

Thirty-First Geary Lecture, 2000

**MARTIN FELDSTEIN**

President, National Bureau of  
Economic Research and  
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incorporating

**GERARD HUGHES**

The Economic and Social Research Institute  
Dublin

and

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THE ECONOMIC AND SOCIAL RESEARCH INSTITUTE

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THE COST AND DISTRIBUTION  
OF TAX EXPENDITURE ON  
OCCUPATIONAL PENSIONS IN IRELAND

GERARD HUGHES

The Economic and Social Research Institute,  
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and

THE NATIONAL PENSIONS RESERVE FUND:  
PITFALLS AND OPPORTUNITIES

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# Economic Problems of Ireland in Europe

Martin Feldstein\*

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*Abstract:* This paper uses the recent controversy between the European Union and the Irish Republic to discuss the more general relationship between the European Union, the EMU and the member countries. Despite outstanding economic growth and budget surpluses, Ireland has been criticised by the European Commission because it has reduced taxes in the context of a relatively high rate of inflation. The first part of the paper considers the ways in which the EMU is likely to affect inflation and cyclical unemployment in the member countries over the longer term. The second part deals more specifically with the current Irish situation and the reasons for an EU reprimand of a very small country. That part suggests that an alternative standard, based on the principle of "do no harm," would have led to a different outcome. Finally, the paper describes a policy of creating investment-based personal retirement accounts that would allow Ireland to share its future budget surpluses with taxpayers in a way that does not contribute to inflationary pressures.

## 1. Introduction

Economic conditions in Ireland have improved dramatically in recent years. When I first visited Ireland in the 1960s, Dublin was a very depressed city. The economic statistics and the facts about emigration from Ireland confirmed these casual impressions. Now all that has changed. The Dublin of today is an attractive, exciting, and clearly affluent city. Emigration has been replaced by net immigration. And the economic statistics confirm rapidly rising incomes and falling unemployment. By these measures, Ireland is now the star performer in Europe. That performance has also benefited the Irish budget situation, producing substantial budget surpluses and falling national debt.

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This outstanding performance reflects a number of things. As a public finance specialist I give a great deal of weight to the tax policies that encouraged both domestic economic activities and the inflow of foreign direct investment. Ireland pursued good policies and they have paid off in excellent economic performance.

Unfortunately, the strong growth that has produced tight labour markets in Ireland and high demand for real estate has led to unacceptably high inflation. And because of the single currency in the Economic and Monetary Union, there can be no offsetting movements of interest rates or the exchange rate to dampen that rise. The rising level of prices is a potentially serious problem for Ireland because it threatens the international competitiveness on which Ireland's exports – and to some extent its ability to attract direct foreign investment – depend.

The European Commission and the Council of Ministers have recently criticised Ireland's current budget as too expansionary for an economy with Ireland's high rate of inflation because some of the projected surplus will be used to lower taxes and to invest in improving the nation's infrastructure. I think this criticism is misplaced. I think it is also indicative of a more general type of problem within the European Union that will become more common in the future.

Moreover, the criticism directed at the current expansionary budget is probably based on something very different. Ireland's ability to attract foreign investment reflects in substantial part the low level of corporate tax on foreign firms. For many years, Ireland taxed foreign corporate profits at a rate of only 10 per cent while domestic Irish companies paid a tax of 30 per cent. Firms in most other European countries also paid corporate tax rates of 30 per cent or more. This strong incentive for firms to locate in Ireland was resented by the rest of Europe. Ireland was declared to be pursuing an illegal policy in giving a differentially low rate of tax to foreign firms. But although others in Europe expected Ireland to respond by raising the tax rate on foreign firms to the pre-existing rate on Irish firms, the Irish government decided to cut the rate on domestic firms to only 12.5 per cent and to levy that rate on foreign firms as well. The enormous gap between the corporate tax rate elsewhere in Europe and the 12.5 per cent in Ireland has been a continuous thorn in the side of other European nations. Since tax rates are a matter of national sovereignty under the Maastricht Treaty, there is no legal basis for complaint. Many observers believe that the complaint against Ireland's current budget policy is an indirect way of expressing the distaste of Ireland's European partners for Ireland's corporate tax policy.

These developments and conditions provide the background for this lecture. I begin by discussing my perspective on the economics and politics of the European Economic and Monetary Union in general. I then turn to the current situation of Ireland and its conflict with the European Commission and the other members of the European Union. Finally, I will offer a suggestion that would allow Ireland to share its future budget surpluses with taxpayers in a way that does not contribute to inflationary pressures.

## **2. The Economics and Politics of EMU<sup>1</sup>**

I believe the EMU is economically unnecessary and is likely to be harmful to economic performance in the long run. I believe that its motivation – the reason that the EMU exists today – is political rather than economic. And what worries me most is that the development that follows will be a source of political conflict – within Europe and with the United States. I now discuss each of these themes in order.

First, the monetary union and the single currency are not necessary for the expansion of trade within Europe. The initial campaign for the EMU – the Delors report entitled, “One Market, One Money,” was based on a false premise. Nothing in economic theory or experience implies that countries must have a single currency for trade among them to flourish. The lowering of trade barriers by the creation of a Single Market was important for encouraging trade but the introduction of a single currency was not. The US trade with Canada – our largest trading partner – does not depend on a fixed exchange rate. The same is true of trade between US and Japan – America’s second largest trading partner. Japan’s large volume of exports has certainly not depended on a fixed exchange rate. And the surge of US-Mexican trade after NAFTA – despite substantial currency volatility in the dollar-peso exchange rate – shows that what matters is trade barriers, tariffs, and quotas, rather than a single currency.

But the single currency is not just irrelevant. It is a potential source of poor economic performance – of higher inflation and higher unemployment – than would happen if each European country kept its own currency. Moreover, the policy dynamics that accompany the EMU

<sup>1</sup>This section draws upon and extends several of my earlier articles, including: “The Case Against the EMU,” *The Economist*, June 13 (1992); “EMU and International Conflict,” *Foreign Affairs* (1997); “The Political Economy of the European Economic and Monetary Union: Political Sources of an Economic Liability,” *Journal of Economic Perspectives*, Fall (1997), and “The Euro Risk,” *Time*, January 25 (1999).

are likely to cause tax policy developments that are less favourable to growth in the long run. Let me explain.

I will start with inflation. Although the inflation situation in Ireland is improving, it remains a serious problem. If the Irish pound were a floating currency, the increasing inflation would automatically cause the rate of interest in Ireland to rise. That automatic process would restrain demand and lower inflation. In addition, the central bank could reinforce this process by more tightening that raises real interest rates further. A country with monetary independence can control its inflation.

Now, because of the single currency, the interest rate in Ireland is set in Frankfurt. In determining the Europe-wide interest rate, the European Central Bank (ECB) looks at Eurozone conditions as a whole. The situation in Ireland, which represents only 1 per cent of the GDP of Europe – gets essentially no weight in the decisions of the ECB.

In short, the experience of Ireland is an example of how countries and regions may experience unacceptably high inflation without any reaction from ECB and of course without any spontaneous, automatic rise in the country's interest rate. Ireland's current inflation problem is just the first example of this general problem brought about by the EMU's single currency.

But the problem of inflation within Europe is more than just the problem of differences in inflation rates in different individual countries. I believe that over time the average rate of inflation in Europe as a whole will be higher, possibly substantially higher, because of EMU than it would be otherwise.

Why? There is now a consensus in Europe in favour of low inflation. Low inflation was built into the convergence conditions for joining the EMU. But even in the years before the Maastricht treaty, countries sought to achieve Germany's low inflation rate because a failure to do so would entail the ignominy of a devaluation relative to the German mark.

The strong aversion to inflation in Germany itself – probably the country with the strongest anti-inflation public sentiment in the world – provided a potential anchor for inflation in Europe as whole. As long as the Bundesbank pursued a tough anti-inflation monetary policy, Europe in general would have a low inflation rate.

Now that has all changed. The Bundesbank no longer makes monetary policy for Germany. Monetary policy is made by the European Central Bank. There, all countries are technically equal. In making monetary policy, the rule is: one country equals one vote. Now there is support for a low inflation policy. But how long will it last? If

unemployment starts rising throughout Europe because of inadequate demand while inflation is rising, what would the multi-national board of the ECB do? I suspect that 10 years from now – or perhaps sooner – the ECB will be more tolerant of inflation than it is today. Although the German voice at the ECB will be strong, it will be just one voice among many. The result may be a return to the higher inflation rates that characterised many of the European countries back in the 1970s and 1980s.

The independence of the ECB and its ability to make monetary policy decisions without political interference also remains to be tested. In principle, the independence of the ECB is guaranteed by the Maastricht Treaty. But the ECB members are politically appointed and may be reluctant to act in ways that would displease their political appointers – especially if they expect to return to their home countries and seek new political appointments after their years at the ECB.

Moreover, there is continuing agitation – by the French in particular – for the Council of Economic and Finance Ministers (ECOFIN) – to have a more powerful role as a counterweight to the ECB. There are those who argue that the independence of the ECB is too great and that its lack of political accountability is unacceptable in a democracy. Although such independence is well accepted in Germany, it is a much newer and radical departure from the traditions of most other European countries. A period of economic downturn that pits the ECB against the political leaders of Europe may bring about a fundamental change in its independence.

All of this makes me worry that the low rate of inflation will not last. The ECB means the end of German standard-setting and therefore eliminates the basic source of price stability that provided an anchor for all of Europe. The shift to a single monetary authority in which all countries are equal is therefore likely to lead to a higher level of inflation in the future.

### **3. Higher Cyclical Unemployment**

The EMU arrangement is also likely to lead to a higher average level of cyclical unemployment. The basic reason for this is the lack of flexibility of individual country interest rates and exchange rates. To see why, consider what would happen if Ireland experienced the opposite of its current cyclical boom? If the Irish economy were to experience a substantial economic recession, there would be no countervailing effect



from Irish interest rates or from the exchange rate to help the economy recover. In contrast, if Ireland had a floating exchange rate, the level of interest rates in Ireland would fall and the exchange rate would weaken.

This would be the natural and spontaneous response to a weaker economy. The lower interest rate would stimulate interest sensitive spending while the weaker exchange rate would stimulate net exports. Both of these would contribute to a faster recovery. In addition, the Irish central bank could act to depress interest rates further, with a likely concurrent lowering of the exchange rate. With the EMU, none of this can happen, the recovery would be slower and cyclical unemployment higher. This situation is often summarised by saying that a one-size-fits-all monetary policy is a serious problem. That is a correct conclusion. If the future Irish cyclical downturn occurs at a time when the rest of Europe is experiencing strong demand, the ECB would ignore the conditions in Ireland and tighten monetary policy. The ECB is supposed to make monetary policy on the basis of the economic conditions in the Eurozone as a whole. Since Germany and France have half of the GDP of the Eurozone, their conditions would be the focus of the ECB policy. The ECB by its own rules would ignore an Irish recession just as it ignores today's Irish inflation.

But the problem is not just the inappropriateness of the one-size-fits-all monetary *policy*. The single currency also precludes the natural *spontaneous* response of the interest rates and the exchange rate that would occur even if the Irish Central Bank kept the money supply constant. The lack of exchange rate flexibility means that the interest rate must be essentially the same in Dublin as it is in Paris or Rome. By preventing any spontaneous response of interest rates or exchange rates, the EMU system eliminates a major homeostatic feature of the economy and will lead to higher average cyclical unemployment in the future.

What then could Ireland do to counter a future economic downturn? The obvious answer is a fiscal expansion through tax cuts or higher government spending. Unfortunately, that substitutes a blunt instrument that is hard to change quickly for the more flexible instrument of monetary policy. It also means that an expansion policy saddles the economy with the permanent burden of a larger national debt. Moreover, even if Ireland were willing to accept these disadvantages of using an expansionary fiscal policy, it is not clear whether it would be allowed to do so under the EMU's Growth and Stability Pact that precludes large budget deficits. How would the European Commission and the ECOFIN respond if Ireland, starting with a cyclically enlarged budget deficit, then

took steps to deliberately enlarge the deficit by cutting taxes and raising government spending?

#### **4. US Conditions and a Single Dollar Currency**

My pessimism about the effects of a single currency on the long-run average level of cyclical unemployment may seem strange coming from an American. After all, the United States seems to do all right despite having a single currency for an economy that is as large and diverse as that of the Eurozone. Why does a one-size-fits-all monetary policy work better in the United States than I think it will for Europe? And why can the United States have a low unemployment rate without internal regional differences in interest rates and without separate currencies and exchange rates for the different regions of the country?

The basic answer lies in three fundamental differences between the US economy and the economies of Europe: flexible labour markets, internal migration, and fiscal centralisation. Let me explain.

A rise in unemployment in a region of the United States – say the Northeast or the Midwest – leads to lower wages in that region. These shifts are large and rapid. Companies respond by raising employment and shifting production to the regions with lower wage costs offsetting the regional decline of demand. By contrast, wages in Europe are much less responsive to cyclical conditions.

Internal migration within the United States is another important response to regional shifts in demand. An increase in unemployment in the Northeast or Midwest will cause a flow of workers to other parts of the country with lower unemployment rates. A comparable flow of people across national boundaries in Europe is unthinkable because of differences in language. These linguistic barriers are reinforced by cultural and institutional features that make mobility much less.

Finally, the United States has a centralised fiscal system in which most taxes flow to Washington and most transfer payments come from the central government. That means an automatic fiscal stimulus to any region in which demand declines. If GDP falls in my own state of Massachusetts, the result is a smaller flow of tax dollars from Massachusetts residents to Washington, DC and a larger flow of benefits from Washington, DC to Massachusetts residents. Roughly speaking, each \$100 decline in Massachusetts' GDP leads to a \$40 net flow to Massachusetts – through lower tax payments and higher transfer receipts.

These three natural forces – wage flexibility, internal migration, and automatic fiscal transfers – strengthen the recoveries in individual regions and make separate currencies unnecessary to dampen the unemployment response to regional shocks to demand.

## **5. Political Motivation for the EMU**

I have been painting a rather bleak picture of the economic implications of the EMU. Why if this is true, did the leaders of Europe adopt a single currency and why have 12 countries joined the EMU system?

The answer is politics. The motivation for the EMU is political not economic. Although there are those who now deny it, the EMU is part of a long-term strategy that goes back to Jean Monnet for the creation of the United States of Europe. The strategy ever since Monnet is to do so through a series of incremental moves rather than in a single large jump.

Creation of a single currency is a major step in that process. When individuals hold Euros in their pockets instead of deutschmarks, francs, or liras, they are bound to feel more like Europeans and less like Germans, Frenchmen, or Italians. I know of no example today or in history of a major country that does not have its own currency. The psychological impact of the shift from national currencies to the single currency euro is likely to be enormous. Moreover, the shift of monetary policy making from national central banks to the ECB represents an enormous and very visible shift of power from national capitals to Frankfurt and Brussels and Strasbourg.

The programme to evolve to a United States of Europe has multiple motivations today. Not all of those who support EMU favour such a political development. But it is nevertheless the driving force that has brought Europe to this point in its evolution and that is likely to guide the future economic policies and the future centralisation of power.

One of the primary initial motivations was to create a political union that would avoid a repetition of the Franco-German wars that had done so much harm three times in the century before the Treaty of Rome. This is certainly a desirable goal – although I am not at all certain that forcing Germany and France to abide by common political decisions is a good way to avoid conflict. It could have just the opposite effect. Think, for example, about the civil war in the United States in the 1860s that resulted from the North's desire to restrict slavery in the South. The attempt of the Southern states to assert what they believed were their rights under the US Constitution led to the invasion of the South by

Northern troops and a massive and destructive war. So the existence of a single federal government and a written constitution is no guarantee of peace.

In any case, the idea of war among the members of the EMU now seems very remote. While Helmut Kohl would refer to this in defence of the EMU, it always seemed to me to be redolent of an earlier age.

A more important reason – especially in the minds of French officials – has been to establish a greater independent identity for Europe and to counter the role of the United States in Europe. This was difficult to do as long as the Soviet Union was a dominant threat and the cold war defined international relations. But with the collapse of the Soviet Union there is more scope for France to pursue this independent role for Europe. We see it today in many forms: the formal creation of a European Security and Defence Programme separate from NATO, the opposition of France to US-UK policy on Iraq, the different attitude about genetically modified food, etc.

But the political motivation for EMU was certainly not just about Euro-American relations. For France, the pursuit of EMU and the strengthening of the political union was also seen as a way for France to establish parity with Germany. Before EMU, monetary policy throughout Europe was dominated by the Bundesbank. The Banque de France had no choice but to mirror the interest rate changes in Germany. EMU and the ECB gives France parity with Germany in the making of monetary policy. More generally, after German reunification, it looked in France as if Germany would be the overwhelming economic and political power in Europe. Institutions like the ECB, the ECOFIN and the expanded role of the Commission would (the French hoped) limit German power.

For Germany, the motivations are more complex and less clear. Helmut Kohl emphasised a stronger Europe as a way of containing and controlling German power. Others in Germany no doubt see a European Federal State as a way for Germany – the country with the greatest population and largest economy, located in the geographic centre of the expanded Europe – to be the dominant player on the continent.

These two views – the French desire to achieve parity in economic policy and leadership in foreign policy, and the German desire to exert its role as the leading country of Europe – are clearly not compatible and are a potential source of future conflict between these two countries.

