestock premium payments paid as a result of the MacSharry (1993) and Agenda 2000 (1999) CAP reforms. They averaged around £650 million in the past three years. Subsidies under the latter heading

averaged a further £320-£340m in recent years. Much of this is accounted for by payments under the Rural Environment Protection Scheme (REPS). Subtracting these subsidies gives GVA at market prices, which measures the contribution of agriculture valued at market prices in the absence of subsidies.

TABLE 3: AGRICULTURE AND AGRI-FOOD AS A PERCENT OF TOTAL EXPORTS, 1996-1999

	1996	1997	1998	1999
	£m	£m	£m	£m
Total Export of Goods	30,084.5	35,027.1	45,160.2	52,061.6
Agricultural Exports	2,504.1	2,515.3	2,651.4	2,906.4
Agri-Food Drinks & Tobacco	4,720.2	4,206.0	4,530.2	4,982.7
Agriculture as % of Total	8%	7%	6%	6%
Agri-Food Drinks & Tobacco as % of Total	16%	12%	10%	10%

Source: DAFRD Annual Review and Outlook 2000/2001, 2001

THE ROLE OF MARKET TRANSFERS

Because of the operation of the EU's Common Agricultural Policy, market prices in Ireland are maintained at considerably above world market levels. The exact size of the price gap is not easy to establish because of the need to take into account differences in the quality of products sold on domestic and international markets, transport costs, etc. Furthermore, world market prices are not necessarily an appropriate benchmark against which to measure the contribution of agriculture because they are themselves distorted by the significant protection still provided to agricultural producers in most OECD economies. Various attempts have been made to estimate the impact of multilateral agricultural trade liberalisation on world market prices. The results suggest much stronger price effects for livestock and dairy products than for crop products.

The Department of Agriculture, Food and Rural Development (DAFRD) produces annual estimates of the price gap coefficient (defined as 1 minus (estimated world price/Irish price)). As can be seen from Table 4, the price gap averages around 40% for the main livestock and livestock products. This is the proportion of the Irish market price which represents a transfer from consumers to producers because of the way the market for food is protected by the CAP. The DAFRD estimates take existing world prices as their benchmark. In order to obtain a more realistic set of estimates of what world market prices might be in a liberal market environment, an adjusted set of price coefficients based on the 1999 values is calculated assuming that free market world prices would be some 20% higher for livestock products and 5% higher for crops – which is in line with the results of trade liberalisation models. The implication of the figures is that, in a

situation of multilateral free trade in agriculture, Irish farmers would face cattle prices 30% lower, sheep prices 38% lower and dairy farmers 23% lower than is currently the case. On this basis an estimate of the market support element in agricultural revenues is shown in Table 5.^[3] Using these figures it is possible to calculate the GVA of agriculture at *world* market prices.

TABLE 4: PRICE GAP COEFFICIENTS FOR MAJOR AGRICULTURAL COMMODITIES IN IRELAND

	1998	1999
Beef	57%	42%
Cattle	49%	49%
Sheepmeat	53%	48%
Pigmeat	22%	12%
Skimmed Milk Powder	11%	34%
Whole Milk Powder	23%	51%
Butter	46%	39%
Cheese	16%	36%
Casein	4%	3%
Wheat	19%	-4%
Coarse grains	19%	-4%

Source: DAFRD 2000, 2001

TABLE 5: CALCULATION OF VALUE OF CAP MARKET TRANSFERS, £M, 1998-2000

	Value of output, £m			DAFRD price gap 1999, %	Adjusted price gap, %	Value of market support due to the CAP, £m		
	1998	1999	2000			1998	1999	2000
Cattle	1,134	1,088	1,126	42	30	344.7	330.8	342.3
Sheep	177	172	178	48	38	66.6	64.7	66.9
Pigmeat	211	182	214	12	0	0.0	0.0	0.0
Milk	1,140	1,112	1,133	36	23	264.8	258.3	263.2
Total						676.1	653.8	672.4

Note: Price gaps are given in the DAFRD source for individual processed milk products. They have been weighted by the relative export values to derive a single price gap for milk.

Sources: Value of output from CSO, 2001; DAFRD price gap from DAFRD, 2001.

[3] Because the price gap given in the DAFRD source for cereals is negative, implying that cereals prices in the EU in 1999 were held below world market prices which was not the case in that year, the adjustment for cereals has been omitted.

ADDING BACK THE EU ELEMENT IN SUBSIDIES AND MARKET TRANSFERS

To this point agriculture's contribution at world market prices has been calculated on the assumption that the subsidies received and market transfers are funded by Irish taxpayers and consumers and thus should be netted out as an internal transfer. In fact, a significant proportion of the subsidies and market transfers are paid by other EU taxpayers and consumers. Because they are tied to the level of agricultural production in Ireland, and would not be received in the absence of such production, they are appropriately acknowledged as a contribution of agriculture to the economy.

The DAFRD *Annual Review and Outlook* contains tables showing the net budget transfer and the net trade transfer arising from the operation of the CAP which allow the value of these transfers to be calculated. The Net Budget Transfer represents the net transfer of resources to Irish agriculture through the EU budget. It is calculated by adding FEOGA Guarantee expenditure to Guidance receipts and deducting Ireland's estimated contribution to the FEOGA budget. The Net Trade Effect is calculated by using the estimated price gap which exists between Irish and world prices for each commodity and applying this price gap to the balance of trade between Ireland and the rest of the EU for those commodities.

