Introduction

Addressing the theme of this seminar - ageing and its economic implications - I find myself taking a less gloomy view than many that have been voiced by several recent commentators on this topic.

In the time available I shall look at the likely economic repercussions of the prospective ageing of the Irish population. My focus is on macroeconomic issues - how will the changing Irish population age structure affect the labour force, the rate of unemployment, and the aggregate savings ratio. Of greatest interest is, of course, how policy should respond to the changes that are in sight and I shall have something to say on this towards the end of my paper.

I can summarise the main points of my talk. The changes that will occur in the age structure of the population over the next three decades are not likely to earth-shattering. The immediate prospect is for a marked shift in the population away from youth and young adulthood towards more mature age groups. This should have beneficial effects in terms of increased social stability, lower unemployment rates and a higher aggregate savings rate. But in the longer run the growing proportion of elderly in the population will be the dominant influence and we shall have to face up to the economic implications of this trend. The most appropriate preparation would be to build up assets now and invest them at the highest available rate of risk-adjusted return. For a country facing an ageing population to achieve this calls for increased international diversification of its financial assets. We should be building up foreign assets now in order to be able to enjoy an inflow of rentier income to supplement our own resources when the population has become more burdened with older people. Policy on the allocation of national savings should take these considerations into account.

The Changing Population Age Structure

During the last three decades the birth rate in all developed countries has declined from the high level recorded in the immediate post-war period. The baby boom tapered off in the mid-1960s in the United States and somewhat later in European countries. Ireland lagged behind, but since 1980 the fall in our birth rate has been very rapid.

An immediate consequence of a falling birth rate is a decrease in the proportion of the population in the young dependent age groups; eventually the proportion in the old dependent age groups begins to rise. In fact we are already seeing a rise in the proportion of elderly people in the population of all the large developed countries. This trend will become more marked and more widespread in the coming years. We are living in an ageing world.

The Irish birth rate fell by a third between 1980 and 1994. As a consequence the country has already experienced a sharp fall in the numbers in the primary education system, and a similar reduction in the numbers in the secondary system is now occurring. By the end of the century, the numbers entering third level education will be falling. While the ageing process is occurring later in Ireland than in other OECD countries, it will progress more rapidly here. As a result, by the year 2030 Ireland's age structure will be very similar to what will then be the European norm. We shall no longer be able to boast of being the young Europeans. Employers interested in an abundant supply of youthful workers will increasingly have to seek outside the present developed countries.

\[1\text{An earlier version of this paper was delivered at a seminar on Pension and Health Care Issues organised by the Society of Actuaries in Ireland in Dublin, 23 November 1995.}\]
There are two aspects to the projections of the Irish population to which attention should be drawn. First, as I have said, the transition to an older population will be delayed in Ireland compared with other OECD countries. We still are the young Europeans, with the lowest proportion aged 65 and over in the European Union. We shall maintain this advantage - if that is what it is - for some years yet. Secondly, the prospect is far more complex exclusively on the proportion of the population aged 65 and over. We should look in greater detail at the changing age structure of the population, taking into account its distribution between the "young dependent", "active" and "old dependent" age groups. Within the "active" population it is also important to look at the balance between "young adults" and the "prime age population".

The following is the actual 1991 and projected division of the population between the three main age groups:

![Age structure of Irish population (percentages)](image)

The proportion of the population in the active age group is projected to rise until 2011 and level off thereafter. The proportion of elderly will not begin to rise markedly until the second decade of the next century. The immediate manifestation of ageing in the Irish population will therefore be a sharp decline in the proportion in the "young dependent" age group, rather than a rise in the proportion of elderly people. The pessimism that has been engendered by the prospect of an ageing population has arisen from an exclusive focus on the proportion of old people in the population. A less gloomy picture emerges when account is taken of changes in the balance between the dependent (young and old) and active populations. The projections show that the decline in young dependency will outweigh the rise in old dependency, with the result that the combined burden of young and old dependency will fall from its present level of about 45 per cent to a low point of about 39 per cent in the first decade of the next century. After that it will slowly rise, but even in the year 2026 the combined burden of dependency will still be below its present level. Even the ratio of those in the "active" to "old" age groups rises before it begins to fall after the year 2006. Not until the year 2021 will the Irish ratio fall to the present Swedish level. While the Swedish economy, and particular its public sector finances, is no longer a model that can be unreservedly admired, at least it illustrates that a country can function with the ratio of active to old people that is in prospect for Ireland.