Outside France and Germany the reasons that drove countries to join EMU are varied and complex. I believe the Italians were eager to join because membership showed that Italy was able to stand alongside

France and Germany as a major nation of Europe. Being left out – even though Italy did not come close to meeting the Maastricht economic criteria for admission – would have been a major blow to Italy's national prestige since it had been a founding member of the Treaty of Rome.

Spain was eager to join because membership was an important piece of evidence that Spain had outgrown its days as an outcast under General Franco. For many other countries, membership meant not being left behind and having a seat at the table where pan-European decisions would be taken.

To summarise what I have been saying, my basic point is that EMU will have serious long-run adverse effects on inflation and cyclical unemployment in Europe. Its motivation has been political not economic. Bad economic outcomes are a price that member countries have accepted – knowingly or unknowingly – in order to achieve political ends. For France and Germany these political goals are basically incompatible and a source of future friction. For other countries, the shift of political and economic decisions from the national capital to Frankfurt, Brussels and Strasbourg will have adverse economic consequences and may create serious frictions with its neighbours and with the United States.

## **6. The Commission, the ECOFIN and the Irish Budget**

This brings me to the recent conflict between Ireland and the European Commission and the ECOFIN. To an outside observer, it seems most remarkable that official criticism should be directed at a country with the best economic performance – low inflation and low unemployment, strong economic growth, large budget surpluses and low national debt. Your sin – as you know – is having a low corporate tax rate and, more recently, using some of the budget surpluses to cut taxes and invest in infrastructure.

There is of course nothing about the Irish budget or other Irish policies that conflicts with either the Maastricht Treaty or the subsequent Growth and Stability Pact. Ireland does not have a budget deficit or a high level of national debt.

What then do Irish policies violate? According to the Commission, they violate the guidance the Commission provides to each country as part of its annual recommendations for the broad guidelines on the economic policies of the member states of the European Union – and not just of the EMU. Those guidelines urged Ireland to use its budget surplus to reduce

aggregate demands and therefore to lower inflation. In the eyes of the Commission, Ireland did not do that and deserves to be chastised.

It is significant that this is the first such criticism (based on the annual guidelines) of any country by the Commission and Council. Is Ireland's sin the most serious economic problem in Europe? Should others not be criticised before Ireland for failure to adopt policies to lower unemployment? Should others not be criticised first for failing to adopt policies that lower budget deficits and debt levels that still exceed the Maastricht standard? And should others not be criticised first for industrial subsidies that distort trade? It is hard for me to imagine any legitimate reason why Ireland was singled out for the distinct honour of being the first to be reprimanded.

Just how inflationary is the Irish budget? The Irish government has said that the tax cuts were given as part of a general deal with the trade unions to accept wage restraint in return for lower taxes. I do not know enough about wage setting in Ireland to know whether the *net effect* of combining an expansionary tax policy and a suppression of wage demands will mean higher or lower inflation. I wonder whether the EC or the ECOFIN knows enough to answer that question?

Would it not be better to leave that decision to Ireland? Certainly Ireland has much more to lose from a rise in Irish inflation than any other European country. And the officials in Ireland understand the leverage on wage setting that tax cuts may be able to achieve far better than the staff of the Commission in Brussels.

## **7. The New Saving Scheme**

A novel and I think very good feature of the current Irish budget is the New Saving Scheme. As I understand it, individuals may save up to IR£2,400 per year for the next five years and receive a 25 per cent supplement to their new special account from the government. Thus an individual who saves IR£2,400 would have a starting balance of IR£3,000.

Now just what is the effect of this form of tax cut on aggregate demand? First, it is clear that the 25 per cent grant does not go *directly* into consumption, although it may add indirectly to aggregate consumption and demand. The impact on demand and inflation depends on how households respond to this new saving incentive.

As with everything in economics, there are a variety of possible responses. Some individuals may just transfer to the new accounts some of the saving they otherwise would do and receive the 25 per cent match

as a windfall. For such individuals, the tax cut in this form will not add to demand at all.

Some individuals may treat the 25 per cent supplement as a substitute for their own saving and cut their own saving by an equal amount. For such individuals, consumption would rise.

But the most likely response to this strong saving incentive is to induce individuals to save more. Someone who normally saves IR£1,000 a year might respond to the new incentive by saving IR£1,500 a year. For such an individual, total consumption falls by IR£500.

In short, if the saving incentive succeeds in raising saving, aggregate consumption and demand will fall. This part of the overall tax and budget package would therefore be contractionary.

Since we do not know how large the response will be to this saving incentive, it is impossible to know on balance how the overall tax cut would affect demand and inflation. It is too bad that the EC does not seem to have thought about this.

## **8. A Rule for All Countries**

The more basic issue is the criterion by which the Commission can decide to reprimand a country for its behaviour. A large budget deficit (or a large rise in an existing budget deficit) is a reason that is specifically provided for by the Growth and Stability Pact on the grounds that large deficits increase the risk of default by a member government. It is not clear how necessary such collective action is since the financial markets are very sensitive to default risk and would impose a risk premium on countries with large deficits. Nevertheless, it is something that the governments agreed to in the Growth and Stability Pact.

But why should the potential for a reprimand extend to general fiscal policy of a government with a budget surplus and low national debt? And if the Commission extends itself to this, where will it stop?

Pedro Solbes, The EU Commissioner responsible for economics and finance, answered this question in a recent letter to the *Economist* newspaper (February 24, 2001). According to Commissioner Solbes, the *Economist's* earlier criticism of the Commission for its censure of Ireland "fails to take into account the fundamentals of the EMU model. The notion of national but co-ordinated economic powers is not only embedded in the Maastricht Treaty but is also necessary to ensure an appropriate policy mix against a background of a single monetary policy. The coherence, consistency and predictability of the euro-area's economic

policy management is important for the credibility of our currency over the medium term. Big or small does not make any difference here.”

It is hard for me to understand the logic of this statement or to see *any* form of national economic policy that Brussels could not consider to be subject to review by the Commission.

What does “national but co-ordinated economic policies” mean? Either Ireland is free to set its tax rates – subject to the budget deficit rules to which it agreed in the Growth and Stability Pact – or it is not. Could Ireland have “co-ordinated” its budget policy in a way that allowed it to do what it has chosen to do? If not, in what sense would this be a national policy?

It is interesting also that Mr. Solbes did not refer to “budget policies” but wrote instead of “economic policies.” Does that mean that every kind of economic policy must be “co-ordinated” through Brussels in order to be consistent with a single monetary policy? Did Ireland understand that, in agreeing to a single currency, it would have to make its future economic policies subservient to that end and to the judgment of Brussels?

Mr. Solbes and the Commission base their reprimand on the principle that “big or small does not make any difference” when it comes to “the importance of the coherence, consistency and predictability of the euro-area economic policy .... for the credibility of our currency over the medium term”. But how can the increase in demand in Ireland with just about 1 per cent of the GDP of the Eurozone as a whole – have any effect on the euro? Clearly it cannot.

If there is a justification for the Commission’s expression of concern about Ireland’s policy it must be the idea that any policy of the Commission and of the Community must be a *general* rule that can be applied to *all* countries, small as well as big. But how should that general rule be stated? There is *no reason* to make the *general* policy one that precludes a domestic policy in one country if that policy does *no harm* in the other countries.

## **9. Do No Harm**

A sensible rule that could be applied to all countries might therefore be something like this: the fiscal policy of *each* member country *should do no direct harm* to other countries or to the community as a whole. That “do no harm” standard could be applied equally to all countries – to a



relatively small country like Ireland as well as to larger countries like Germany and Italy.

As a practical matter, of course, the "do no harm standard" would have some minimum threshold. This standard would mean that a very small excess stimulus in a large country like Germany or Italy that is experiencing rising inflation might not be a cause for comment while a very large excess stimulus in a small country like Ireland under similar conditions could be a cause for comment. The test in each case would be: does this action do more than the threshold amount of direct harm to other countries? On that basis, I find it hard to believe that the size and structure of the current Irish budget are an appropriate reason for a Commission reprimand.

## **10. Personal Retirement Accounts to Share Budget Surpluses with the Taxpayers of Ireland**

There is however a policy that I think Ireland might consider as a method of sharing its current and future budget surpluses with the taxpayers of Ireland in a way that does not contribute to inflationary pressures.

I visited Dublin last in September 1999, and met at that time with Governor O'Connell at the Central Bank. We spoke about the then current situation in Ireland and his concern about the high and rising rate of inflation. He described the expected budget surpluses and the general expectation that it would be used to reduce taxes as part of an overall agreement with the trade unions.

My immediate reaction was to suggest an alternative to a tax cut that would take the form of government deposits in personal saving accounts to start an investment-based social security pension programme. Now I will confess that I'm *generally* very much in favour of such investment-based social security pension accounts for all countries, regardless of their current budget situation or macroeconomic condition. I favour such universal investment-based individual accounts as a supplement to the traditional pay-as-you-go pension systems that exist in the United States and in most other OECD countries. I believe that such a mixed system, with a significant investment-based component, is the best way to deal with the problem of an ageing population that affects all countries around the world. I will say more about the appeal of such accounts in general but let me first say why they may be particularly appropriate for Ireland at the present time, as a modification or in addition to the new National Pension Reserve Fund.

Government contributions to individual Personal Retirement Accounts made in proportion to wages would, in a sense, be equivalent to an across-the-board proportional wage increase. A flat rate contribution to each account would be equivalent to an equal pay increase for each individual. Each individual would see his or her personal wealth rise by that amount. And yet the extra compensation would not be directly available to spend but would be added to national saving in much the same way as it would if the government simply used the funds to buy back national debt or to contribute to the National Pension Reserve Fund. Of course, some individuals might respond to the extra funds in their accounts by decreasing other savings. But the overall effect of the deposits to Personal Retirement Accounts would undoubtedly be a substantial increase in saving rather than in consumption.

The idea of using government deposits to personal retirement accounts as part of a plan to reduce wage increases is one that I borrowed from the Australians. Back in the 1980s, Australia faced substantial pressure for wage increases. The government at that time was a Labour government with strong ties to the Australian trade unions. It negotiated an agreement in which the unions would forgo wage increases if the employers would make contributions to a system of personal retirement accounts. Although the employer contributions added to the cost of employment, the personal retirement account deposits did not add to consumption spending in the way that ordinary wage increase would have done.<sup>2</sup>

Ireland could achieve this same advantage of negotiating away some of the inflationary pressures for wage increases and, because of the projected budget surpluses, could do so without adding to employers' costs of production. It is a unique opportunity to achieve a desirable macroeconomic goal, give back extra tax reserves to the taxpayers as a whole, and start an important social policy that will help to deal with the ageing of the population and the resulting rise in the relative number of retirees.<sup>3</sup>

The special saving scheme in this year's budget has some of the same character – giving back funds in the form of a saving deposit rather than

<sup>2</sup>For more information on the Australian experience, see Malcolm Edey and John Simon (1998), "Australia's Retirement Income System," in M. Feldstein (editor) *Privatizing Social Security* (Chicago: Chicago University Press).

<sup>3</sup>This idea is developed by my Harvard colleague John McHale in "Adding an Instrument to Social Partnership: A Proposal for Deferred Compensation," published in the *Quarterly Economic Commentary*, March (2001) of The Economic and Social Research Institute of Ireland.

as spendable cash. But contributions to Personal Retirement Accounts would be better in being universal – i.e., going to everyone – and being related to each individual's pay.

A system of *personal* retirement accounts could, as I noted a moment ago, be an alternative or a supplement to the National Pension Reserve Fund. It would have the same advantages of prefunding future public pension costs as the National Pension Reserve Fund and would avoid some of the problems of the Pension Reserve Fund, particularly the potential politicisation of the Fund's investment decisions. The experience with state level pension funds in the United States shows that there is often substantial pressure to invest these funds in local firms and to apply "social" rather than commercial criteria to the investments. Shifting the funds to individual accounts would significantly reduce the risk of politicisation because the individuals would protect the value of their own assets.

Professor Phillip Lane has made an ingenious suggestion of an alternative way of preventing the politicisation of the National Pension Reserve Fund by requiring that it invest only in non-Irish assets. That however entails a significant national cost in the form of forgone investment in the Irish economy. Since 1 per cent of GDP is to be deposited in the NPRF each year, the immediate impact would be to divert savings equal to 1 per cent of GDP from domestic investment in Ireland to investment in other economies. Over time, the cumulative effect is quite large – reaching 42 per cent of GDP in less than 25 years according to Professor Lane.

When funds are invested abroad, Ireland receives the interest and dividends on those assets but forgoes the taxes collected on the resulting corporate profits by the foreign government. For example, an investment of \$100 in United States equity would indirectly add \$100 to the US capital stock, producing additional national income in the United States of about \$10 a year. The US tax authorities at the federal, state and local levels would capture about 40 per cent of this – i.e., about \$4 – in taxes. The remaining \$6 would then come to Ireland in the form of the dividends and the capital gains that reflect retained earnings. In contrast, if those \$100 were invested in Ireland, the return to the Irish nation – including the taxes collected – would equal the full productivity of the investment.

In a perfectly and completely integrated global capital market the outflow of funds from Ireland would be offset by an equal inflow from

the rest of the world because individual investors would shift funds around the world to the places with the highest returns.

But experience, combined with statistical research,<sup>4</sup> shows that the global capital market is far more segmented than this. Saving tends to remain in the country of origin. Countries with higher saving rates have higher investment rates. If the Irish government decides to export some of its national saving by a rule requiring that the Pension Reserve Fund invest only abroad, it cannot count on an offsetting inflow of funds from abroad.<sup>5</sup>

There are other advantages of a system of individual accounts. Individuals would have a stronger sense of security about their retirement incomes, knowing that their accounts are personal property that cannot be taken away. These accounts would permit individuals to tailor the risk-reward ratio and their behaviour toward investments in industries like alcohol and tobacco to their personal preferences. And the individual accounts would provide a framework that would encourage individuals to accumulate additional funds on a voluntary basis.

Although the National Pension Reserve Fund is intended to run down after the year 2055 and eventually to be eliminated, there is no economic reason to return in this way to a pure pay-as-you-go financing of public pensions. Personal retirement accounts could instead be a permanent part of financing future pension benefits.

The great advantage of including personal retirement accounts in the system of financing social security pensions is the higher rate of return on such investment-based accounts than in the traditional pay-as-you-go accounts.

In the United States, President Bush has proposed such accounts and announced that he will appoint a commission to work out the details. Calculations by the US government's actuaries show that, with the existing pay-as-you-go system, the ageing of the population will raise the cost of

<sup>4</sup>See M. Feldstein and C. Horioka, "Domestic Savings and International Capital Flows," *Economic Journal*, June (1980) and M. Feldstein, "Tax Policy and International Capital Flows," *Weltwirtschaftliches Archiv* (1994).

<sup>5</sup>More specifically, I interpret the Feldstein-Horioka finding as saying that over relatively long periods of time *private* savers tend to keep their saving in the country in which it originates. We have too little experience with sustained budget surpluses to know how they affect international capital flows. The Feldstein-Horioka logic suggests that if the surpluses are used to finance the repurchase of domestically held government debt, the funds will also remain at home. The key question for Ireland now is what happens if the government taxes people and then sends the money abroad. I believe that it will lead to an increase in foreign investment with little or no reflow back to Ireland. Foreign savers will continue to keep their savings at home while Irish taxpayers will not borrow funds from the rest of the world to offset the government outflow.

providing the existing ratio of benefits to past earnings from the current 12 per cent of earnings to 19 per cent of earnings. By shifting to a mixed system, the same level of benefits can be provided without any increase in the 12 per cent pay-as-you-go tax if it is supplemented by personal retirement account deposit equal to 2 per cent of earnings.<sup>6</sup> That is, the 6 percentage point rise in the pay-as-you-go tax can be replaced by a 2 per cent investment-based saving. By increasing the personal retirement account deposit to 3 per cent of earnings, the long-term pay-as-you-go tax rate can be reduced from today's 12 per cent to only 9 per cent, leaving the combination of the pay-as-you-go tax and the 3 per cent PRA deposits at today's total of 12 per cent despite the 50 per cent rise in the relative number of retirees.

A similar 3 to 1 advantage is likely to be available in Ireland, with perhaps some difference to reflect differences in demographic conditions and economic growth rates between Ireland and the United States.

There are many possible alternatives in the design of a universal individual account investment based portion of the national retirement system. Each country must tailor the arrangements to its own conditions and traditions. But it is an idea that is gaining acceptance around the world in countries as different as Australia and China, as Sweden and Mexico. I think it is an idea that deserves careful consideration here in Ireland as well.

<sup>6</sup>See M. Feldstein and A. Samwick, "Potential Effects of Two Percent Retirement Accounts," Tax Notes, May 4 (1998) as updated in "New Estimates of Two Percent Personal Retirement Accounts," available at [www.nber.org](http://www.nber.org).

# The Cost and Distribution of Tax Expenditure on Occupational Pensions in Ireland

Gerard Hughes\*

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*Abstract:* The pensions industry's argument that the favourable tax treatment of occupational pension funds amounts to tax deferment rather than tax exemption is evaluated using a net present value approach to estimate the cost of the tax forgone in taxing employee pension contributions on a consumption tax basis, rather than an income tax basis. It is shown that the net present value estimate and the Revenue Commissioners cash flow estimate are in close agreement if tax rates for workers and pensioners are the same and that the Revenue Commissioners estimate is conservative if tax rates for pensioners are lower than for workers. A comparison is made of the trend in the cost of tax expenditure on occupational pensions since 1980 relative to the trend in the cost of direct expenditure on social welfare pensions and it is shown that the cost of tax expenditure has grown from around 10 per cent in 1980 to 66 per cent in 1997 and that the Exchequer support for the average participant in an occupational scheme has risen from one-quarter to more than one-and-a-half times Exchequer expenditure for the average participant in the social insurance scheme. The assumption, therefore, that pensions can be provided at less cost to the Exchequer through private financial institutions is questionable given existing pension tax arrangements. The distribution of the tax incentives provided for members of occupational pension schemes is evaluated and it is shown that most of the benefits accrue to those at the top of the income distribution.