TABLE 6: NET BUDGET AND TRADE EFFECTS, £ MILLION

	1997	1998	1999
Net budget effect	1,267.1	1,111.3	901.0
Net trade effect	490.0	658.3	546.9
Net budget and trade effect	1,757.1	1,769.6	1,447.9
Adjusted net budget effect	1,108.9	922.3	832.6
Adjusted net trade effect	352.8	474.0	393.8
Adjusted net budget and trade effect	1,461.7	1,396.3	1,226.4

Source: DAFRD, 2001 Table 8.3 for top three rows; adjustments as described in the text.

The combined budget and trade effect as estimated by DAFRD for 1997-1999 is shown in Table 6. To arrive at an appropriate measure of the value of the EU element in subsidies and market transfers, two adjustments must be made to these figures. The Net Budget Effect includes FEOGA Guarantee expenditure on both intervention and export refunds which has the effect of maintaining the level of market prices above world market levels in Ireland. Intervention payments are excluded (on the grounds that they are a cost of operating the transfer system rather than part of the transfer itself). Export refunds are adjusted to take account of the fact that the implied transfer should

be measured relative to free market world prices and not those prices which actually obtained on export markets. As discussed earlier, free market world prices for livestock products are assumed to be 20% higher than those actually prevailing in recent years. The size of the Net Trade Effect is calculated using the adjusted price gap coefficient for similar reasons. The results of these calculations are shown in the bottom half of Table 6.

AGRICULTURE'S NET ECONOMIC CONTRIBUTION

The results of this recalculation of agriculture's net economic contribution are shown in Table 7. A final adjustment to be made is to recognise that GVA at world market prices does not make an allowance for the value of fixed capital used up in production. Agriculture is a capital-intensive activity and a further deduction of £450-£500m representing annual depreciation on this capital should be made in arriving at its net economic contribution to the economy. Agriculture's true contribution is around £1.6-£1.8 billion, or about two-thirds of the GVA at factor cost figure which is usually quoted. Even this figure may be on the high side as many of the costs of services necessary to sustain agricultural production are not borne by farmers themselves but by the taxpayer through the DAFRD budget. These costs are not deducted in Table 7.

TABLE 7: AGRICULTURE'S NET ECONOMIC CONTRIBUTION, £M, 1998-2000

	1998	1999	2000
GVA at factor cost	2,631.9	2,376.4	2,538.3
- subsidies less taxes on products	694.5	562.3	664.4
- subsidies less taxes on production	320.5	328.6	341
GVA at market prices	1,616.9	1,485.5	1,532.9
- CAP market transfers	676.1	653.8	672.4
GVA at world market prices	940.8	831.7	860.5
- depreciation	446.6	455.6	497.3
NVA at world market prices	494.2	376.1	363.2
Net EU transfers through budget and trade effects*	1,396.3	1,226.4	1,226.4
Net economic contribution of agriculture	1,890.5	1,602.5	1,589.6

* The same figure has been assumed for 2000 as in 1999

Perhaps more important than the absolute figure, however, is the proportion of the total accounted for by net EU transfers. This amounts to over 75% on average in the past three years. This is the proportion of agricultural value added which represents policy transfers arising from agricultural protection and support rather than production activity.

The implications of this heavy reliance on transfers are considered in the final sections of the article.

IS AGRICULTURE'S CONTRIBUTION UNDERVALUED?

It might be argued that these figures undervalue agriculture's contribution to the economy in that they include not just its supply of food and raw materials but also take the form of environmental public goods. This aspect is sometimes referred to as the multifunctionality of agriculture. Agricultural activity creates habitats, protects biodiversity and contributes to the amenity value of a varied landscape. The popularity of rural pursuits such as rambling, hiking or just walking in the countryside testifies to the value the public at large places on these environmental benefits. Production subsidies might be considered a legitimate return for these non-market benefits of agricultural production.

There are two counter-arguments. First, there is still only limited integration between CAP payments and environmental pay-offs (Matthews, 2001). The Rural Environment Protection Scheme, which is the most direct example of an integrated policy, is mainly designed to encourage farmers to avoid pollution (for example, through better nutrient management) than to produce positive externalities. There is some evidence that the scheme has had a positive environmental effect, but it is not possible to assume that the general public value the benefits gained by the amount of expenditure on the scheme or that the scheme is designed in the most efficient way to achieve these benefits. Other CAP payments, such as to sheep producers, have led to considerable environmental damage particularly in hill areas of the country. Only in the past year are farmers in receipt of government payments required to abide by a Code of Good Farming Practice – an example of cross-compliance (Matthews 2001).