In short, the key feature of Ireland's evolving age structure over the next twenty-five years is a shift in the balance away from the present unusually heavy burden of young dependency to a more normal proportion in the active age groups. Eventually, there will be a sharp rise in the burden of old dependency, but only after the burden of young dependency has fallen. Now the problems posed by a high level of old dependency differ form those associated with a high level of young dependency. But there is no reason to believe that an extra person aged over 65 is a bigger burden on society than one aged under 20 - most people in the their late 60s are law-abiding citizens, in good health and capable of contributing to the economy if the employment opportunities are available. On the other hand, teenagers are a problematic group, with a high propensity to use various publicly-supported institutions - ranging from the schools and universities to prisons - and an above-average risk of being unemployed when they enter the labour force. In fact, the concentration of crime among young people is extraordinary. Almost one half of all indictable crimes are committed by people aged between 16 and 22 years of age. This is also the age when people leave the educational system and enter the labour market, and these young, inexperienced job seekers suffer from high unemployment rates compared with "prime age" workers, as may be seen from the following chart:

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2) have defined as "young depende hence under age 20, which is realistic view of the prolongation of education and the delay in the transition to the full time labour force that has occurred in recent years.

3) All the projections discussed in the paper are derived from the recently-published Population and Labour Force Projections, 1996-2026, Dublin: Central Statistics Office, 1995. In all my data I have used the average of the four published variants of the CSO model.
Economic Implications of the Changing Age Structure

We have seen that the balance of the population between the "active" and "dependent" age groups is changing rapidly. It is important to try to assess how this will affect the balance between the numbers at work and the rest of the population. Although projections of the labour force are more uncertain than those of the population, the recently-published population projections include projections of the labour force to the year 2006. According to these, the ratio of the employed to the retired population\(^2\) will rise slightly over this period. This reflects the dominant influence of the decline in the youth population as well as the assumption that women's labour force participation rate will continue to rise.

Another important implication of the projected change in the structure of the population is that (given certain assumptions about net emigration) the growth of the labour force will fall slightly from 18,300 a year over the period 1991-96 to 16,600 between 2001 and 2006. More significant, in my view, is the fact that the number of young people (aged 15-24) in the labour force is projected to decline from 1996 onwards. As the bulge currently in this age group passes on to their late 30s and early 40s, the overall unemployment rate is likely to fall because of the declining weight in the total labour force of this high unemployment age group. Reinforcing this favourable effect will be an emerging scarcity of young adults in the population, which would reduce the youth unemployment rate. Hopefully, this will offset any scarring caused to members of this crowded cohort by the adverse labour market conditions they faced at the time of their entry to the job market.

\(^4\)For an alternative view on some of this issues discussed here see John FitzGerald, "Babies, Budgets and the Budweiser", Irish Banking Review, Summer 1995, pp. 18-33.

\(^5\)I have projected the numbers at work by taking the CSO's projection of the labour force and applying the Labour Force Survey unemployment rate, which was 15.6% in 1991 and 12.5% in 1994. I have assumed it will fall to 10% by 1996 and remain at this level thereafter. The retired population is identified as the projected population aged 65 and over minus the projected number aged 65 and over in the labour force.
As we move into the twenty first century we shall therefore no longer be able to blame our demographics for a high unemployment rate. But the easing of demographic pressure will not automatically lead to a fall in the unemployment rate. To reap this benefit from the changing structure of the population we shall have to maintain a rapid rate of economic growth and implement policies that will make our labour market function more efficiently. If we fail to do this the easing of the demographic pressure will not result in a drop in our unemployment rate. We have only to look at many European countries today, where the population has been stagnant and there is no demographic pressure on the labour market but where none the less unemployment rate is very high, to realise that slower population growth does not automatically lead to low unemployment. The importance of other factors is also shown by the example of the United States, which has maintained a low unemployment rate despite the greater demographic pressure it has experienced.