\* I am grateful to Paul Neenan of the Revenue Commissioners for providing estimates of the cost of the tax exemption of the net income of approved superannuation funds and for detailed explanations of how the estimates are derived, to my colleagues Brian Nolan and Richard Layte for providing data from the ESRI Living in Ireland Survey, and to Yung-Ping Chen of the Gerontology Institute, University of Massachusetts, for supplying data on the sources of retirement income in the United States. I would like to thank Phil Agulnik, Bryn Davies, Connell Fanning, Liam Gallagher, Colm Kearney, John Fitz Gerald, Brian Nolan, Adrian Sinfield, Jim Stewart, Brendan Walsh, Sue Ward and Brendan Whelan for comments on earlier drafts presented at seminars in the Free University of Amsterdam, at the Annual Meeting of the *European Network for Research on Supplementary Pensions* in October 1999, in The Economic and Social Research Institute in November 1999, and in the Department of Economics University College Cork in November 2000. None of the above are responsible for the views expressed in the paper.

## 1. Introduction

There are two main reasons for favourable tax treatment of occupational pensions. On social grounds, it is intended to encourage people to make provision for their own retirement so that the State does not have to bear all of the burden of providing income during old age.<sup>1</sup> On economic grounds, it is designed to encourage long-term saving by increasing the rate of return thereby leading to an increase in investment and the output of goods and services from which pensions can be paid in the future.<sup>2</sup>

Income tax reliefs on such items of personal expenditure as pension contributions, health contributions, and mortgage repayments amount, in effect, to expenditure programmes delivered through the tax system and the term "tax expenditure" was introduced by Surrey (1973) to emphasise this point. This view was adopted by the Commission on Taxation (Ireland, 1982, p. 87) when it defined this type of tax support as:

... an exemption or relief which is not part of the essential structure of the tax in question but [which] has been introduced into the tax code for some extraneous reason, e.g., in order to ease the burden of a particular type of taxpayer or to provide an incentive to apply income in a particular way or perhaps even to simplify administration. The choice of the term "tax expenditure" indicates that because these reliefs are not inherent in the structure of the tax they are equivalent in terms of revenue forgone to direct Government expenditure and should in general be judged by the same criteria and subjected to the same review process.

Since the early 1980s the Revenue Commissioners have published annual estimates of the cost to the Exchequer of the tax support for occupational pension schemes and of retirement annuity premiums paid by the self-employed. Although there is a common set of issues relating to the taxation of pensions for employees and the self-employed this paper will focus on the taxation of occupational pensions. The Revenue Commissioners estimates show that the cost of the exemption of the net

<sup>1</sup> See National Pensions Board (1988).

<sup>2</sup> See Feldstein (1992 and 1998).

income of approved superannuation funds has generally been one of the largest items in the list of tax expenditures.<sup>3</sup>

Despite this, and the pension industry's use of the tax favoured treatment of occupational pensions as a major selling point, the representative body of the industry, the Irish Association of Pension Funds (IAPF), argues that the Exchequer ultimately gets back most of the tax forgone on pension contributions and fund income through the taxation of pension benefits. For example, the Irish Association of Pension Funds (1998, p. 1) argues that "it is a common misconception that pension funds are exempt from tax" because "they actually operate on the basis of deferred taxation NOT no taxation" and that "the exemptions are balanced by the eventual taxation of benefits (except, of course, in relation to the lump sum) so the net effect is a tax deferral rather than an outright exemption" (IAPF 1999, p. 1). The Pensions Board, the government's advisory body on pensions, appears to share this view as it argues in its recent report (Pensions Board (1998 p. 146)) on developing the national pension system that "the tax treatment of pensions, other than lump sums, is essentially tax deferral" Its predecessor, the National Pensions Board (1988), argued that "the present tax treatment of pension funds is simple to understand and operate, is broadly equitable and clearly acts as a major encouragement to the establishment of funded occupational pension schemes."

Some economists lend support to the tax deferral view by arguing that official tax expenditure estimates overstate the cost by using a single tax year as the accounting period rather than the much longer period over which pension costs and benefits accrue. This argument will be considered in Section 3 after Section 2 provides an overview of how pensions are taxed in Ireland compared with other OECD countries. Section 4 examines how the aggregate cost of tax expenditure on occupational pensions compares with government expenditure on social welfare pensions. It also presents estimates of the average cost per participant to the Exchequer of tax support for occupational pensions relative to the average cost per participant of Exchequer expenditure on social insurance pensions. Section 5 shows how the benefits of the tax expenditure on employee contributions to occupational schemes are distributed by income group and Section 6 presents conclusions and

<sup>3</sup> Official estimates of the cost of tax expenditures on pensions show that the same is true in Australia (Knox, 1991); the United Kingdom (Sinfield, 2000); the United States (Munnell, 1991) and other OECD countries (OECD, 1996).



makes some suggestions for making pension tax incentives more equitable.

## **2. Pension Tax Regimes in OECD Countries**

In common with all other OECD countries taxes are raised in Ireland by taxing income rather than consumption. In broad terms, under a comprehensive income tax pension contributions would be taxed (T), the investment income and capital gains of the pension fund would be taxed (T), and pension benefits would be exempt (E). Because of the economic and social arguments for providing support for private pensions through the tax system a departure from these arrangements is permitted and pensions are taxed in a way which is consistent with the taxation of saving under a consumption tax. Under a consumption tax regime pension contributions would be exempt (E), investment income and capital gains would be exempt (E), and pension benefits would be taxed (see Dilnot (1992)). Where an income tax basis is used it is referred to as a TTE regime and where a consumption tax basis is used it is referred to as an EET regime. Clearly, a consumption tax regime is more favourable to saving than an income tax regime.

Table 1 provides a stylised summary of the regimes which are used to tax occupational pensions in OECD countries. From the first four columns of the table it is evident that most countries allow pensions to be taxed on a consumption tax basis. The main exceptions are New Zealand, which uses an income tax basis, and some of the Nordic countries, Austria, Australia, Iceland, and Japan which use a hybrid of the two. Almost half of the countries in Table 1 allow some or all of the pension benefit to be taken in the form of a lump sum payment on retirement. Ireland and the United Kingdom stand out in this group as the only countries which totally exempt lump sum benefits from tax. All of the other countries which allow payment of lump sum benefits tax them at standard or lower rates of tax. Income limits exist in the United Kingdom, the United States and other OECD countries on the maximum benefit which defined benefit schemes can provide and there are contribution limits for defined contribution schemes, as there are in Ireland for both defined benefit and defined contribution schemes.<sup>4</sup> In 1997 the United Kingdom changed the tax treatment of Advanced Corporation Tax for tax

<sup>4</sup> The income cap in the United Kingdom is currently £91,800 sterling; the maximum benefit allowed in the United States in 1996 was \$120,000.

exempt investors such as pension schemes. This reduced the tax-favoured position of pension funds relative to their position before the change.

**Table 1: Stylised Taxation of Occupational Pensions in OECD Countries**

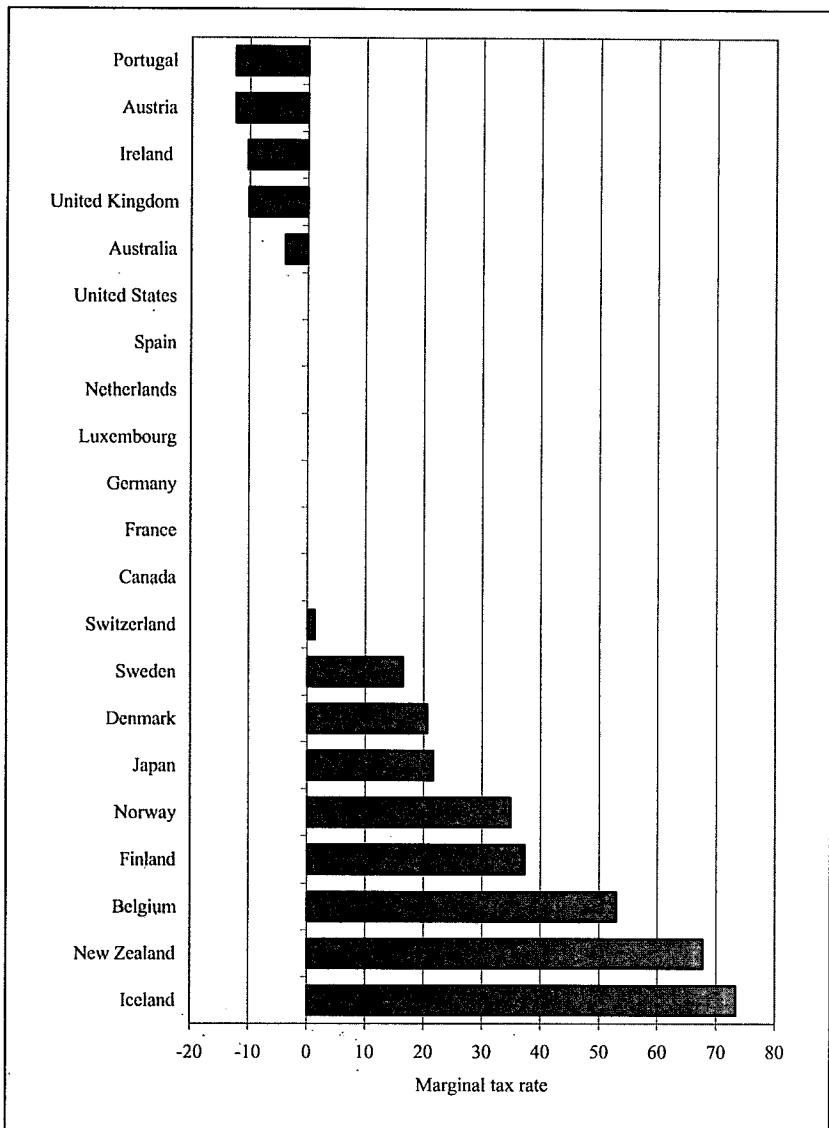
Country	Contributions	Pension Fund	Pension Benefits	
			Income	Lump Sum
Belgium	E	E	T	(t)
Canada	E	E	T	Unavailable
France	E	E	T	Unavailable
Germany	E	E	T	T
Ireland	E	E	T	E
Luxembourg	E	E	T	T
Netherlands	E	E	T	Unavailable
Norway	E	E	T	Unavailable
Portugal	E	E	T	(t)
Spain	E	E	T	T
Switzerland	E	E	T	T
United Kingdom	E	E	T	E
United States	E	E	T	Unavailable
Denmark	E	(t)	T	T
Sweden	E	(t)	T	Unavailable
Finland	(t)	E	T	T
Austria	(t)	E	T	T
Australia	(t)	T	T	(t)
Iceland	T	E	T	T
Japan	T	E	T	(t)
New Zealand	T	T	E	T

Sources: OECD (1994), Whitehouse (1999), Hall (2000), Dilnot and Johnson (1993), and Dalsgaard (2001).

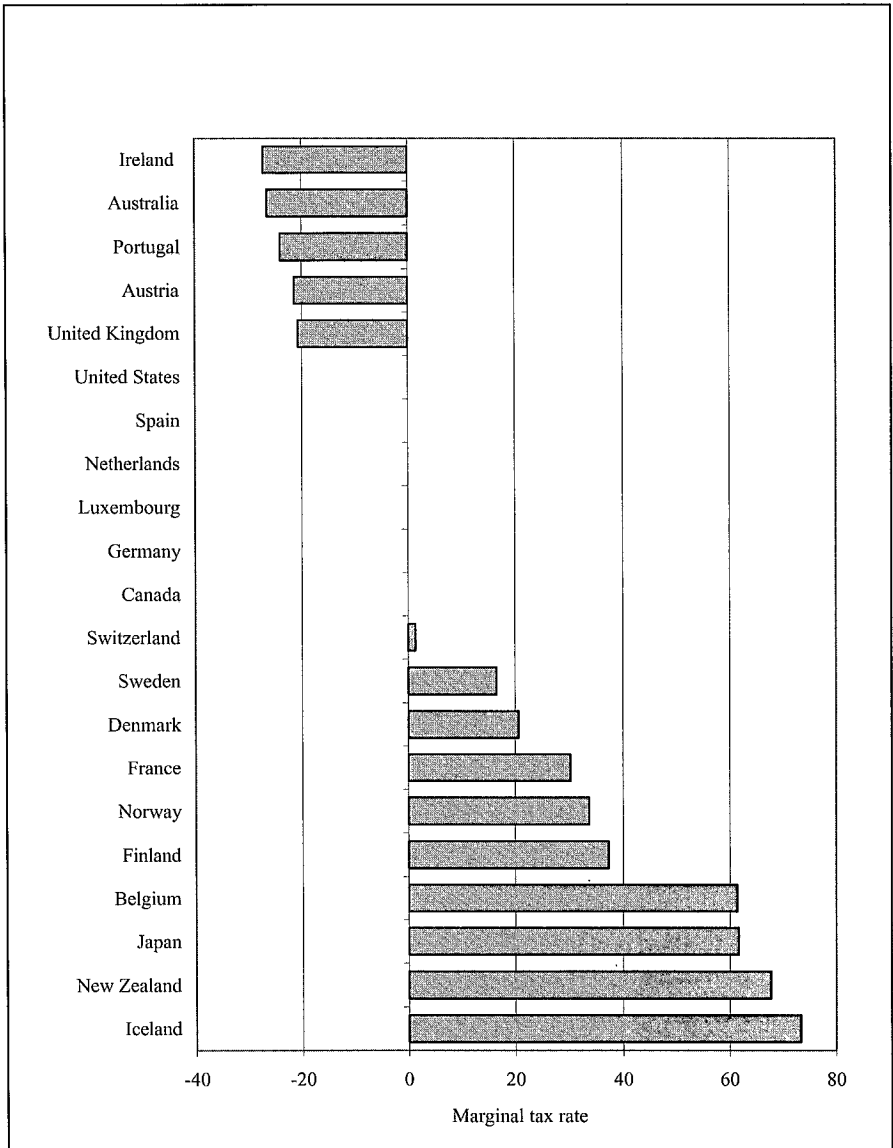
Note: A small t indicates that the component is taxed at a lower rate than the standard rate of income tax.

The tax incentives provided in different countries to encourage saving through occupational or personal pensions were investigated some years ago by the OECD (1994). It adapted a method of measuring incentives for saving and investment, which King and Fullerton (1984) developed for the corporate sector, to estimate the marginal effective tax rate on different forms of household saving within the tax systems operating in OECD countries in 1993. The tax rates are calculated for those paying at the marginal rates applicable to the Average Production Worker and to the highest earners. The results presented in Figures 1 and 2 show the marginal effective tax rates on pensions for the two types of household using the common OECD inflation rate of 3.7 per cent on the reference date. They also assume that income levels during work and retirement are

**Figure 1: Marginal Effective Tax Rates on Pension Investment by Average Production Worker in 1993**



**Figure 2: Marginal Effective Tax Rates on Pension Investment by Top Rate Taxpayer in 1993**



the same so pensions are not taxed at a lower rate during retirement. Figure 1 shows that the marginal rate of tax on pension saving is zero for those on average incomes in the United States, Spain, the Netherlands, Luxembourg, Germany, France, and Canada. These countries therefore tax pensions on a consumption tax basis. The marginal rates for Portugal, Austria, Ireland, the United Kingdom, and Australia are negative. This indicates that pensions are taxed in these countries in a regime which is more generous than a consumption tax regime. The marginal rates for the remaining countries are positive so their pension tax regimes are less generous than a consumption tax with the least generous regimes existing in the Nordic countries, Japan, Belgium and New Zealand where the preferred approach is, or approximates to, a comprehensive income tax regime.

Figure 2 shows that in countries in which the tax treatment of pensions is more generous than a consumption tax regime top rate taxpayers have a much greater incentive to invest their savings in pensions than workers on average incomes. Figure 2 also shows that the tax treatment of pensions for top rate taxpayers is more generous in Ireland than in any other OECD country.

### **3. Estimates of the Cost of Tax Reliefs on Occupational Pensions**

Pension schemes in Ireland receive favourable tax treatment by applying to the Revenue Commissioners for "exempt approved status". To qualify for this special status a scheme must be established under an irrevocable trust, the assets of the fund must be held apart from the employer's other assets, and disposed of in accordance with a deed of trust. As none of the government agencies responsible for the operation of occupational pension schemes publish statistics on the financial operations of these schemes, the Revenue Commissioners have based their estimates of the cost of tax reliefs on different components of pension income flows on whatever limited information is available from private sources. They have published annual estimates of the cost of the tax relief on employee contributions and of the cost of the exemption of the net income of approved funds since 1980/81 and annual estimates of the cost of the tax relief on employer contributions since 1993/94. They have also made available unpublished estimates of the cost of the tax relief on lump sum pension benefits for the years 1984/85 to 1989/90. The most comprehensive estimate of the tax expenditure on occupational pensions

is the value of the tax relief on the net income of approved superannuation funds. This is based on total contributions by employers and employees plus the investment income of the funds minus the amount paid out in pension benefits and lump sums.