Equally important, agricultural production is also associated with negative environmental effects, including water and air pollution. While water pollution due to nitrogen and phosphorous run-off is due to poor agricultural practices and is not inherent in the levels of production intensity prevalent in Ireland, air pollution is a more complex story. Agriculture accounted for 34% of Ireland's greenhouse gas emissions in the mid-1990s, compared to an EU-15 average of 11%, with livestock production down as the main reason for this (OECD, 2001). If the EU ceiling on greenhouse gas emissions agreed as a result of the Kyoto Convention becomes binding as now appears likely, greenhouse gas emissions will be associated with a negative contribution to economic welfare. On balance, it may not be unreasonable to suggest that the negative effects offset the positive effects and that the net production subsidies should be omitted from agriculture's contribution to the economy.^[4]

[4] A recent UK study conservatively estimated the environmental and health costs imposed on the rest of society by agricultural production in the UK in 1996 at around £2.343 billion sterling, or more than £200 sterling per hectare of arable land and permanent pasture (Pretty, J. et al, 2000).

Additional costs were borne by the non-farm sector in 2001 as a result of the measures necessary to prevent the spread of foot-and-mouth disease (FMD) following the discovery of a single outbreak in the Cooley Peninsula in Co. Louth. No estimate of the cost of tackling the FMD threat in Ireland has yet been made. In the UK, which suffered a much more severe outbreak, the costs have been estimated at around 0.3%-0.5% of GDP (Countryside Agency, 2001). Both farm and non-farm costs are involved. The restrictions imposed on animal movement will have had an adverse effect on farm incomes in the early part of the year and input costs will have increased due to increased usage. As in the UK, the costs to the non-farm sectors, particularly tourism and distribution services in rural areas, were probably of a greater order of magnitude. Hotels reported an average decline in tourism business of between 10% and 15% on the previous year, partly due to the FMD threat at a critical time for bookings, although the economic downturn in the US was also a factor.^[5]

These costs were borne by the non-farm economy in order to safeguard the continued viability of livestock farming in the State. The wider public accepted the necessity of bearing these costs in return for the presumed benefits. These benefits are largely private to the agricultural industry. FMD does not pose a threat to human health. It is a nasty virus which is extremely unpleasant for those animals infected by it, but the main justification for the draconian measures taken to prevent the disease is that, if the disease were to take hold, export markets for Irish livestock (and possibly dairy products) would be closed. Given the dependence of the Irish livestock industry on export markets, their closure would cause a very major crisis. In reviewing agriculture's contribution to the economy, the awful prospect of a recurrence of FMD and its implications for the non-farm sector must be borne in mind.

The figures on agriculture's economic contribution in Table 7 represent how much worse off the economy would be if agriculture ceased and the resources employed in the industries servicing agriculture – both downstream and upstream – were redeployed. The notional 'removal' of agriculture from the economy would clearly impact on the demand for inputs and services and on the scale of the food processing sector. Recent calculations of the multiplier effects of changes in final demand for agricultural production suggest that, depending on the sectors involved, a GNP multiplier of around 1.7 would be appropriate (O'Toole and Matthews, 2000). However, it is only appropriate to impute this value-added as part of agriculture's contribution if the economy is demand-constrained resulting in unemployed resources. In the Irish economy of recent years, where shortages of labour have been reported and where immigrant workers are required to operate in meat plants, horticultural enterprises and other businesses, the multiplier argument has much less force.

[5] Irish Hotels Federation, Irish Independent 30 July 2001.

CHALLENGES TO CONTINUED AGRICULTURAL SUPPORT

Agriculture's contribution to the economy remains important, even though it now takes the form of attracting EU transfers rather than adding value to Irish resources. Even if this were thought to be a desirable situation, is such a highly-subsidised agriculture sustainable? The WTO Uruguay Round Agreement on Agriculture which came into force in 1995 introduced disciplines on the domestic agricultural policies of WTO members for the first time. So far these disciplines have had no effect on the total amount of support received by farmers. However, the Uruguay Round Agreement mandated WTO members to begin a further round of negotiations to liberalise agricultural trade in 2000 and these negotiations are currently underway.

Following the meeting of the WTO Ministerial Council in Doha, Qatar in November 2001, these negotiations will now be incorporated into a more comprehensive round of trade liberalisation negotiations. The difficulties in agreeing on the negotiating mandate for agriculture in Doha highlighted that the EU's continued reliance on export subsidies will come under severe challenge. In the end the participants agreed to negotiations aimed at reducing export subsidies, with a view to phasing them out, without prejudging the outcome of those negotiations. A timeframe for completing the overall negotiations by 1st January 2005 was agreed at Doha. Although there may be some slippage from this deadline, it may not be unreasonable to argue that exporters will be competing in a more market-oriented environment by 2010.

By that date the first wave of new entrants will have been successfully absorbed into the EU. It is well known that the budget calculations in Agenda 2000 did not make provision for the extension of direct payments to farmers in these countries. It is also clear that these countries are unwilling to accept the notion of second class agricultural citizenship and the EU Commission has begun to show some flexibility on this issue.

Thus, it is highly likely that in the successor agreement to Agenda 2000, if not already in the mid-term review of this agreement planned in 2002, some form of cutbacks in direct payments will be necessary. This could take either of the forms discussed in the Agenda 2000 negotiations, i.e. modulation whereby payments are reduced for larger farms or, more likely, degressivity in which the compensation payments are phased out over a period of time.^[6] In any event, even without any reduction in the absolute size of direct payments, they will be much less coupled to production in future. The decoupling of headage payments in less favoured areas is just the first step and by the end of this

[6] The UK Government has announced that it intends to pursue the abolition of milk quotas, the removal of compulsory set-aside, decoupling and degressivity in direct payments, and the phasing out of these payments in the long term (Irish Farmers' Journal, 6 October 2001). The German Agricultural Ministry has also proposed that all CAP direct aids should be reduced by 2% annually (Agra Focus, November 2001).

decade it is probable that the compensation payments will be similarly decoupled. Effectively this means that farmers' incentive prices will be much lower than they are today.