The focus of this conference is on the financial implications of the changing population structure and particularly the repercussions on the provisions for pensions. To gain insight into these issues, it is useful to consider the conventional economic model, which depicts the representative individual progressing through his or her lifecycle, saving at ages when income is high relative to outgoings and dissaving when income is low. According to this model, people set aside money during their active life span in order to provide for their retirement and for their children's education. Savings are accumulated during this period and run down at a later stage. A very simplified picture of the lifecycle pattern of saving is shown in the following graph:

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\text{Net national saving (per cent of GDP)}
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This picture is based on the individual's lifecycle. It is not affected by shifts in the age structure of the population. However, recent changes in working patterns, especially the trend towards prolonged schooling and earlier retirement, as well as the current high rate of unemployment among young labour market entrants, imply that many will no longer spend the 40 years in employment on which the funding of occupational pension schemes has been based. These trends are not the result of the changing age structure - in fact, as noted above, the shift in the centre of gravity of the population away from the late teens and early twenties to more mature age groups should improve the labour market prospects of young adults. A growing relative scarcity of young workers should lower their unemployment rates and raise their participation in the employed labour force, making it easier for them to accumulate years of pensionable service in the future than it has been in recent years.

The changing age structure of the population has implications for the national savings rate. A concentration of population in either the young or old dependent age groups, or in both, tends to lower the aggregate savings rate, all other things equal. A country with a relatively small proportion of its population in the young and old dependent age groups, and a relatively high proportion in the active age groups, will tend to have a high savings rate. The implication of this for the Irish situation - present and projected - is clear: the shift in the balance of the population away from the young dependent age group and the concomitant rise in the ratio of active to dependent in the population will tend to raise the national savings ratio in the coming decades. This positive influence on the savings ratio should continue until the second decade of the next century, after which the rising proportion of elderly will reverse the trend.

If there is one single message I would like convey from the evidence I have presented above, it is that we should avail of the opportunity presented by the declining dependency ratio over the coming ten to fifteen years to accumulate assets that will maximise the eventual return to the nation when the burden of old dependency begins to increase. In fact the national saving ratio has been rising for some years now. It recovered from the low level recorded in the early 1980s, when an unsustainable fiscal deficit almost cancelled private sector saving and drove it to a very low level. If we assume continued fiscal restraint on the part of the public authorities, movements in the national saving ratio in the future will be dominated by the behaviour of personal saving. I have argued above that the changing age structure of the population will tend to increase personal saving, but many other factors, whose influence is difficult to establish, will also affect it, as is suggested by the variability of the Irish personal savings over the past 15 years. The existence of a national pay-as-you-go pension scheme is a factor to consider, but economists disagree over the evidence on its effects in other countries.\(^6\) The exceptionally high ratio in the early 1980s may have been due to general economic instability, which encouraged households set aside very large proportions of their incomes in order to provide for an uncertain future. With the return to more sustainable policies in the second half of the 1980s, the personal savings ratio fell. It has been rising in recent years, and if my view of the effect of the changing demographic structure is correct this upward trend will continue. It is vital that these savings are utilised effectively to provide for our future. The duty of the pensions industry is to provide suitable vehicles for people who accumulate assets.

\(^6\) For a review of this literature see Gerard Hughes, "Would Privatising Pensions Increase Savings?", paper to the Irish Association of Pension Funds, 2 October 1995.
during their active years to help them maintain their consumption after they have retired from the labour force.

**Personal saving ratio**

(procent of GDP)

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<td>Ratio</td>
<td>16.0</td>
<td>14.0</td>
<td>12.0</td>
<td>10.0</td>
<td>8.0</td>
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When considering how national savings are deployed we should recall that the current account of a country's balance of payments represents the excess or shortfall of national savings over national investment. Early in the 1980s our investment greatly exceeded the level that could be financed from domestic savings. We were investing almost one third of our GDP, while the national savings ratio was less than 20 percent. The deficit was financed through a capital inflow, much of it due to heavy foreign borrowing by the government. The legacy of this borrowing is a high level of debt service. In the course of the 1980s a much lower investment ratio was established, due mainly to the reduction in the Public Capital Programme and the shrinking of the role of the state in national capital formation. The improved balance between national saving and investment is reflected in the transformation of the massive balance of payments deficits into growing current account surpluses. Having recorded exceptional deficits in the late 1970s-early 1980s, by the mid-1990s Ireland was running the highest current account surplus in the OECD.