For the tax years 1981/82 to 1988/89 the estimate was derived by multiplying the value of pension fund assets by an assumed rate of return (6 per cent up to 1983/84 and 5 per cent thereafter) by the standard rate of tax (35 per cent). For 1989/90 and 1990/91 the estimate was made by using data from investment surveys carried out by the Irish Association of Pension Funds on (1) pension fund assets, (2) net cash flow, and (3) investment income. The value of pension assets was multiplied by an assumed rate of return (5 per cent) and the product was added to the value of the net cash flow. The total was then multiplied by the standard rate of tax (29 per cent). For 1991/92, 1992/93, and 1993/94 IAPF data on net cash flow and investment income were added and the result was multiplied by the standard rate of tax in the relevant tax year (29 per cent in 1991/92 and 27 per cent in 1992/93 and 1993/94). The IAPF investment surveys did not provide information on investment income for 1994/95, 1996/97 or 1997/98 so the Revenue Commissioners reverted to their earlier approach of multiplying the value of pension assets by an assumed rate of return (5 per cent) and the standard rate of tax in the relevant year.

Table 2 and Figure 3 show the Revenue Commissioners' estimates of the cost of the tax reliefs on (a) employee contributions from 1980/81 to 1997/98, (b) employer contributions from 1993/94 to 1997/98, and (c) the net income of approved superannuation funds from 1980/81 to 1997/98. The cost of the tax relief on employee contributions increased from IR£14 million in 1980/81 to IR£202 million in 1997/98. The cost of the relief on employer contributions grew from IR£142 million in 1993/94 to IR£343 million in 1997/98. The cost of the relief on lump sum pension benefits was about the same as the cost of the employee contributions for the years for which the data are available. For example, in 1984/85 the tax forgone on the lump sum benefit amounted to IR£40 million while the tax forgone on employee contributions was also IR£40 million and in 1988/89 the tax forgone on the lump sum amounted to IR£47 million while the tax forgone on employee contributions was IR£50.3 million. Over the whole period the cost of the tax relief on the net income of approved schemes rose from IR£30 million to IR£648 million. Relative to GNP, as Figure 4 shows, the most comprehensive measure available from the Revenue Commissioners of the cost of the favourable tax treatment of the net

income of pension funds quadrupled from one-third of a percentage point in 1980 to 1.4 per cent in 1997.

**Table 2: Revenue Commissioners Estimates of the Cost of Tax Reliefs on Employee Contributions, Employer Contributions, and on the Net Income of Approved Superannuation Funds, 1980/81 to 1996/97 (£ million)**

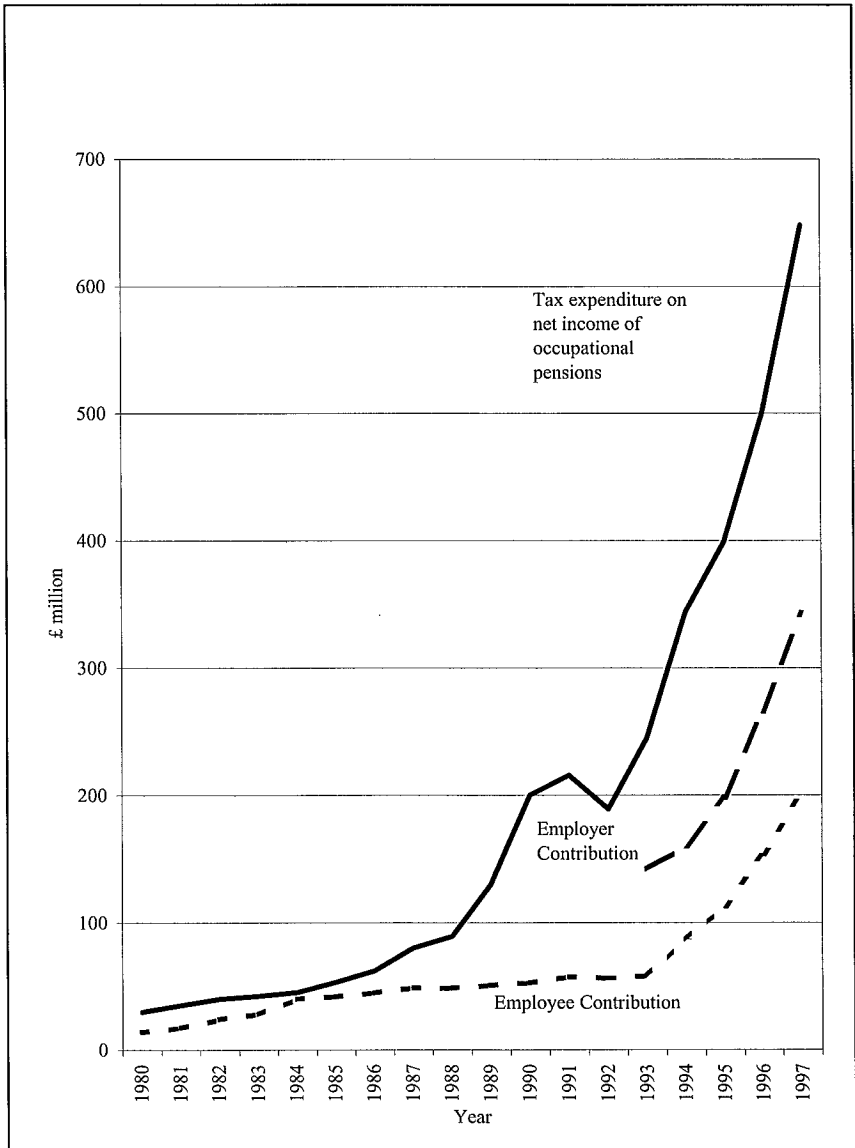
Year	Employee Contributions	Employer Contributions	Net Income of Approved Super-annuation Funds (Tax. Exp.)	Lump Sum Benefit	Tax Exp./GNP
			£ million		Per Cent
1980/81	14.0	-	30.0	-	0.33
1981/82	17.5	-	35.0	-	0.32
1982/83	24.0	-	40.0	-	0.32
1983/84	28.0	-	42.0	-	0.31
1984/85	40.0	-	45.0	40.0	0.30
1985/86	41.8	-	53.0	45.0	0.33
1986/87	44.4	-	62.0	39.5	0.35
1987/88	48.5	-	80.0	49.0	0.42
1988/89	48.3	-	89.0	95.0	0.44
1989/90	50.3	-	130.0	47.0	0.59
1990/91	52.5	-	200.0	-	0.78
1991/92	57.0	-	216.0	-	0.81
1992/93	56.0	-	189.0	-	0.67
1993/94	58.0	142.0	245.2	-	0.81
1994/95	87.0	160.0	344.0	-	1.05
1995/96	113.0	198.0	399.0	-	1.09
1996/97	154.0	266.0	500.0	-	1.25
1997/98	202.0	343.0	648.0	-	1.42

Sources: *Annual Report of the Revenue Commissioners* 1981 to 1999.

Note: The increase in the cost of the tax relief on the lump sum benefit in 1988/89 is attributable to the voluntary early retirement scheme for the public service.

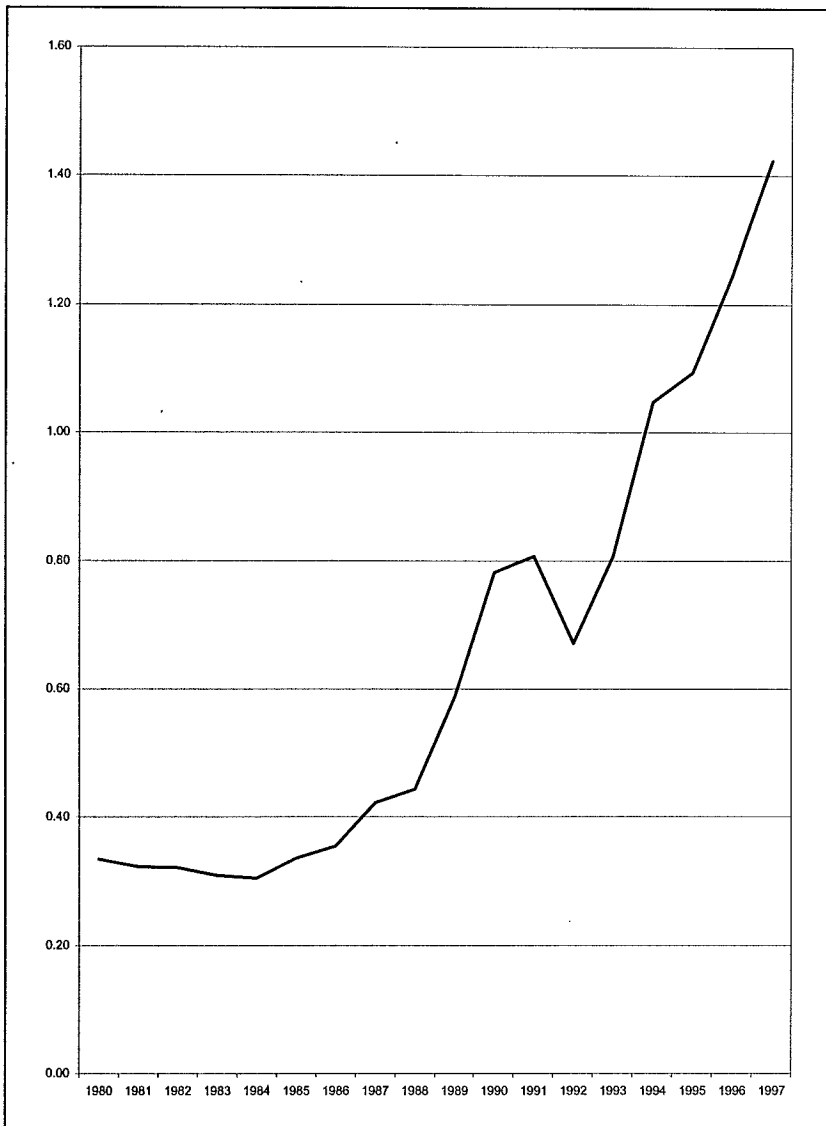
While "all countries reporting pensions tax expenditures currently do so on a cash-flow basis" as the OECD (1996, p. 12) notes, such annual estimates have been criticised by Dilnot and Johnson (1993) and Knox (1991) on the ground that they do not take account of the tax revenue which will accrue to the Exchequer in the future when pensions are paid. A better way of estimating the annual cost to the Exchequer of tax expenditure on pensions, as Munnell (1991, p. 395) has pointed out, would be:

**Figure 3: Revenue Commissioners Estimates of the Cost of Occupational Pension Tax Reliefs, 1980-97**





**Figure 4: Tax Relief on Net Income of Approved Superannuation Funds as a Percentage of GNP, 1980-97**



... the difference between (1) the present discounted value of the revenue from current taxation of employer contributions and pension fund earnings as they accrue over the employee's working life, and (2) the present discounted value of the taxes collected when the employer's contributions and investment returns are taxable to the employee after retirement.

Information is available from a pension coverage survey by Hughes and Whelan (1996) which enables us to use Munnell's method to estimate how the cash flow estimate of the tax relief on employee contributions compares with a net present value estimate.

In 1994/95 the Revenue Commissioners estimated that the cost of the tax forgone on employee contributions, using the standard rate of tax of 27 pence, amounted to IR£87 million. This implies that total pension contributions by employees were IR£322 million. The average effective tax rate for retired households in the top half of the income distribution in 1994 was 12 pence.<sup>5</sup> The average age of employees who were members of occupational pension schemes in 1995 was 40; the normal pensionable age was 62; and the average expectation of life at age 62 was just over 16 years.<sup>6</sup> The rate of return on pension assets is assumed to be 5 per cent, the same as the rate used by the Revenue Commissioners. Some economists argue that the graduated tax rate effect, which is a central feature of a progressive income tax, should be ignored in estimating the cost of pension tax expenditure so that only the cost of deferring tax for a long period should enter into the calculation (see Bruce (1988, pp. 40-41)). In order to separate the effect of tax deferral from differences in worker and pensioner tax rates an estimate is also made on the assumption that workers and pensioners pay the same rate of tax, 27 pence in the pound.

Given these assumptions the net present value of the tax forgone under the option of current taxation of employee contributions and

<sup>5</sup> The average tax rate for retired households is derived from Table 14 of the Household Budget Survey 1994-95 (Ireland, 1997). It may overstate the average effective tax rate for pension beneficiaries. Although the majority of employees covered by an occupational pension scheme are concentrated in the top half of the earnings distribution, data kindly supplied by my colleague Richard Layte from the 1997 wave of the ESRI Living in Ireland Survey show that the incomes of households in which there were only elderly persons in receipt of some income from an occupational pension scheme were significantly lower than average household incomes and that about half of those in receipt of an occupational pension were in the bottom half of the income distribution in 1997.

<sup>6</sup> These data are taken from the 1995 pension survey by Hughes and Whelan (1996), revised data supplied by them to the Pensions Board, and the Irish Life Table 1990-92.

investment returns on these contributions and the net present value of the option of taxing pension benefits when they become payable are shown for different tax rates in Table 3. Figure 5 shows the income streams which are being discounted under the two tax options in order to evaluate the net present value of the tax forgone under each option. The difference between these two options is a net present value estimate of the revenue loss in 1994/95 of the deferral of tax until pensions are paid.

**Table 3: Net Present Value Estimate of Difference Between Deferred (EET) and Current (TTE) Taxation of Pensions Using Different Worker and Pensioner Tax Rates**

Tax Rates	NPV of Current Taxation Minus Deferred Taxation £ million
Worker = 27 pence; Pensioner = 12 pence	130
Worker = 27 pence; Pensioner = 27 pence	94
Revenue Commissioners Estimate	87

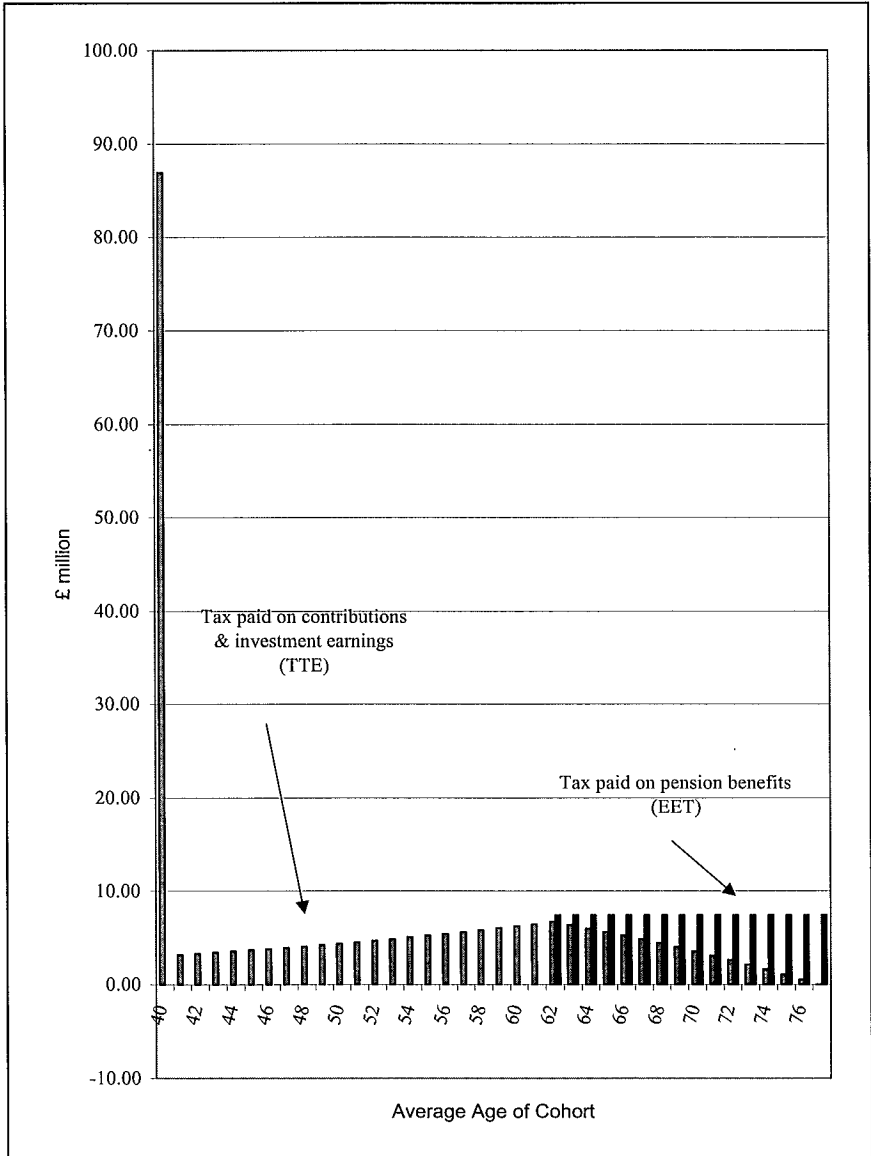
Source: See text.

The estimates in Table 3 show that a net present value estimate of the cost of tax relief on employee pension contributions in 1994/95 which takes account only of the cost of tax deferral amounted to IR£94 million. This is quite close to the Revenue Commissioners cash flow estimate of IR£87 million. If the graduated tax rate effect is included the net present value estimate gives a much higher figure, IR£130 million, than the cash flow estimate. In either case there is a substantial revenue loss to the Exchequer from the favourable tax treatment of occupational pension funds. It is not, therefore, correct to argue that the tax arrangements for pensions simply amount to a deferral of tax and that most of the forgone revenue will be recovered by the Exchequer when pensions are paid.