PREPARING IRISH AGRICULTURE FOR A MORE MARKET-ORIENTED ENVIRONMENT

The future economic framework for Irish agriculture is thus likely to imply significantly less support for productive agriculture than is currently the case. How well prepared is Irish agriculture to meet this challenge? Certainly, in many of the less favoured areas of the country farming could not survive at world market prices. In these areas some form of continued direct support for environmental and rural development purposes will continue to be needed and can be justified. But in the better farming areas of the country a more optimistic picture is possible.

It is very likely that dairying output would expand with the removal of quotas even if prices were to fall to world market levels. The outlook for beef is less clear. It is hard to believe that, given our position in 2000 as the third largest exporter of beef in the world, beef production here does not have a future at world prices. But it will require a radical rethinking of systems and it will be a huge challenge for researchers and advisors as well as farmers themselves. Pig and poultry producers, as well as specialist fruit and horticultural producers, will continue to thrive as they do at more or less world prices now. Grain and sugar beet farming will undoubtedly contract; even though yields are among the highest in the world, grain farmers barely cover their costs even at supported prices. Forestry will expand, though this will partly depend on the level of competing subsidies as forestry is not an economic enterprise in the absence of support.

The transition to farming at world prices will not be an easy one. It can be made more difficult by ignoring the challenge and failing to prepare, by wishing that the world will be a different place to what we can foresee. Alternatively, by planning for the future and by preparing for the challenge the transition can be made less painful for all concerned. The current buoyant economic climate in Ireland provides the ideal conditions for the vigorous adjustment policy that is necessary. Many useful individual policy measures were suggested in the recent Agri-Food 2010 Report (DAFRD, 2000).

The commercial sector of farming will only be competitive at world market prices with fewer and larger farms. A much more aggressive structural policy is required to enable this restructuring to take place. Smaller holdings will, of course, continue to be viable where the occupier or spouse has off-farm employment. The Agri-Food 2010 Committee believed that by 2010 it is likely that there would be 20,000 full-time and

60,000 part-time farmers with a further 20,000 in transitional groups – even without any radical change in the support environment.

However, the pace of structural adjustment in the 1990s actually slowed down relative to our competitors. Between 1992 and 1999 farm numbers declined on average by 1.7% per annum, compared to an average decline of 2.7% p.a. in the EU12 between 1989 and 1995. The accession of the Central and Eastern European applicants will bring countries with quite different farm structures to those normally found in Western Europe and will further highlight the need for structural adjustment. Yet, the collapse of land sales during the 1990s is symptomatic of the negative direction of structural developments in Ireland. The average land price has increased substantially since 1990, while the aggregate area sold each year has declined sharply. Subsidy policy is making structural adjustment more difficult, not the reverse.

Technical innovation and research is another key to enabling agriculture to compete at world market prices. Much has already been done under successive rounds of Structural Funds to renew the infrastructure and scientific capacity of the research support for Irish farming. What is needed is greater focus on developing those systems and techniques that will enable farming to compete at much lower prices than today.

The quality of managerial resources in agriculture also needs to be greatly improved. The situation in the early 1990s – where 85% of all farmers (65% on farms above 50 ha) had practical experience only without any formal agricultural training or education – is no longer viable. There is a symbiotic relationship here with structural change. The attempt to keep the maximum number of family farms in existence at barely attractive incomes is unlikely to attract the quality of new entrant into farming which will be necessary to sustain a more competitive agriculture in the future.

Adequate farm structures, technical innovation, managerial skills and tight links to consumer markets – these are the ingredients for a successful agriculture in the decade ahead. However, much Irish debate on farm policy still focuses on support levels and maximising the subsidy take. It is surely time to change the terms of the debate.

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PUBLIC INVESTING IN PRIVATE MARKETS: THE ROLE OF ENTERPRISE IRELAND



Gerry Moloney *

The improvement in Ireland's economic circumstances in recent years raises the question as to whether State financial support for indigenous industry is justified. Drawing on the recent experience of Enterprise Ireland's investment programme in Irish SMEs, this article argues that such support is justified. However, it is conditional on a number of key factors: clarity as to what the public policy objectives are, careful targeting of the investment and focus so that the role of the private sector – particularly in relation to the provision of equity capital – is leveraged to the optimal level in order to deliver enhanced entrepreneurial activity with consequential economic growth.

INTRODUCTION

The improvement in Ireland's economic circumstances, particularly in recent years, has led to a number of commentators querying the continued use of Exchequer funds to support various Government interventions. One such intervention is the role played by Enterprise Ireland in providing financial supports to indigenous industry. In examining the merits of this intervention in the current climate, this article will consider three inter-related topics as follows:

- why the State, through Enterprise Ireland, is investing taxpayers' money in private companies;
- how Enterprise Ireland goes about this exercise; and
- how it sees its role relative to private sector finance suppliers.