**Balance of Payments/Current account**

(procent of GDP)

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<tr>
<td>Balance</td>
<td>-15.0</td>
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Now the capital account must be equal but opposite in sign to the current account of the balance of payments. When we were running sizeable current account deficits, the capital account counterpart was an inflow of borrowed money (net foreign disinvestment), at present the counterpart to our significant current account surplus is an outflow of capital from Ireland - net foreign investment. Whereas in the early 1980s we were borrowing from abroad to finance a high level of low productivity capital spending, we are now using our surplus national savings to acquire foreign assets and repay foreign debts. It is reassuring that Ireland should have moved into this situation at the present juncture of its demographic history. It is sensible for a country with an ageing population to acquire foreign assets which will generate a future inflow of income. If we take the extreme case of a country where all births had ceased and the ratio of active to retired population was trending to zero, the pensioners would eventually become entirely dependent on the services of younger people in other countries. The only way to pay for them would be out of income earned on foreign assets!

Bearing this in mind, it should be clear that it would now be inappropriate to attempt to restrict the outflow of funds from Ireland. The best way to provide for a future with a higher proportion of retired people in the population is to build up a stock of high-yielding assets outside the country. During the coming fifteen to twenty years, the rising proportion of active in the population provides favourable conditions for doing this. It would be folly not to avail of this window of opportunity. This message must be got across to policy makers. It should be used to dispel the recurrent temptation to restrict the outflow of funds from Ireland in the mistaken belief that by so doing domestic enterprise will be fostered and the longer-term welfare of the population increased. The reality is just the reverse - by bottling up the excess of national saving over national investment in Ireland the overall return on savings would be reduced and the welfare of future generations compromised.

The present geographical diversification of investment funds is probably sub-optimal - not just in Ireland, but throughout the world. The share of British pension fund assets held in foreign securities doubled (from 10 to 20 percent) between 1980 and 1993, and is still rising. US funds are only now beginning to diversify geographically. The "home bias" in stock selection by fund managers has puzzled economists, who believe that optimal portfolios should be highly diversified geographically. It may be due to greater familiarity with local firms, as well as the higher transactions costs of trading in foreign stocks and any residual exchange controls. These inhibiting factors are likely to diminish in significance with the passage of time, leading to a rising share of foreign stocks in portfolios.

The tiny capitalisation of the Irish stock market, and the riskiness of concentrating assets in such a small market, should lead us to expect a higher degree of geographical diversification of Irish compared with British or US portfolios. Furthermore, if we are serious about participating in a single European currency in the not too distant future, the logic of curbing geographical diversification is difficult to perceive. If we assume that a single European currency materialises and Ireland participates in it, then the traditional case for matching the currency of a fund's assets

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7Allowing for changes in official foreign exchange reserves and an unexplained residual.

and liabilities will have been removed. We should then expect a step increase in the proportion of Irish funds investment placed outside the country by fund managers.

Conclusion

In this paper I have reviewed the projected trends in the structure of the Irish population, focusing on the balance between the active and dependent categories. When account is taken of the sharp decline in the share of the young dependent age group in the total, the outlook is far from alarming. The overall burden of dependency will be lower throughout the first quarter of the next century than it is today. Even if we focus on the ratio of the "active" to the "elderly", things will get better before they get worse. On a labour force basis, the dependency ratio will decline until the year 2006, which is as far ahead as projections have been prepared. Moreover, there will undoubtedly be a demographic dividend to be reaped from the decline of the present large concentration of population in the 15-24 year age group, which is associated with more than its share of unemployment and crime.

The changing age structure of the population does not directly affect the ability of each individual to provide for his/her own pension. But the rising proportion of the population in the economically active age groups should increase the aggregate savings ratio over the next two decades. It is vital that this rising tide of saving is optimally deployed to ensure a flow of income to the nation in the future as the proportion of pensioners in the total population rises. This objective will certainly not be fostered by any attempt to restrict the geographical diversification of the pension fund portfolios. The counterpart of our present exceptionally large current account surplus is a capital outflow. If this were curbed by degree the result would be sharp downward pressure on the rate of return available to investors in Ireland. This would compromise the welfare of future generations of Irish pensioners.

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WP94/18: Anthony Murphy: "A Simple Artificial Regression Based Test of the Fit of