The purpose of these estimates is not to produce a more precise estimate of the cost of the tax expenditure on employee pension contributions but, as Munnell (1991, p. 396) points out to:

... illustrate that the debate over the precise magnitude of the tax expenditures is an unproductive digression that diverts attention from the important topic of whether the favourable tax treatment accorded contributions to private pension plans represents an efficient and equitable use of scarce resources.

**Figure 5: Tax Flows under Income Tax (TTE) and Consumption Tax (EET) Treatment of Employee Occupational Pension Contributions in 1994/95**



In Ireland debate has tended to focus on the official estimate of the cost of the tax expenditure on occupational pensions and there has been little discussion of other issues such as the relative costs of Exchequer support for occupational and state pension schemes, the performance of tax incentives in promoting pension cover, and the distribution of pension tax benefits by income group. However, there is some information available from reports on social welfare services, pension coverage surveys, the reports of the Pensions Board, and the ESRI Living in Ireland survey which throws some light on these issues.

#### **4. Tax Expenditure on Occupational Pensions and Direct Expenditure on Social Welfare Pensions**

At the end of the 1980s it was realised that ageing of the population in the early decades of the twenty-first century would increase the cost of state pension schemes in many OECD countries. Governments began to look for ways of changing the balance between state and private pension provision in an attempt to avoid raising taxes in the future (see OECD (1992)). As well as the problem of demographic ageing, Ireland faced additional problems as its flat-rate state pension was too low to adequately replace income from work for most workers, it did not have a state earnings-related pension scheme, and the coverage of occupational pension schemes was low and very unevenly distributed across sectors and occupations. The strategy recommended by the Pensions Board (1998) to cope with these problems is to gradually raise the flat-rate state pension up to 34 per cent of average industrial earnings, to accumulate a national pension reserve fund for investment in financial assets selected from global financial markets, and to try and increase pension coverage on a voluntary basis by providing access to Personal Retirement Savings Accounts.<sup>7</sup>

The Pensions Board (1998, p. 109) noted that “the purpose of the fund would be to place a ceiling on the additional Exchequer contribution required for [social welfare pensions for] the foreseeable future” and it recommended that the tax treatment of individual retirement savings accounts should be more favourable than that for occupational pension funds.

The policy message which comes through the various reports published as part of the National Pensions Policy Initiative is that public

<sup>7</sup> The target is to increase coverage from 54 per cent of those aged 30-65 at work in 1995 to 70 per cent over a period of ten years or more.

pension schemes should be restricted to paying modest flat-rate benefits while the bulk of retirement pension provision should be provided on a voluntary basis by private financial institutions on the assumption that publicly provided pensions are unaffordable in the long term, due to population ageing, while privately provided pensions will be less costly (see Pensions Board (1997 and 1998)). It did not provide any comparisons of past trends in Exchequer expenditure on social welfare pensions relative to tax expenditure on occupational pensions nor did it include in its projections out to 2046 estimates of tax expenditure on occupational pensions or on the Personal Retirement Savings Accounts which it proposed should be introduced to increase pension coverage on a voluntary basis. Although the Board's strategy relies heavily on pension tax incentives it does not consider how effective existing tax incentives for occupational pensions have been in promoting coverage.

This section presents data relating to the trend in the cost of tax expenditure on occupational pensions and to the trend in the coverage of occupational pensions. These data raise some questions about the effectiveness of tax incentives in promoting pension coverage and about the assumption that privately provided pensions will be less costly in terms of Exchequer support through the tax system than direct government expenditure on social welfare pensions.

There are three social welfare pension schemes which have to be considered: the Contributory Old Age Pension Scheme for which the retirement age is 66, the Retirement Pension Scheme for which the retirement age is 65, and the means-tested Non-Contributory Old Age Pension Scheme for which the retirement age is 66. The Contributory Old Age Pension Scheme is financed on a pay-as-you-go basis by Pay-Related Social Insurance (PRSI) contributions by employers, employees, and the self-employed while the Retirement Pension Scheme is financed by similar contributions by employers and employees. Any shortfall between income and expenditure on the two contributory public pension schemes is met by the state out of general taxation.

The main difference between the two contributory schemes is that a retirement condition applies to the Retirement Pension up to age 66 whereas no such condition applies to the Contributory Old Age Pension which becomes payable at age 66. Applicants for a non-contributory pension have to satisfy a means-test to be eligible for a flat-rate pension. The basic non-contributory pension benefit for a single adult in May 2000 was IR£85.50 (= EUR 108.56) per week while the contributory and

retirement pension benefit was IR£96.00 (EUR 121.89 per week or about 27 per cent and 31 per cent respectively of average industrial earnings.<sup>8</sup>

Tax expenditure on occupational pensions and direct expenditure on social welfare pensions are compared in Table 4 and Figure 6 for the period 1980-97. At the beginning of the period in 1980 tax expenditure on occupational pensions amounted to 20 per cent of direct expenditure on contributory social insurance pensions, IR£30 million versus IR£153 million. By the end of the period it had increased to 98 per cent, IR£648 million versus IR£661 million. With respect to non-contributory social assistance pensions tax expenditure increased from 21 per cent in 1980 (IR£30 million versus IR£140 million) to over 200 per cent in 1997 (IR£648 million versus IR£317 million).

In terms of the combined social welfare pension schemes the cost of tax expenditure on occupational schemes increased from 10 per cent in 1980, IR£30 million versus IR£293 million, to over 66 per cent by 1997, IR£648 million versus IR£978 million (see Figure 7). Given the average rates of growth of tax and direct expenditure during the period 1987-97 it would only require a few more years growth at these rates for the cost of tax expenditure on occupational pensions to exceed the direct cost of expenditure on social welfare pensions. The introduction of Personal Retirement Savings Account (PRSA) with more favourable tax treatment than occupational pension schemes, as recommended by the Pensions Board, is likely to increase the cost of tax expenditure on pensions.

One effect of implementing this recommendation may be that Exchequer support for social welfare pensions will be limited in the future while the cost of its support for private pension schemes, benefiting a much smaller number of people, will not be.

As only employees whose employers provide occupational pension plans benefit from tax expenditure on these plans whereas all workers ultimately benefit from social insurance pension expenditure it is important to consider how many people benefit from the two kinds of expenditure and to what extent they benefit on average.

<sup>8</sup> From May 2001 the non-contributory pension for a single adult is £95.50 (EUR 121.25) and the contributory pension is £106.000 (EUR 134.59).

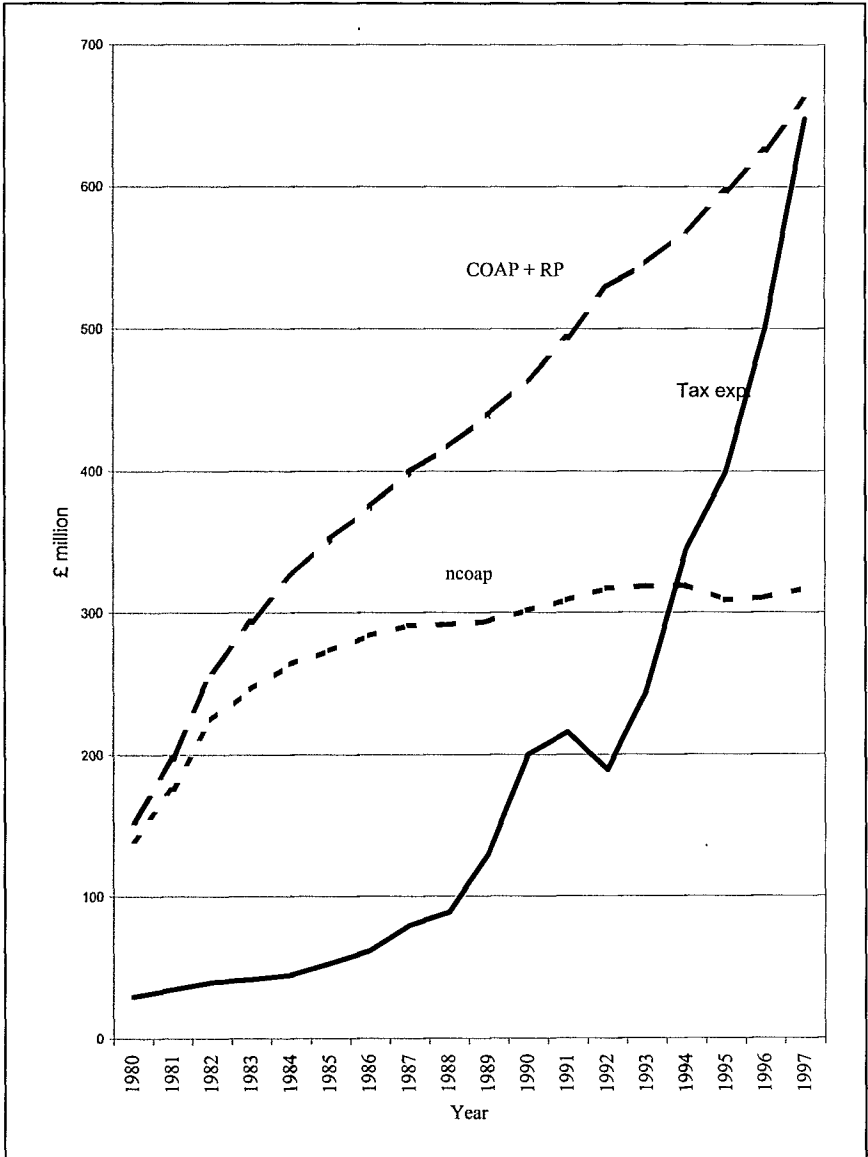
**Table 4: Direct Expenditure on State Pensions, Tax Expenditure on Occupational Pensions and Direct Expenditure as Per Cent of Tax Expenditure on Pensions, 1980-97**

Year	Direct Expenditure on Contributory Old Age Pension & Retirement Pension	Direct Expenditure on Non-Contributory Old Age Pension	Direct Expenditure on State Pensions	Tax Expenditure on Occupational Pension Schemes	Tax Expenditure on Occ. Pensions as Per Cent of Direct Exp. On State Pensions
	£ million				Per Cent
1980	153.0	140.2	293.2	30.0	10.2
1981	197.5	176.4	373.9	35.0	9.4
1982	259.3	225.0	484.3	40.0	8.3
1983	293.9	246.5	540.4	42.0	7.8
1984	325.9	264.1	590.0	45.0	7.6
1985	351.7	273.5	625.2	53.0	8.5
1986	374.5	283.9	658.4	62.0	9.4
1987	399.5	291.2	690.7	80.0	11.6
1988	417.2	291.8	709.0	89.0	12.6
1989	439.0	293.8	732.8	130.0	17.7
1990	464.9	301.5	766.4	200.0	26.1
1991	493.9	308.8	802.7	216.0	26.9
1992	529.5	317.2	846.7	189.0	22.3
1993	546.3	318.4	864.7	245.2	28.4
1994	569.0	319.1	888.1	344.0	38.7
1995	597.2	308.8	906.0	399.0	44.0
1996	626.0	310.3	936.3	500.0	53.4
1997	661.2	316.8	978.0	648.0	66.3

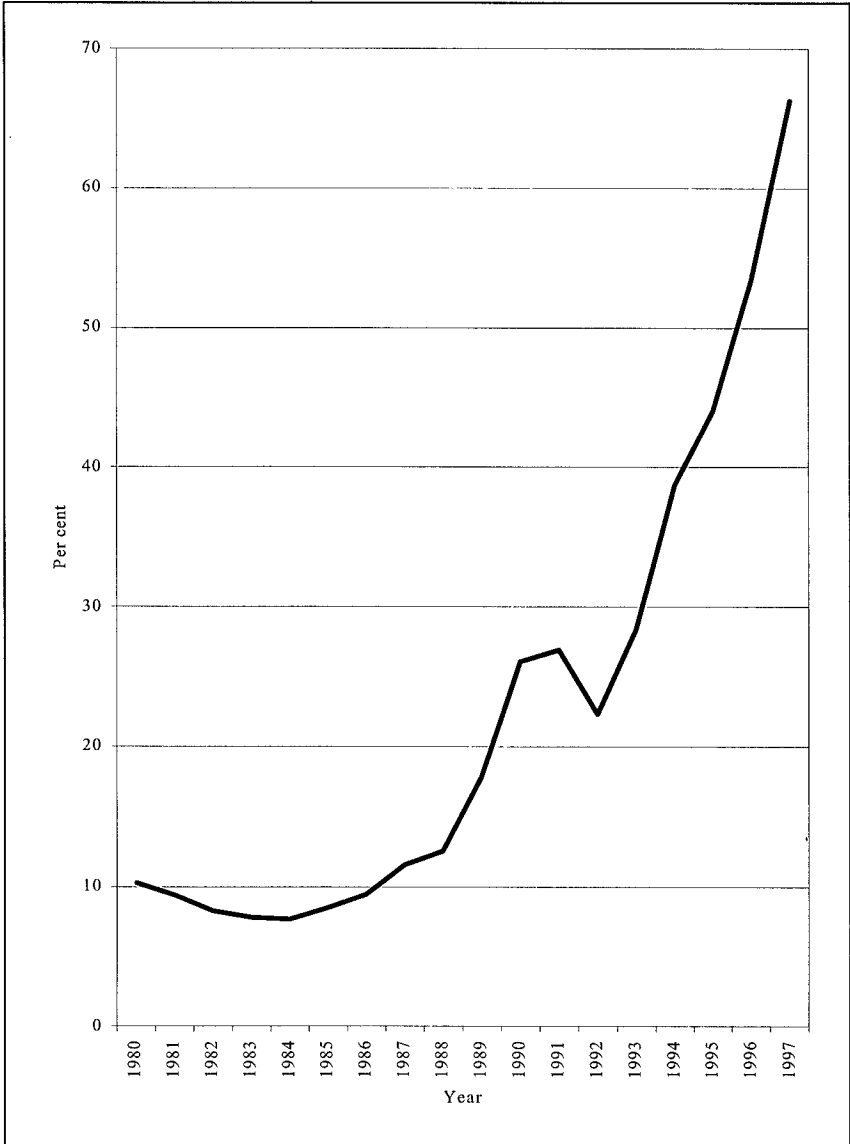
Sources: *Annual Report of the Revenue Commissioners* 1981 to 1999, *Statistical Information on Social Welfare Services* 1983 to 1997, and Special Tabulation from the Revenue Commissioners.



**Figure 6: Direct Expenditure on Social Insurance and Social Assistance Pensions and Tax Expenditure on Occupational Pensions, 1980-97**



**Figure 7: Tax Expenditure on Occupational Pensions as a Percentage of Direct Expenditure on Social Welfare Pensions, 1980-97**



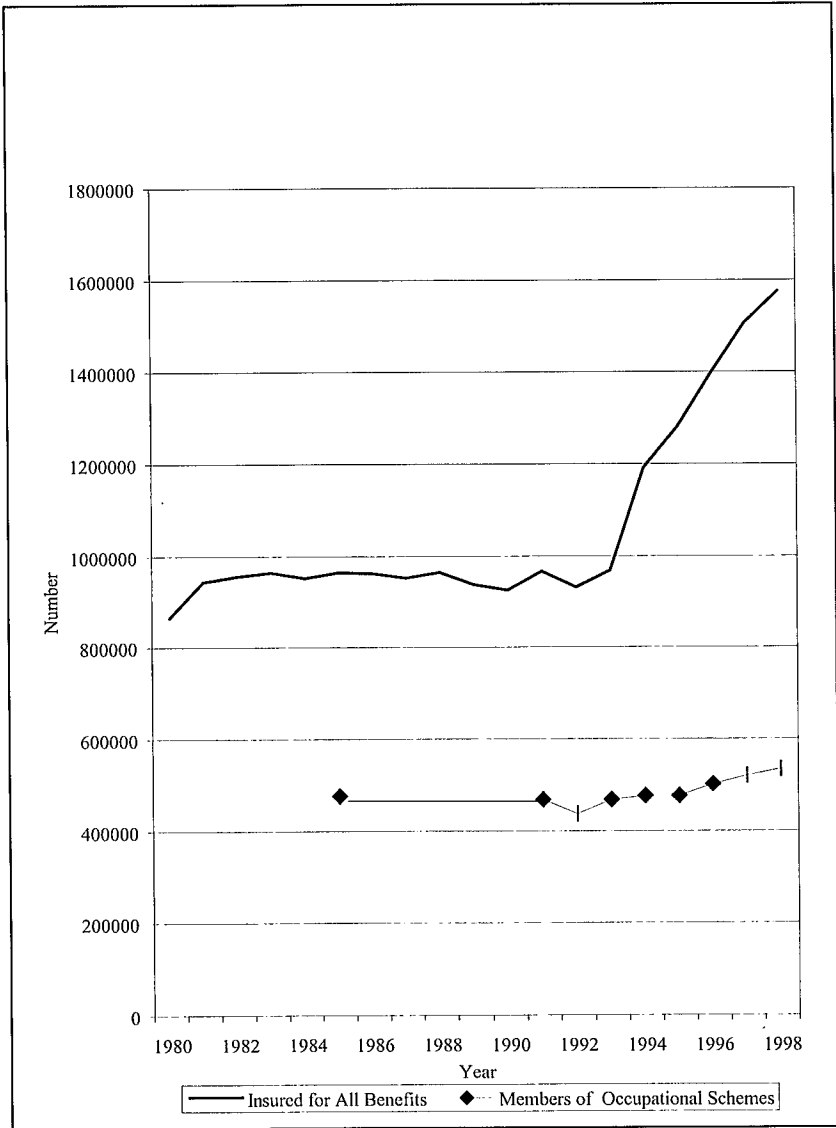
### *Beneficiaries of State Expenditure on Pensions*

The number of people insured for all social insurance benefits and the number of members of occupational pension schemes are shown in Table 5 and Figure 8 and the coverage rates are shown in Figure 9. The number of social insurance and social assistance pensioners and occupational pensioners are graphed in Figure 10.