Enterprise Ireland was formed three years ago under the Industrial Development (Enterprise Ireland) Act, 1998 by drawing together two agencies: the Irish Trade Board and Forbairt – itself an amalgamation in 1994 of EOLAS (a combination of the former National Board of Science and Technology and the Institute of Industrial Research and

* The views expressed in this article are those of the author – formerly Director of Investment Services with and currently Consultant to Enterprise Ireland - and they do not necessarily represent the views of that agency.

Standards) and the indigenous wing of the former Industrial Development Authority. In addition, a number of functions formerly carried out by FÁS were transferred to the new agency. The primary purpose of the exercise was to provide indigenous firms – which are principally Small and Medium-Sized Enterprises (SMEs) – with a focused one-stop service shop. The assistance that Enterprise Ireland provides comes in two forms: services and finance. Whilst the services it provides are becoming increasingly important, the focus in this article is confined to finance.

BACKGROUND TO STATE SUPPORT FOR INDUSTRY

A serious question that needs to be addressed at the outset is just why is the State transferring tax receipts over to private companies, many of which are owned by a very small number of individuals. After all, the culture of providing financial supports to industry has its roots in the late 1950s and early 1960s when unemployment and emigration were very high and the domestic industrial base was extremely weak – conditions that can hardly be said to be the norm today. So, is there not the possibility that some form of moral hazard exists in these transfers of Exchequer funds? The obvious answer is that there is certainly a risk of this happening. It is in this context that Enterprise Ireland has been striving to ensure that it has a clear focus on *what* it is doing, *why* it is doing it and *how* it is doing it.

Furthermore, the findings of the ex ante Evaluation of the current National Development Plan (NDP) need to be borne in mind. These pointed out, inter alia, that “the environment facing the productive sector is now distinctly more favourable than that prevailing in previous programming periods”

Enterprise Ireland’s role is essentially to provide assistance to indigenous Irish industry to meet its objectives. Accordingly, it has defined its mission as “to help client companies to consistently and profitably deliver products and services which customers are willing to choose in preference to those of competitors”. This statement is designed to deliver a clear public policy outcome: accelerating Ireland’s national and regional development by working with Irish companies to grow and compete in world markets.

As a starting point, Enterprise Ireland believes that it is important to have absolute clarity on a number of core principles.

- The agency recognises that *it is people, not governments, which create successful businesses*. The primary role of government is to help create the environment in which people want to start new businesses, to grow businesses and to explore new directions when entrepreneurial ideas fail - as some inevitably must.

- The agency recognises that *government must respond to the dynamic inherent in business*, that is to say government should not allow industrial policy to be dominated by a protectionist tendency, propping up and protecting businesses which have no inherent competitive advantage or long-term prospects of survival.
- It must be recognised that *not all companies want, or have the potential, to grow*. Many firms are “lifestyle” businesses, which will not grow beyond a certain point. There is of course nothing wrong with that, but it does go to underscore the point that State assistance, if it is provided at all, must be limited and allocated on the basis of a clearly demonstrated need.
- *The State must factor in ‘opportunity cost’*. It is not sufficient to make a difference at the margins. Instead, it must constantly question whether the impact of any policy intervention is sufficient when judged relative to other areas of government activity competing for State funds.

This approach has led Enterprise Ireland to shift the emphasis from supporting low-value added, low-productivity sectors towards sectors characterised by high levels of innovation, quality, productivity and value added. In short, the agency tries to avoid a supply driven approach but instead aims to be market led.

THE ISSUE OF MARKET FAILURE

If the State is to intervene, the justification for transferring finance has to be based in part (at least) around the issue of market failure – even if market failure in itself is an insufficient justification. Furthermore, it should be recognised that indigenous industry still suffers from a number of recognised key deficiencies.

FINANCE

A key market failure is the provision of equity and working capital to small and fast growth firms and the element of risk aversity exhibited by the financial institutions in their lending policies. This is a particular problem for start-up and fast growth firms, especially those operating in knowledge-based sectors. At the same time, it must be recognised that banks are not in the business of financing high-risk activities. By definition the core assets of companies are not ‘bricks and mortar’. This in turn tends to restrict their access to credit finance (tangible collateral being in relative short supply), which in turn obliges them to seek to finance their expansion needs through share capital – at a point in their development which is relatively earlier than companies operating in more traditional sectors. With regard to the supply side of equity capital, whilst there has been an improvement in recent years, companies at the start-up and

early stage of their development and seeking smaller amounts continue to have problems.

INFRASTRUCTURE AND OTHER DEFICIENCIES

Virtually all advanced economies display strong groupings of firms in specific sectors and in related and supporting industries, usually due to a long history of accumulated experience, where key factor conditions helped to create self-sustaining growth in a particular sector. However, because of Ireland's very late industrialisation, it has yet to develop such mutually reinforcing groups and the associated depth of infrastructure to support them.

Ireland is a small and exceptionally open economy. A population of less than four million makes us particularly dependent on exports and the foreign earnings they generate. At the same time, the small size of the home market means that our emerging growth-oriented firms need to develop export markets at a very early stage in their lifecycle, relative to their competing neighbours.