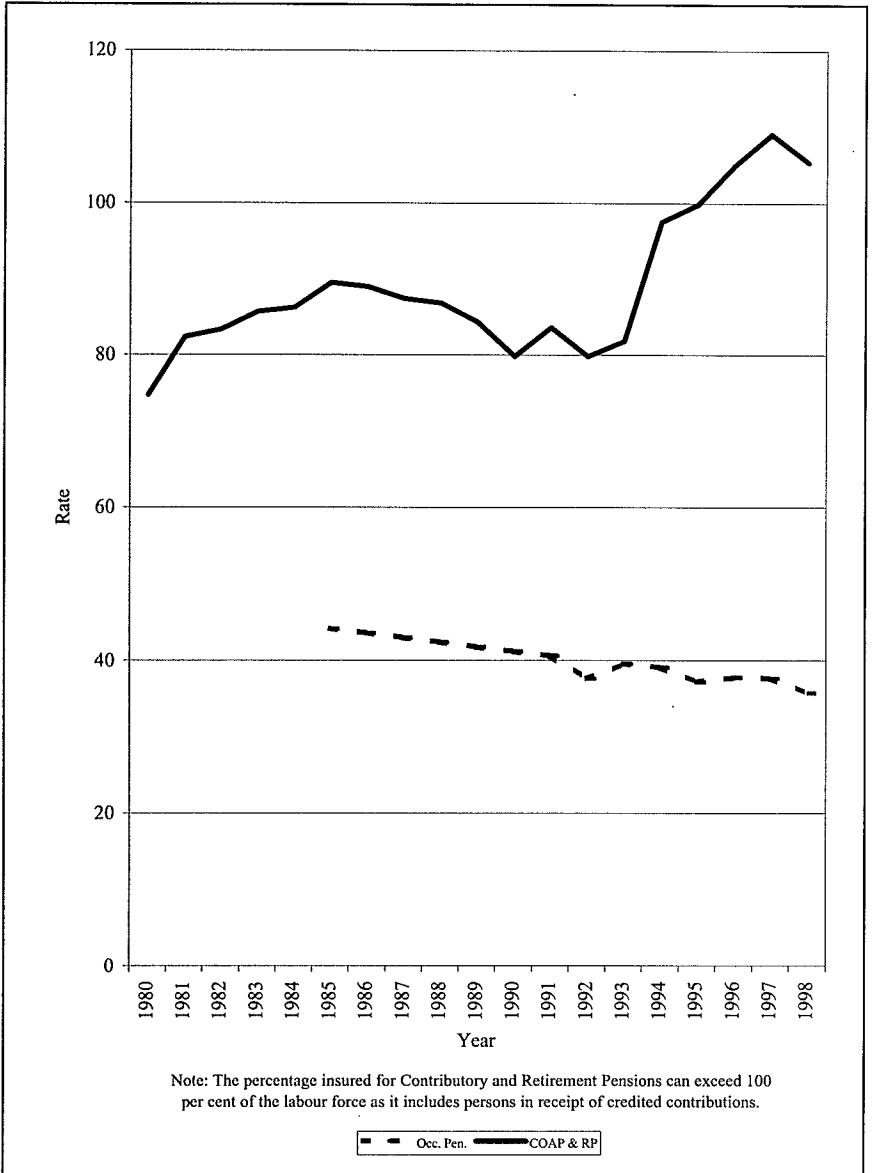
The effects of policy decisions to bring the Irish social welfare system more into line with the approach in most countries in the European Union by relying to a greater extent on social insurance than social assistance is evident from the growth in the population insured for all benefits, the increase in the number of contributory old age pensioners, and the reduction in the number of non-contributory old age pensioners. The number insured for all benefits increased by 82 per cent between 1980 and 1998 while the number at work during this period grew by 29 per cent. Consequently, the percentage of those at work insured for all benefits increased from 75 per cent to 100 per cent over the period. The total number of State pensioners remained fairly stable at between 230,000 to 240,000 but the number of social insurance pensioners increased from 97,000 to 147,000 while the number of social assistance pensioners fell from 130,000 to 96,000. Consequently, 60 per cent of pensioners received a social insurance pension in 1998 compared with 43 per cent in 1980.

Criteria by which to judge whether Exchequer support for occupational pensions is achieving its goals are: what percentage of those at work are covered by such schemes and is the coverage rate increasing over time? The last column in Table 5 shows that in 1985 only a minority of those at work, 44 per cent, were members of occupational pension schemes and that the coverage rate fell by 8 percentage points thereafter to 36 per cent in 1998. Thus, despite the continuing substantial support provided through the tax system for occupational pension schemes they fail to provide pension cover for the majority of the working population and they are failing to maintain coverage rates attained in the past when the working population was much smaller.

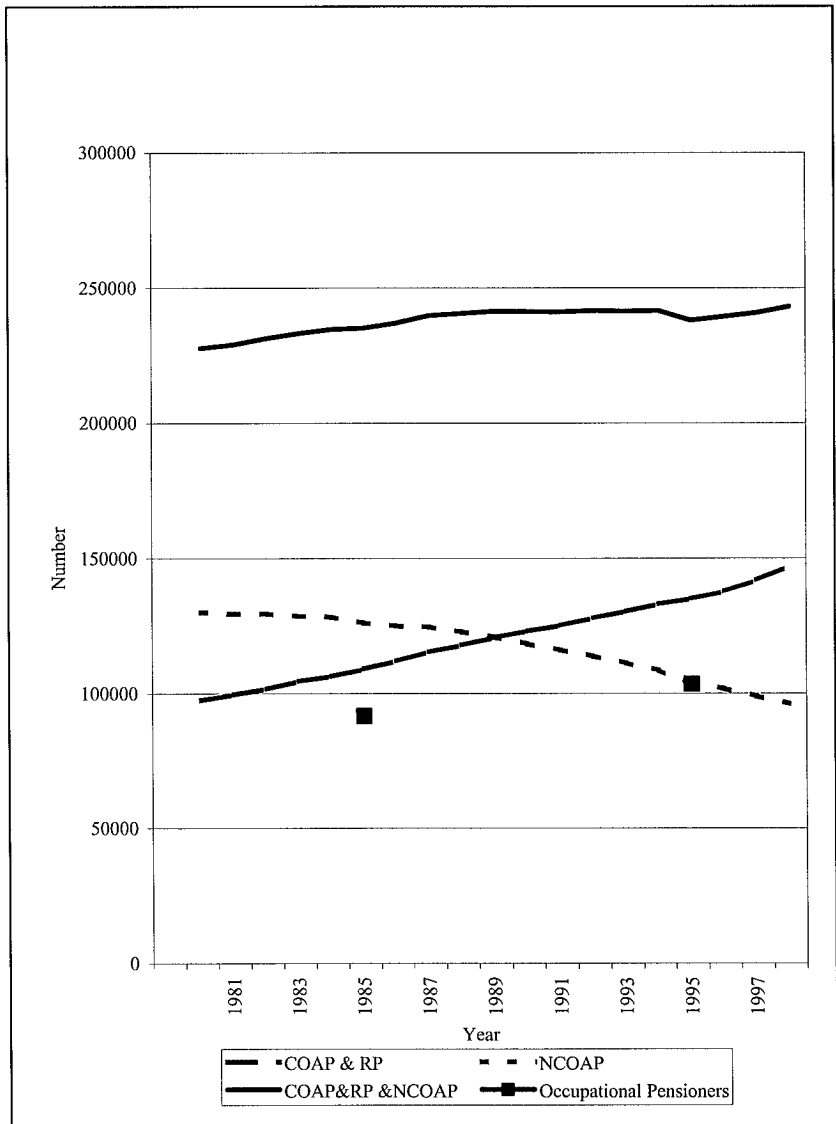
**Figure 8: Coverage of Contributory Old Age Pension Schemes and Occupational Pension Schemes, 1980-98**



**Figure 9: Coverage Rate of Contributory Old Age Pension Schemes and Occupational Pension Schemes, 1980-98**



**Figure 10: Number of Contributory and Non-Contributory Old Age Pensioners and Occupational Pensioners, 1980-98**



**Table 5: Insured Population, Contributory Old Age and Retirement Pensioners, Members of Occupational Pension Schemes and Occupational Pensioners, 1980-96**

Year	Insured for All Benefits	Social Insurance Pensioners (COAP/RP)	Social Assistance Pensioners (NCOAP) Number	Members of Occupational Schemes	Occupational Pensioners	Percentage At Work Covered by Occ. Scheme Per Cent
1980	864,000	97,382	130,077	-	-	-
1981	944,000	99,494	129,331	-	-	-
1982	955,000	101,665	129,495	-	-	-
1983	963,000	104,449	128,538	-	-	-
1984	951,000	106,224	128,270	-	-	-
1985	965,000	108,892	126,058	476,200	91,700	44.2
1986	961,790	111,809	124,913	-	-	-
1987	952,390	115,214	124,419	-	-	-
1988	964,310	117,769	122,681	-	-	-
1989	937,100	120,607	120,632	-	-	-
1990	925,600	122,945	118,223	-	-	-
1991	966,300	125,000	115,950	469,103	-	40.6
1992	930,000	127,896	113,555	438,007	-	37.6
1993	968,300	130,261	111,011	467,890	-	39.5
1994	1,190,670	133,031	108,301	476,384	-	39.0
1995	1,279,600	134,940	102,984	476,600	103,500	37.2
1996	1,394,400	137,728	101,624	501,400	-	37.7
1997	1,505,300	141,815	98,835	519,469	-	37.6
1998	1,574,300	147,022	95,890	534,198	-	35.7

Sources: *Statistical Information on Social Welfare Services*, 1997, 1996, 1995, 1993, 1992, 1991, and 1990; Hughes (1994, Table 9) and Hughes and Whelan (1996); *The Pensions Board Annual Report & Accounts*, 1991 to 1997.

Note: The increase in the insured population between 1980 and 1981 may be due to a change in the way in which the data are classified. The membership figures for occupational pension schemes and the number of occupational pensioners in 1985 and 1995 are based on survey data in Hughes and Whelan (1996) and the membership figures for the remaining years are taken from the Annual Reports of the Pensions Board.

Putting information on the number of workers covered by social insurance and occupational schemes and the number receiving pensions together with the data on the cost of government expenditures on social insurance pensions and of tax expenditure on occupational pensions we provide estimates in Table 6 of the level and trend in support provided by

the Exchequer for the average participant in each type of scheme, where the number of participants is equal to the number of employees in the scheme plus the number of pensioners receiving benefits from it. The table shows that in 1985 Exchequer support for the average participant in an occupational pension scheme amounted to about a quarter as much as was provided to the average participant in the social insurance schemes. Over the next ten years however Exchequer support for occupational schemes grew very strongly so that in 1995 almost two-thirds more was provided for the average participant in an occupational scheme compared with the average participant in a social insurance scheme.<sup>9</sup>

**Table 6: Average Direct Expenditure Per Participant on Social Insurance Pensions and Average Tax Expenditure Per Participant on Occupational Pensions in 1985 and 1995**

	Social Insurance Pensions (COAP & RP)	Occupational Pensions	Ratio of Tax Expenditure to Direct Expenditure
		£	
1985	327	93	0.27
1995	422	688	1.63

Sources: See text.

Despite the greater level of support provided for the average participant in an occupational scheme, it is striking that the great majority of pensioners remain dependent on social welfare pensions for an income during retirement. Table 7 compares the position in Ireland and the United States. Almost all pensioners in both countries receive a social welfare or social security pension and the amount they receive provides the largest component of their income in retirement. In addition the sources of income in retirement in the two countries are not very different with the exception of asset income.

<sup>9</sup> Most occupational pension schemes are integrated with the social insurance scheme to take account of the fact that all eligible employees will ultimately receive a social insurance pension. If this were allowed for, participants in occupational pension schemes would benefit from Exchequer support to an even greater extent than is shown in Table 6.



**Table 7: Percentage of those Aged 65 and Over Having Income from Various Sources in Ireland and the United States in 1995**

Source of Income	Ireland		United States	
	Per Cent with Income from this Source	Per Cent of Total Income	Per Cent with Income from this Source	Per Cent of Total Income
Public Pension	83	55	94	44
Private Pension	23	23	36	19
Asset Income	24	3	69	18
Employment & Other Income	15	19	16	18
Total		100		100

Sources: Hughes and Whelan (1996, Table 3.4); Chen (1996).

In view of the trend in tax expenditure and direct expenditure by the Exchequer on pensions and the much greater support which is now being provided by the Exchequer for the average participant in an occupational pension scheme, it is questionable if pensions provided by private financial institutions are less costly to the Exchequer, under existing pension tax arrangements, than publicly provided pensions.<sup>10</sup> Since the Pensions Board's strategy for developing the pension system was published in 1998 some proposals have emerged for further development of the system.<sup>11</sup> These proposals and the Board's own proposals all have implications for Exchequer expenditure and it is important that all of the costs, including Exchequer costs, should be taken into account when evaluating them.

## **5. Distribution of Tax Expenditure on Occupational Pensions**

With the reduction in recent years of mortgage interest tax relief the tax exemption of the net income of approved superannuation funds is now the most costly item in the Revenue Commissioners' list of income tax reliefs.<sup>12</sup> Individual tax payers are obliged to include details on their annual income tax return of mortgage interest payments for which they are claiming tax reliefs. Consequently, the Revenue Commissioners have information on the distribution of these tax reliefs by income class.

<sup>10</sup> The representative of the Minister for Finance on the Pensions Board noted in the Pensions Board (1998, p. 118) report that "despite the fact that a central element of the initiative was to secure substantially greater supplementary pension coverage, the scenario emerging for the next 50 years or so shows an increased rather than any diminishing reliance on the Exchequer to meet pension requirements. This would be particularly the case if the present pay-as-you-go system continues to apply."

<sup>11</sup> See Callender (2000) and McHale (2000).

<sup>12</sup> Structural reliefs are assumed to be part of the benchmark tax system.

Unfortunately, because of the way in which the reliefs on occupational pension contributions and pension fund income are given there is no official information on how much tax relief different interest groups claim for contributions to occupational pension funds. However, a household survey carried out by the ESRI in 1994 (see Callan, Nolan, Whelan, Whelan, and Williams, (1996)) contains information on weekly gross earnings of employees who are members of any type of pension scheme. Employees are ranked in Table 8 and Figure 11 in deciles by level of earnings.

**Table 8: Employees Ranked by Weekly Gross Earnings Showing the Percentage with Pension Entitlements in 1994 by Income Deciles**

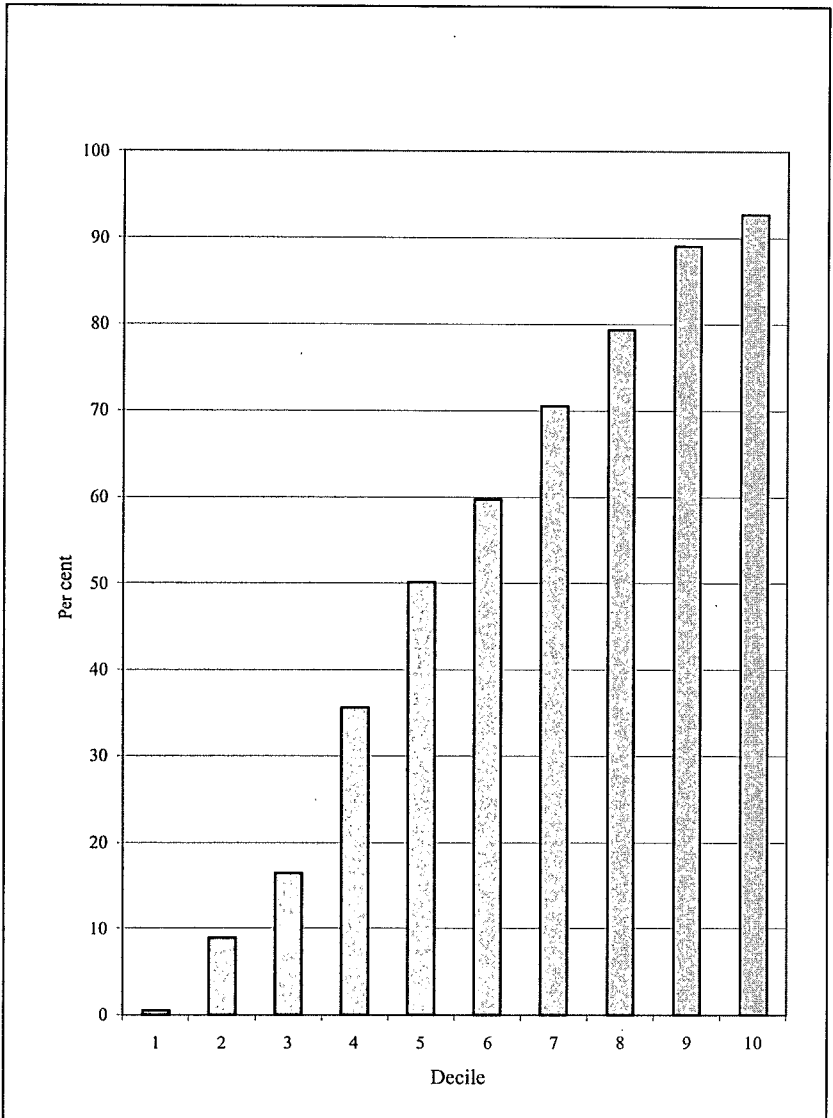
Decile	Per Cent
First	0.5
Second	8.9
Third	16.5
Fourth	35.6
Fifth	50.1
Sixth	59.7
Seventh	70.5
Eighth	79.4
Ninth	89.0
Tenth	92.7

Source: ESRI Living in Ireland Survey 1994.

The table shows that coverage of occupational pension schemes is virtually complete for the top three deciles; reasonably good for middle income employees in the fifth, sixth, and seventh deciles with 50 to 70 per cent having a pension entitlement; rather poor for low income employees in the second, third, and fourth deciles with only 10 to 35 per cent having an entitlement, and virtually non-existent for the bottom income decile.<sup>13</sup> This pattern of occupational pension coverage is very striking. It has been explained by Hughes and Nolan (1999) in terms of a segmented labour market model in which good fringe benefits are offered by employers as part of the total compensation package for moderate to high paying jobs to attract and hold onto well qualified employees while fringe benefits are not part of the compensation package for low paying jobs as there is generally an excess supply of poorly qualified job applicants.

<sup>13</sup> The pattern is similar when pension coverage rates are estimated by age group. For example, the coverage rate for those under 30 was 1.3 per cent for the first decile and 79 per cent for the 10<sup>th</sup> decile.

**Figure 11: Membership of Occupational Pension Schemes by Income Decile, 1994**



The only data available to assess the distribution of tax support for occupational pensions come from the ESRI Living in Ireland Survey. It contains information on the size of the employee contribution to occupational pension schemes but unfortunately not on the employer contribution. An estimate of the value of the tax relief given to employees can be derived by income class which will show whether the tax support provided for employee contributions is progressive, proportional, or regressive relative to income. The estimates of the value of the tax expenditure as a percentage of income take account of marital status, the standard personal allowances, and the relevant marginal tax rates. The aggregate value of pension contributions and of the tax relief are averaged across everyone in the income class whether they make a pension contribution or not. Figure 12 shows that tax support for employee contributions to occupational pensions is regressive. The value of the relief expressed as a percentage of weekly income increases from less than 0.06 per cent at the bottom of the income distribution to around 0.8 per cent in the middle and to about 1.6 per cent at the top. Thus, those on incomes of less than IR£41.00 per week receive hardly any benefit from the tax relief on occupational pension contributions while those earning over IR£720 per week benefit to the extent of 1.6 per cent of their weekly income. In terms of the total value of the tax relief which is given, the top 20 per cent of employee taxpayers receive more than 60 per cent of the tax expenditure while the bottom 20 per cent receive less than 0.5 per cent of it. The concentration of the benefits on the higher paid is similar to the picture found by the OECD (1994) for the United States and the Netherlands in an analysis of the distribution of their pension tax expenditures but different from the outcome in Australia and the United Kingdom where the benefits are more evenly spread across the income distribution (see Figure 13 for the Irish data and Figure 14 for the UK and the US). The distribution of pension tax expenditures in Ireland is another example of the "upside-down" nature of tax expenditures whereby, as Sinfield (1997, p. 120) notes:

The benefit is greater, the higher the income and the higher the marginal tax rate which is avoided as a result of the tax mechanism. The greatest beneficiaries are those who have the least needs by any measure used in social policy analysis.

There are two main reasons for this regressivity, as Agulnik and Le Grand (1998) point out. The first is that membership of occupational pension schemes increases strongly with income. The second is that the

tax relief is given at the marginal rate of tax. Hence, the value of the tax relief as a percentage of income rises as income rises. The interaction of these two factors results in a steady increase in the absolute value of the tax relief on occupational pension contributions as the absolute value of income rises.

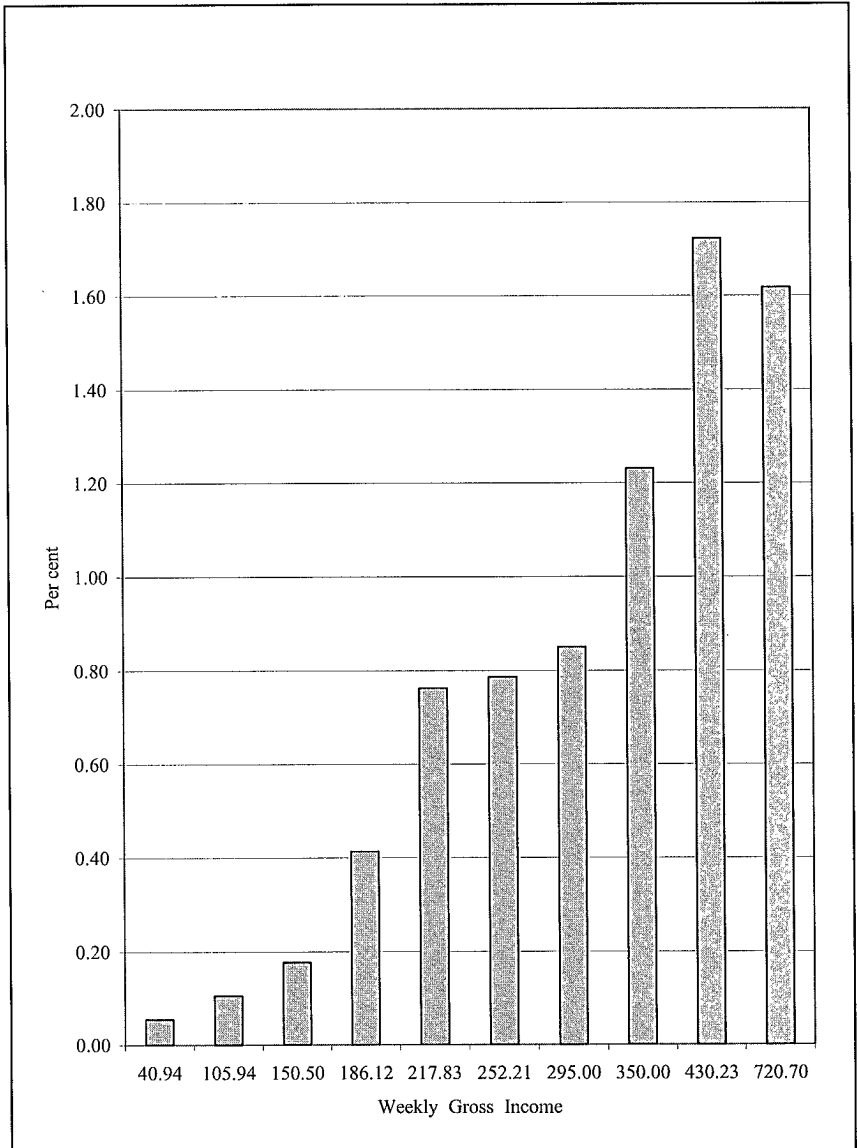
## **6. Conclusions and Policy Implications**

The evidence presented in this paper shows that arguments that official estimates overstate the cost of tax expenditure on occupational pensions and that the Exchequer will get back most of the tax forgone on pension contributions and fund income are not well founded: the Revenue Commissioners' estimate of the cost of tax expenditure on employee pension contributions is almost the same as a net present value estimate which takes account of the tax forgone through taxation on a consumption tax rather than an income tax basis and the favourable tax treatment of occupational pensions cost the Exchequer nearly IR£650 million in forgone revenue and amounted to almost 1.5 per cent of GNP in 1997.

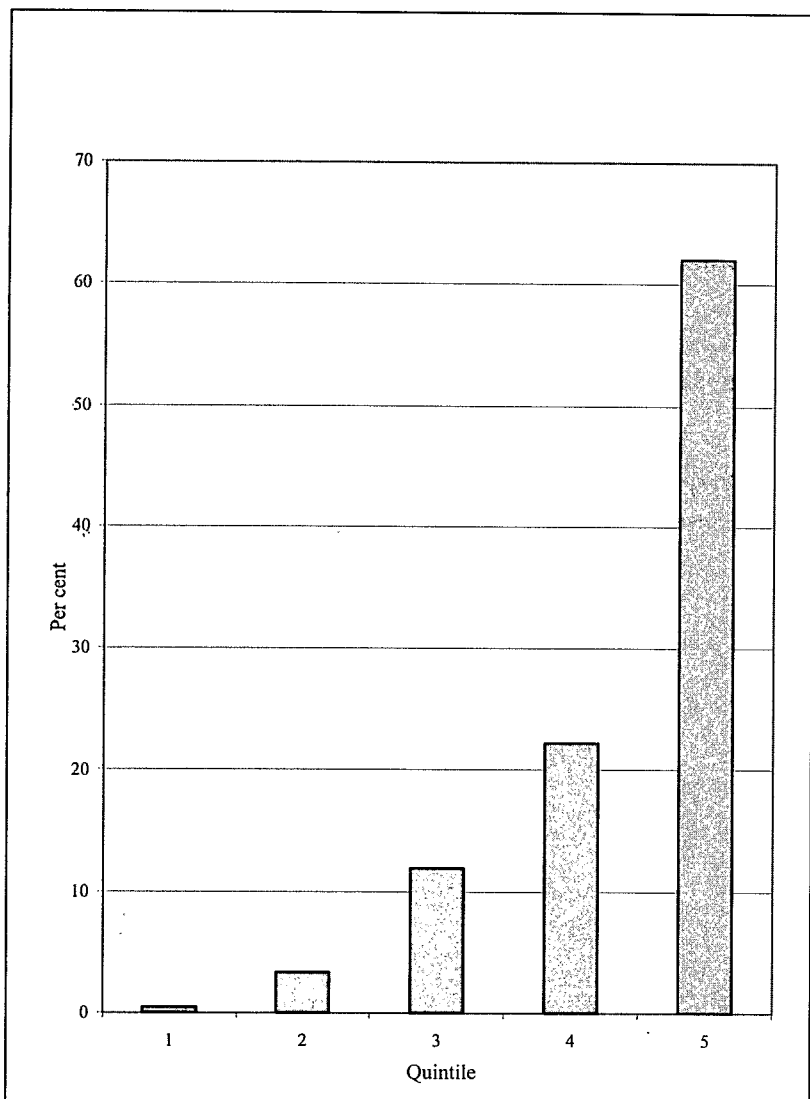
The assumptions that increases in Exchequer expenditure on social welfare pensions cannot be afforded in the long term, due to ageing of the population, and that supplementary pensions can be provided at less cost to the Exchequer through private financial institutions are questionable. Tax expenditure on occupational pensions now amounts to two-thirds of government expenditure on social welfare pensions and it will exceed direct expenditure in a few years time if present trends continue. As less than half as many people benefit from tax expenditure on occupational pensions as benefit from direct expenditure on social insurance pensions, far more is now provided through the tax system for the average participant in an occupational scheme than for the average participant in the social insurance scheme.

Examination of the level and trend in relation to the coverage of occupational pension schemes suggests that tax incentives have failed to provide pension coverage for a majority of workers or even to maintain coverage rates at the level attained in the past when the working population was much smaller.

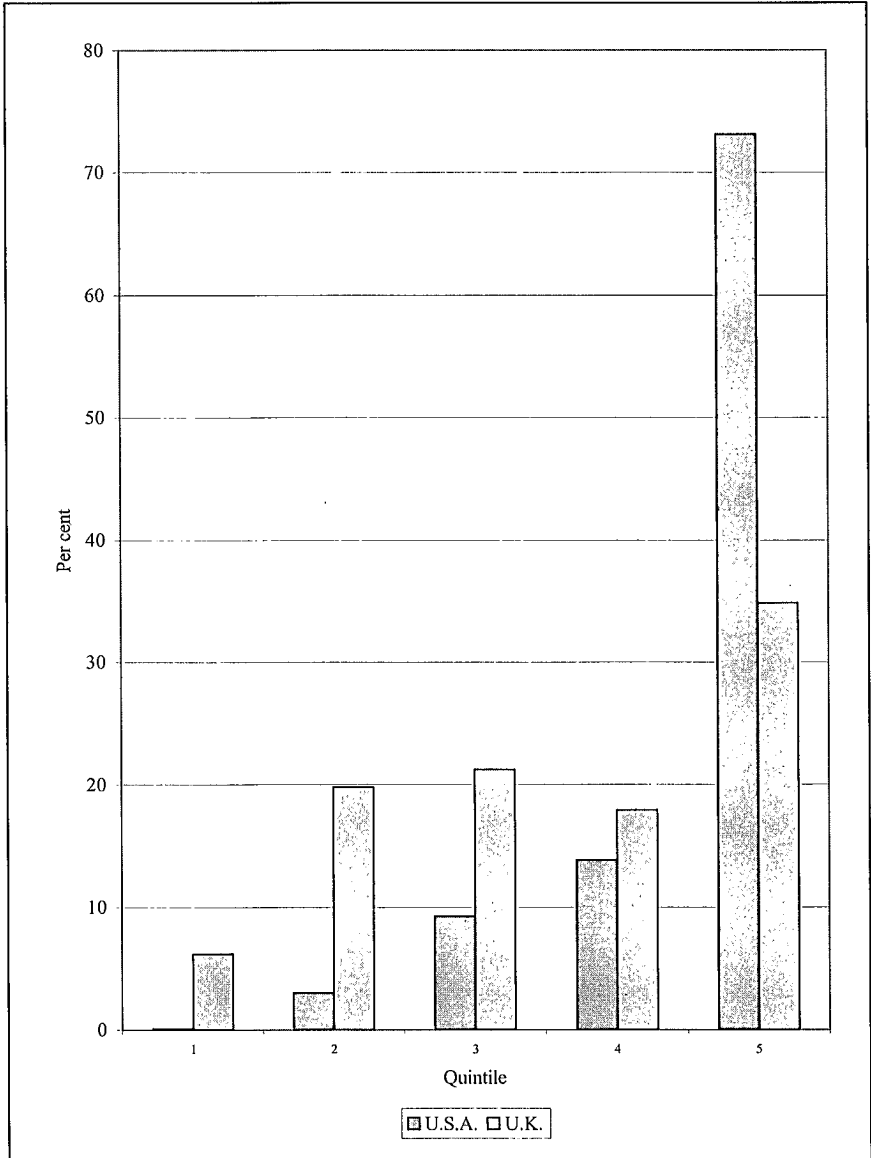
**Figure 12: Tax Relief on Employee Pension Contribution as Per Cent of Weekly Gross Income**



**Figure 13: Distribution of Tax Expenditure on Employee Occupational Pension Contributions in Ireland, 1994**



**Figure 14: Distribution of Pension and Insurance Income Subject to Tax in the UK (1986/87) and the USA (1988)**





Finally, the evidence from the Living in Ireland Survey shows that the argument that the present tax treatment of occupational pensions is broadly equitable is incorrect as most of the benefit of tax expenditure on occupational pensions is concentrated at the upper end of the income distribution.

These results have some implications for the taxation of occupational pensions and for the tax arrangements proposed for Personal Retirement Savings Accounts. With only just over a third of employees covered by occupational plans all taxpayers must pay higher taxes because of the revenue forgone due to the tax incentives for pensions. This inequity could be addressed by imposing restrictions on the tax incentives to target them on middle and lower income earners who need them most. There are examples from other OECD countries of how greater equity can be introduced into pension tax arrangements by, for example, phasing out the tax free lump sum, introducing an income cap on pension benefits, and taxing the returns on pension investments.

It has been recommended by the Pensions Board that Personal Retirement Savings Accounts should be made available to everybody whether they belong to an occupational pension scheme or not and that there should be no earnings cap whereby earnings in excess of the cap would not qualify for tax reliefs. If they are made available in this form, experience with Individual Retirement Accounts in the United States and Personal Pension Plans in the United Kingdom suggests that take-up is likely to be much greater by higher income earners than by middle and lower income earners.<sup>14</sup> There is a danger, therefore, that the introduction of individual retirement saving accounts may accentuate inequities in the pension system by providing another tax favoured savings vehicle for people who already have adequate pension cover. To avoid this danger, consideration should be given to experience in the United States which has changed the tax arrangements for Individual Retirement Accounts several times to try and target the tax incentives on middle and lower income earners.<sup>15</sup>

<sup>14</sup> See Sabellhaus (1996) for evidence for the US and Banks, Dilnot, and Tanner (1997) for the UK.

<sup>15</sup> Individual Retirement Accounts in the United States were originally introduced in 1974 for workers who did not have occupational pension cover. In 1981 they were extended to all workers and in 1986 the tax deduction was restricted for workers with occupational cover to those with incomes below specified levels. In 1997 a maximum contribution, eligible for tax relief, of up to \$2,000 per annum was allowed. The amount that was tax deductible varied according to the worker's income tax status, income, and pension coverage status and contributions could only be made out of earned income (see Employee Benefit Research Institute (1997, Ch. 16)).

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# The National Pensions Reserve Fund: Pitfalls and Opportunities

Philip R. Lane

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*Abstract:* This paper analyses some key issues concerning the new National Pensions Reserve Fund. We briefly review the basic demographic and economic trends that motivate the establishment of the Fund. We consider the pitfalls facing the operation of the Fund and argue that a complete ban on domestic investment would minimise the politicisation problem. At least initially, the Fund should adopt an aggressive investment strategy, with a large equity allocation. We further argue that asset allocation should take into account the co-variation of returns with domestic macroeconomic and fiscal variables. Finally, we discuss the organisational structure of the Fund and its implications for optimal performance.