In addition to these structural obstacles to growth, an assessment of the performance of indigenous industry highlights some other deficiencies that need to be addressed. These include dependence on traditional sectors, low levels of profitability, low investment in research and development, human resource deficiencies and continuing reliance on domestic and UK markets. Accordingly, a strong case still exists for the State to provide financial assistance to the indigenous sector, but it has to be very clear as to which of these market failure issues or deficiencies it is addressing in every case where it decides to intervene.

A further issue that is highly relevant in the context of State financial intervention is the possibility of 'deadweight' arising. Deadweight is defined as effects that would have arisen even if the intervention had not taken place. It usually arises as a result of inadequate delivery mechanisms that fail to target the intended beneficiaries sufficiently well. As a result, other individuals or groups who are not included in the targeted population end up as recipients of benefits produced by the intervention. Thus, a continuing question for Enterprise Ireland when considering the provision of financial assistance to a client is as follows: "Would the project or expenditure go ahead even without State funding?" If the answer is "yes", then clearly the State should not be transferring its scarce resources to that project.

In addition to the deadweight issue, other factors must be considered in arriving at a decision to provide financial support to any given project. These include the following:

- track record of the promoter;
- assessment of the probability of the project delivering exports;
- outcome of 'economic model' analysis – that is, benefits to Ireland Inc.;
- robustness of proposition; and
- financial commitment by other investors.

EQUITY INVESTMENT IN SMEs

Before examining precisely how Enterprise Ireland goes about providing financial assistance to SMEs, it is important to note that the agency views the companies it assists as 'clients' as distinct from 'investees'. This is because essentially the primary purpose of the agency is to assist these companies, not to make a direct financial return from them.

The traditional supply of finance for SMEs in Ireland has been through bank credit. Whilst Ireland has a very well developed banking sector, the supply of equity and venture capital finance has been much more difficult, due in part at least to the perception of an imbalance in the risk/reward ratio. Furthermore, there is also a reluctance on the part of some promoters and owners of Irish SMEs to let go of their real and psychological ownership of their businesses.

An additional problem is that many of the newer SMEs operate in the technologically intensive and knowledge-based industries and, as such, are forced down the equity route if they want to become established and to develop. Consequently, Enterprise Ireland recognised that there was (and still is) a real need for policy makers to place a greater emphasis on strengthening the equity capital bases of these indigenous SMEs.

Suppliers of equity try to minimise their risk whilst maximising their reward. Venture capitalists are no different. Equally they tend to become uncomfortable once the proposed level of investment drops below around 1m euro – and certainly below 0.5m euro - due to the costs associated with due diligence and administration. At the same time, there is clear evidence that the United Kingdom venture capital industry (which is well developed by European standards) has now largely moved away from the bottom end of the market, driven by the success it has had in making larger investments - often through management buy-out activity.

Furthermore, according to some commentators, venture capital funds aimed at the 'equity gap' do not demonstrate the same level of return as funds making larger investments. That is to say, they earn a lower rate of return due to the cost of learning

and economies of scale. As a consequence, poor investment returns make it more difficult to raise new funds.

The situation in Ireland is not so different from most developing economies in that the so-called 'equity gap' between equity seekers and providers remains a reality. The traditional financing solution employed by the State to resolve this dilemma was to provide non-repayable financial assistance (or grants). In this way new and early stage ventures could leverage some degree of bank credit, which in turn allowed the project to commence. However, two issues arise which could lead one to the conclusion that this may not be the totally correct policy response today.

The first is that, as a consequence of the Celtic Tiger phenomenon, the State should perhaps not continue to provide (free) financial support on the scale that it undertook in the past. The second is a concern that, by providing SMEs with 'free' money, the State was in effect fostering a *grant mentality* – as indeed was pointed out in the Culliton Report ten years ago. So what it was doing was, to some extent at least, counterproductive in that it was encouraging a handout culture instead of fostering a market-led enterprise one.

The conclusion therefore was that, in addressing the issue of market failure, Enterprise Ireland needed to consider what other options were available: one rather obvious option is to ensure that there is an adequate supply of equity finance both in smaller amounts and at an earlier stage in the life cycle of SMEs. To achieve this, the agency adopted a twin-track approach that involved:

- introducing a Seed and Early Stage Venture Capital scheme; and
- introducing a mechanism to facilitate direct State equity investment.

However, it is worth acknowledging that the role that government should or should not play in bringing forward venture capital initiatives can be the subject of heated debate – a debate which was, for instance, neatly encapsulated by O'Shea when she wrote:^[1]

“With regard to the advantages of such programmes, proponents claim that direct State interventions can attract investors to new, riskier vehicles that result in job creation that would not otherwise have occurred. Some programmes may be targeted at areas which, despite being unable to offer attractive financial returns, are most in need of job creation. Initiatives can remedy deficiencies in financial markets, which cause small companies and venture capital firms to be

[1] "Working Group on Innovation and Technology Policy", Margaret O'Shea, OECD, 1996.

capital-constrained, particularly in countries without active secondary stock markets. State programmes may play a small but niche role in mobilising risk capital and thus have substantial leverage effects on private sector activity. With regard to the disadvantages of such programmes, critics accuse these schemes of introducing unsuitable players to the venture capital industry who may make bad investment decisions, show poor performance and give a poor image of the industry. Excessive public spending on venture capital schemes may displace or retard the development of the private sector venture capital market. Government Programmes may subsidise or maintain unviable firms or ventures, which are not attracting private capital because they do not represent good investment opportunities. In addition, there are always doubts about the judgement and capabilities of public authorities relative to the private sector – whether governments have a better idea than the market as to how money should be allocated, have the requisite management skills to function in the high risk world of venture capital, are able to efficiently close down unsuccessful firms and can refrain from imposing political, non-economic criteria to the provision of venture capital.”

SEED AND EARLY STAGE VENTURE CAPITAL PROGRAMME

If business needs capital, policy makers must influence the circumstances under which it can be made available. They also must recognise the ‘equity gap’ problem and that there are levels below which venture capitalists (as well as stock markets) are uncomfortable in supplying the required finance. Consequently, any initiative must focus on how to incentivise such financiers to become involved. They will of course only do this if it is commercially viable. In this regard they have three broad policy options as follows:

- (a) to subsidise the investment management fees;
- (b) to part guarantee the investment return; and
- (c) to co-invest in the funds.

The argument in favour of the first of these options is that for a venture capitalist firm to be successful it must build up a sufficient infrastructural base. Such a base will involve the regulatory authorisation to conduct its business, a professional and experienced team of people, the ability to demonstrate a successful track record and the ability to raise private sector funding. This obviously involves incurring relatively high fixed costs – costs that must be recovered from successful investment. However, if costs are to be recouped, investments that are directed towards smaller opportunities have to turn in

much higher performance than larger investments. From the policy maker's perspective the disadvantage of this approach is that it is in effect subsidising a commercial enterprise without any degree of certainty that its objectives will be met.

The second option involves the partial guarantee of the investment return. Again, whilst this makes the decision-making process to invest in such companies more attractive to the venture capitalist, it provides the State with very tangible financial downside for very intangible upside.

The third option – that opted for by Enterprise Ireland - was to invest in venture capital funds that would in turn invest in seed and early stage companies and in somewhat smaller amounts; but would do so on a commercial basis – that is, to behave in a 'Fund of Funds' mode. The attraction to the venture capital managers is that the additional State investment support helps to create sufficient critical mass to operate at this difficult end of the market. The attraction for the State is that it is sharing the risk and the rewards on a *pari passu* basis with private sector investors.

Key aspects of this particular approach can be identified as follows.

- Finance is invested on a 50:50 'side by side' basis with private sector financiers in different funds. The State provides half of the money, undertakes half of the investment risk, is liable for half of the fees and shares in half of the eventual return.
- The funds are managed by, and subject to the disciplines of, private sector experienced venture capital managers. There is no involvement by the State in the investment decision process.
- Strict commercial criteria are applied in assessing projects for support. There is no element of soft support, State subsidy or State aid.
- All funds are wound up within 10 years.

Under its first Venture Capital Programme, Enterprise Ireland invested approximately £33m in 15 new funds that were targeted at the 'equity gap'. By the end of year 2000 these funds were fully invested in over 100 SMEs, with 39% of these defined as Start Up and a further 35% as Early Stage. Furthermore, approximately £25m has been realised from a handful of disposals. This Programme is generally regarded as a significant Public Private Partnership success. Table 1 illustrates the value of investments made each year and cumulatively to the end of 2000.

TABLE 1: ENTERPRISE IRELAND INVESTMENT IN SMES, 1996-2000

Year	Initial Investment	Follow-on Investment	Total	Cumulative
1996	£ 1.5m		£ 1.5m	£ 1.5m
1997	£ 4.0m		£ 4.0m	£ 5.5m
1998	£10.3m	£ 1.5m	£11.8m	£17.3m
1999	£15.4m	£ 5.1m	£20.6m	£37.9m
2000	£15.1m	£13.7m	£28.8m	£66.7m

It is not suggested that any of the companies would not have been able to source venture capital without Enterprise Ireland leverage, given the targeting of the Programme. Nevertheless, it is argued that this intervention played an important role in accelerating the investment in general.

This approach is a good example of a variation on the traditional venture capital funding mechanism. It is generally acknowledged to be working well, both in terms of structure and size. The supply side has been tailored to meet the real commercial needs of the marketplace.

In April 2001 the agency announced a follow-on Programme. To date, the response from the venture capital market has been significantly stronger than under the previous Programme. Details of the final outcome are likely to emerge in the coming months.

DIRECT STATE EQUITY INVESTMENT

A key question arises as to how policy makers should respond if venture capitalists are not interested because they perceive the risk to be too high - whether due to inherent risk in the venture, the early stage of its development or the low level of capital required. The approach adopted by Enterprise Ireland has been to include an element of equity investment as part of its overall financial support package to its clients. This would normally include an element of non-repayable money.

In making these investments, the agency is extremely conscious that it risks interfering with the free or commercial market. Consequently, it goes to considerable lengths to satisfy itself that by its actions it is not actually locking out willing private sector investors. It usually restricts itself to acquiring not more than 10% of the issued share capital of companies that it supports. Enterprise Ireland is a *Development Agency*, not

an *Investment Agency*. Its objective is to help bring its client companies (note: not investee companies) to a point where they do not need State financial assistance, rather than to necessarily achieve a direct investment profit for the State. The latter does arise, but this it regards as a positive spin off rather than an objective in its own right.

In the process of seeking to leverage in-company activity, Enterprise Ireland is putting increased emphasis on “Capability Building” - loosely defined as expenditure associated with research, development and innovation, human resource development and training, marketing and strategy development. Tables 2 and 3 below show the breakdown of financial assistance provided to SMEs in the year 2000 and the outcomes that resulted.

TABLE 2: BREAKDOWN OF FINANCIAL ASSISTANCE TO SMEs IN 2000

Category	Amount	%
Capability Building	£51m	45%
Capacity Building	£32m	28%
Equity and venture capital*	£30m	27%
Total	£113m	100%

*During 2000 the agency realised £89m from the disposal of a number of its equity holdings.

TABLE 3: OUTCOME OF FINANCIAL ASSISTANCE TO SMEs IN 2000

Category	Outcome	% Change
Sales	£18.67m	+12.1%
Exports	£ 8.64m	+11.9%
Employment (net increase)	6,728	+ 4.8%

Some commentators have expressed the view that, whilst these figures are clearly considerably in excess of the rate of inflation, they could be said to be disappointing against the strong growth in the Irish economy. However, a counter point is that it is precisely because of the state of the domestic economy that the indigenous sector has not needed to seek out new (export) markets.

Enterprise Ireland regards export performance as a critical measure of its investment strategy success. Table 4 presents an analysis of the export gains and losses for 2000 in various sectors.

TABLE 4: EXPORT GAINS AND LOSSES AMONG ASSISTED SMES IN 2000

Sector	Export Gain(+)/Loss(-)
ICT, Internet, Telecoms	+180.0%
Financial, Healthcare, Training, Software and Services	+ 35.9%
Digital Media and eLearning	+ 17.5%
Engineering	+ 11.5%
Electronic and Precision	+ 20.7%
Healthcare, Pharms., Other Industrial	+ 19.3%
Consumer Foods	+ 11.3%
Dairy, Drinks etc	+ 17.9%
Meats and Byproducts	- 3.8%
Timber and Furniture	+ 1.6%

These figures highlight the fact that the great engine for growth in export markets are the so- called 'new economy' industries, whilst a number of the 'old economy' sectors are experiencing more modest export growth. Looking forward, it is difficult to predict any significant shift in this pattern.

Table 5 shows the 'cost per job' – calculated on the basis of jobs created during, and sustained at the end of, each seven-year period. These statistics clearly demonstrate that, while the State continues to provide financial supports to the indigenous sector, there is a clear trend towards reducing the cost per job support.

TABLE 5: COST PER JOB IN ASSISTED SECTORS

7-yr. Period	Cost
1987/1993	£17,386
1988/1994	£14,108
1989/1995	£12,970
1990/1996	£12,605
1991/1997	£12,461
1992/1998	£12,144
1993/1999	£10,325
1994/2000	£ 7,720

CONCLUSIONS

A number of key conclusions can be drawn from Enterprise Ireland's experience in providing assistance to Irish SMEs.

- In reallocating finance away from the Exchequer and into the hands of a small number of private citizens, the State needs to be conscious of the moral hazard risks that could be involved. When this is combined with the potential 'deadweight' issue, considerable care and diligence needs to be applied to ensure that the reallocation is genuinely in the long-term interests of the State.
- While market failure is not a reason in itself for State intervention, it is nevertheless essential that the State satisfies itself that market failure actually exists before it dispenses Exchequer funds.
- Where entrepreneurs are unable to source equity finance, they often turn to banks as alternative providers. These institutions in turn are often criticised for not supplying this finance – their so-called 'risk aversity' to lending to knowledge-based sectors. This criticism is often misplaced. Banks are in the business of making money through lending. What banks are *not* in the business of is financing high-risk activities such as much of the expenditure associated with innovation and product development. This should be financed in the main from sources that seek out such risk, namely the suppliers of venture/equity capital (and from retained earnings).
- Much of our newer growth industries are succeeding in terms of exports and new markets. The SMEs operating in these industries tend to be knowledge-based. To meet their requirements the equity/debt financing mix needs to be weighted much more towards equity than the traditional mix required by our 'older' industries. Arguably, this risk profile for finance for many SMEs is not as widely recognised as it should be.
- At a time of falling unemployment, one might reasonably expect to see financial supports to industry placing greater emphasis on Capability Building.
- It is extremely important that policy makers distinguish very clearly between on the one hand ensuring that there is a supply of venture capital on commercial terms and, on the other, simply intervening in markets because they have broken down.

It must be recognised that all economies have problems of market failure in the supply of equity finance. This is a critical issue. Whilst not all SMEs deserve to be supported, many do. Aspects of Enterprise Ireland's interventions give rise to important policy principles, because access to appropriate forms of finance provides SMEs with the scope to grow. This is particularly so in respect of seeking to establish a partnership

between the public and private sectors, where the former can help leverage finance and the latter can supply market disciplines. Finally, from the State's perspective, well functioning financial markets – both credit and equity - deliver enhanced entrepreneurial activity and, as a consequence, economic growth.


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