## 1. Introduction

The National Pensions Reserve Fund Act 2000 is a remarkable and innovative piece of economic legislation.<sup>1</sup> The current government has committed all future governments until 2055 to set aside at least 1 per cent of GNP each year. Moreover, the proceeds from the Telecom Eireann privatisation have also been added to the fund, as may the revenues from future sales of State assets. Over time, the Fund will become by far the largest investment institution in the country: a reasonable estimate is that size of the Fund will be equivalent to 42 per cent of GNP by 2025 (Corrigan, 2000).

The motivation for the National Pensions Reserve Fund (hereafter the Fund) is the projected future increase in public pensions expenditure.<sup>2</sup> In the absence of pre-funding, future taxes would have to increase in order to maintain the level of pensions benefits. From an efficiency perspective, the prospect of a rising tax profile is undesirable, since it distorts intertemporal decisions. The alternative to increasing taxes would be to raise contributions, cut benefits and/or increase the retirement age.

<sup>1</sup> See also Honohan and Lane (2000a), Lane (1999a, 1999b, 2000a) and Whelan (2001) for other commentaries on the new Fund.

<sup>2</sup> See Commission on Public Sector Pensions Report (2000) and Department of Finance (1998, 1999).

Although these reforms may be part of the overall policy approach to an ageing society, pre-funding expands the political options in pensions reform.

This paper addresses some issues concerning the new Fund. We do not discuss whether the Fund is desirable *per se*. Rather, our intention is to probe the “pitfalls and opportunities” in the operation of the Fund. An open and informed public debate is vital if the Fund is to be politically sustainable: legislation can be amended and undone, so it is important to build widespread public support for the Fund if it is to properly perform its functions.

This paper deals solely with the pre-funding of social welfare and public sector pensions. Clearly, this is only a small subset of the full range of issues posed by the prospect of an ageing population. Other important policy issues include: raising the retirement age; long-term immigration policy; an EU federal fiscal system (will Ireland pay the pensions of retired workers in older continental European societies?); promoting pensions in the private sector; the financing of health care for the elderly; indexation rules (CPI versus earnings) for pensions; and increasing the fertility rate. The potential impact on the political system of inter-generational conflict regarding pensions policy is also a fascinating topic. It is beyond the scope of this paper to deal with these problems.<sup>3</sup>

The structure of the rest of the paper is as follows. Section 2 reviews the basic demographic and economic trends that motivate the establishment of the Fund. Section 3 discusses some challenges facing the Fund. The Fund’s investment strategy is analysed in Section 4 and some management principles are laid out in Section 5. Section 6 offers some concluding remarks.

## **2. Basic Trends**

Ireland currently has extremely favourable demographics. Figure 1 shows the distribution of age cohorts in the working-age population: in the near term, it is clear that the burden of extra retirees will be relatively light.

However, Figures 2 and 3 and Table 1 capture the underlying motivation for establishing the Fund. The ratio of retirees to workers is projected to sharply rise during 2020-2050. In Ireland, the process is “back-loaded”, with the ratio rising most sharply towards the end of this interval. The budgetary impact is that public pensions expenditure is

<sup>3</sup> See Commission on Public Sector Pensions Report (2000) and Feldstein and Siebert (2001) for analysis of some of these issues.

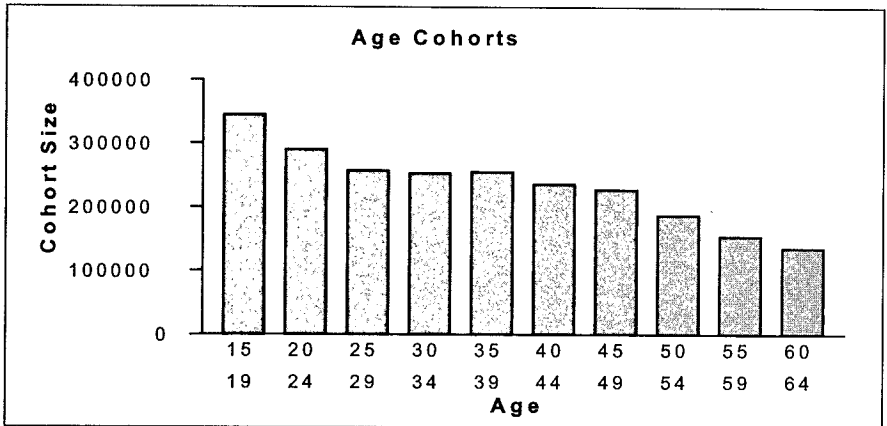
projected to almost double from 4.6 per cent of GDP in 2000 to 9.0 per cent in 2050.<sup>4</sup>

The projected net increase in public pensions expenditure – 4.4 per cent of GDP (5.1 per cent of GNP) – is considerable. This is in the mid- to upper- range for EU countries and is equivalent to almost doubling public education spending or raising income tax revenues by 42 per cent.

Although Table 1 shows that the scale of the pensions problem is currently far smaller in Ireland than in several continental European countries, the projected *increase* in public pensions expenditure is the most relevant criterion in determining the importance of pre-funding. On this count, Ireland is in the mid- to upper- range for EU countries. Moreover, the fact that the Irish ageing problem kicks in at a later date than elsewhere provides a greater rationale for pre-funding, since returns can accumulate over a longer time period.

Finally, as is vividly illustrated in Figure 4, the dramatic improvement in the public finances means that the political climate for such long-term policies is unusually benign.

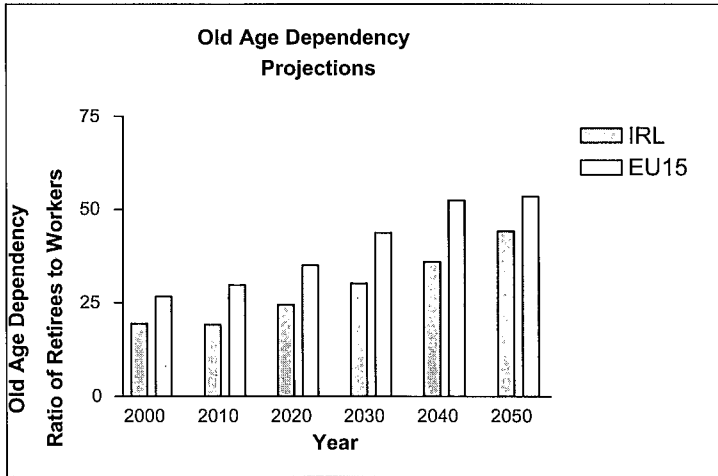
**Figure 1: Age Cohorts**



Source: UN Demographic Yearbook (2000). Data are for 1996.

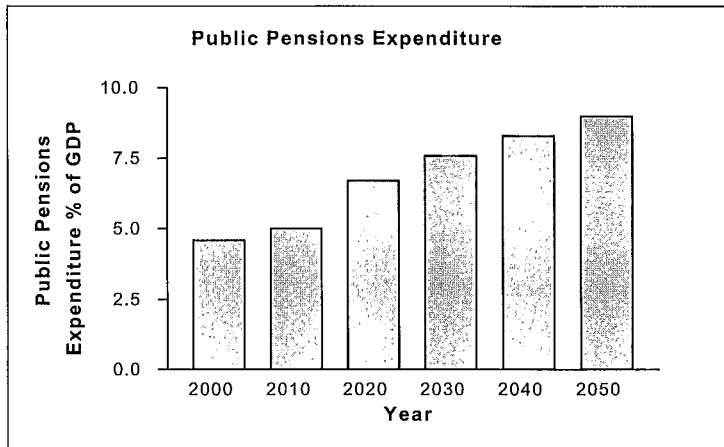
<sup>4</sup> This is a baseline projection. There is considerable uncertainty about these projections which depend on guesses about fertility rates, migration, productivity growth and benefits levels.

**Figure 2: Old Age Dependency Projections**



Source: European Commission (2000), Table 4.1.2.

**Figure 3: Public Pension Expenditure**



Source: European Commission (2000), Table 6.1.1.

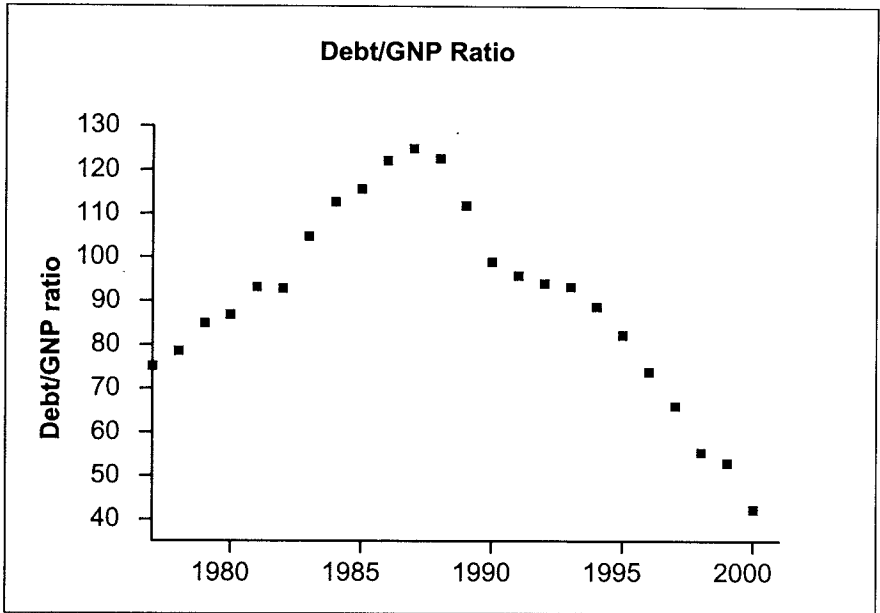


**Table 1: Pension Expenditure Projections**

	<b>2000</b>	<b>2030</b>	<b>2050</b>
Ireland	4.6	7.6	9.0
UK	5.1	4.7	3.9
France	12.1	16	15.8
Italy	14.2	15.9	13.9
Germany	10.3	13.2	14.6
Spain	9.4	12.9	17.7
Portugal	9.8	16	14.2

Source: European Commission (2000), Table 6.1.1.

**Figure 4: Debt/GNP Ratio**



Source: Department of Finance (2000a).

### 3. Some Pitfalls

In this section, we first discuss some potential pitfalls facing the Commission in fulfilling its responsibilities. We also discuss the role of the Fund in the broader public finances.

#### 3.1 *The Politicisation of Investment*

There is a natural concern that state ownership of private assets can lead to an undesirable politicisation of the investment process.

Assar Lindbeck (2000) cautions against a state-owned investment fund

There is a serious risk that future politicians will use government-controlled pension funds to allocate financial funds to those parts of the country where it is particularly important to buy votes. Politicians might also start using the voting rights in firms, based on share holdings, to exert influence within firms. It is naïve to think that authorities can create government-controlled pension funds, i.e., nationalize a large part of share ownership, without a severe risk that some politicians – sooner or later – will use these funds to buy votes or to exert direct power over firms, or both.

Alan Greenspan (2001) similarly has raised doubts about the desirability of state ownership of private assets:

I believe, as I have noted in the past, that the federal government should eschew private asset accumulation because it would be exceptionally difficult to insulate the government's investment decisions from political pressures. Thus, over time, having the federal government hold significant amounts of private assets would risk sub-optimal performance by our capital markets, diminished economic efficiency, and lower overall standards of living than would be achieved otherwise.

There is considerable empirical evidence of political interference in the operation of state investment funds. Iglesias and Palacios (2000) document that returns can be inversely related to the degree of political interference. Sorensen *et al.* (2001) show that reserve funds are often raided by US states during recessions when local tax revenues are under pressure.

In response to such concerns, the government has delegated responsibility for the fund to an independent Commission. However, this does not provide complete insulation, since the commissioners will be

politically appointed to temporary contracts and, as always, ultimate responsibility lies with the Minister for Finance and the Cabinet. Indeed, according to recent media reports, there has already been an attempt by a very large public company in Ireland to lobby for an 2,900 per cent over-weighting of Irish equities in the Fund's portfolio (Suiter, 2001).<sup>5</sup>

One potential manifestation of the politicisation problem is in battles for corporate control. Although Section 15 of the Act prohibits the Fund from seeking to take control of a firm, much power can be exercised below this threshold: for instance, the Fund could be a key "swing" voter in a control contest between two other parties. More generally, if the Fund held domestic investment positions, asset sales could attract much criticism as being anti-patriotic.

There is a simple way to minimise the risk of politicisation: prohibit any investment in Irish assets. Ireland represents only a trivial fraction of world market capitalisation, so that a ban on Irish assets would not seriously constrain the range of feasible investments for the Fund. In this way, Ireland is more fortunate than the United States: it would not be feasible for the United States to accumulate a significant state investment fund composed purely of overseas assets.

The Act partially acknowledges this problem by prohibiting the Fund from holding Irish government bonds. However, the Fund is permitted to purchase any other kind of Irish asset: Irish corporate bonds, Irish publicly-traded equities, Irish private equity, Irish venture capital and Irish property.

By rather having a complete legislative bar on domestic assets, the commissioners would be protected from pressure to invest at home. Unfortunately, the Act does not incorporate this restriction.

### *3.2 An Ethical Investment Policy?*

The legislation requires the Fund to maximise returns according to strictly commercial criteria. As such, there is no bar on the Fund holding shares in tobacco or alcohol companies or in firms engaging in environmentally-unfriendly activities. If there are to be ethical constraints on investment policy, these should be specified in the legislation: it would be undesirable and indeed illegal for the Fund's Commissioners to make such essentially political decisions. The lack of a political debate on this

<sup>5</sup> According to the report, the Smurfit Group requested an Irish equity allocation of 15 per cent, although the Irish market is only 0.5 per cent of world equity capitalisation.

question may prove to be unwise, if lobbying by activist groups places pressure on the government to amend the legislation in future years.

### *3.3 Budgetary Implications*

Payments into the Fund have no impact on the General Government Surplus (GGS) figures: it is merely a transaction within the general government sector. The converse is that alternative strategies – such as paying down the public debt – would improve the GGS surplus. During the current period of booming tax revenues, it may well be an astute domestic political strategy to reduce the headline GGS surplus figure by making payments into the Fund rather than allocating the revenues to alternative uses. However, this strategy is potentially a source of confusion to external assessors that employ the GGS surplus as the indicator of fiscal prudence.

The commitment to make payments into the Fund regardless of budgetary conditions will place pressure on the Minister of Finance during tough fiscal times. Consider a scenario in which Ireland is just hitting the 3 per cent deficit/GDP ratio, that is red marked in the Growth and Stability Pact: the government may be forced into larger tax increases or more severe public expenditure cuts by the fact that the Fund payment is ring-fenced. Indeed, this is the very reason why the commitment was written into the legislation but it will be interesting to see if this part of the Act will remain unchanged throughout the projected life of the Fund.

There is a very important second dimension to the relation between the Fund and the budgetary position. Only the investment income and not the capital gains/losses generated by the Fund is counted as part of the GGS.

There are two problems here. First, investment income will inevitably fluctuate on a year-to-year basis, depending on shifts in world interest rates, equity dividend payments and currency movements. This will induce instability in the GGS, which may be especially costly if it leads to a violation of the 3 per cent deficit rule.

Second, the measured GGS will be larger, the more returns on the Fund take the form of investment income rather than capital gains. In this way, the Fund's Commissioners may face implicit pressure from a government that is trying to improve the GGS numbers to bias its portfolio towards income-generating assets.

### *3.4 The One Per Cent Rule*

According to the legislation, one per cent of GNP will be paid into the Fund each year. This sum is intended to only partially pre-fund anticipated future pension liabilities.

The one per cent rule has the characteristic of an “automatic stabiliser”: more will be paid into the Fund when the economy is growing quickly than during a slowdown. It is an open question whether this is an *optimal* rule in terms of cyclical stabilisation. In Ireland, tax revenue elasticities with respect to GNP are typically greater than unity. On this basis, a rule that specified a greater percentage would be paid into the Fund during upturns and a smaller percentage during downturns may have better stabilisation properties. However, the one per cent rule has the considerable merits of simplicity and clarity. Moreover, a cyclically-adjusted rule would require a reliable decomposition between cycles and trends in output growth. This is a notoriously difficult problem, especially for a small open economy with an elastic international supply of labour and capital.

### *3.5 The Central Bank Investment Fund*

The government already has a very substantial investment fund. This is the fund consisting of the former reserve assets of the Central Bank of Ireland.<sup>6</sup> Since Ireland joined EMU in 1999, its need to hold foreign exchange reserves has sharply diminished and the financial assets of the Central Bank now far exceed the amount it is required to hold under its EMU obligations as a member of the European System of Central Banks. The Central Bank assets generated net interest income of €240 million in 1999 and unrealised capital gains of €648.2 million.<sup>7</sup> As such, the size of the Central Bank fund will be much larger than the new Fund, at least for the next few years.

Since the “excess” funds of the Central Bank are not required for currency management, the presumable objective is to conditionally maximise the investment return on these funds.<sup>8</sup> As such, the goal is quite similar to that of the new Fund, with the potential exception of a different investment horizon: the Central Bank remits investment income to the

<sup>6</sup> These assets have been accumulated through seigniorage and capital gains on investments.

<sup>7</sup> See Central Bank of Ireland Annual Report (1999).

<sup>8</sup> Indeed, this is one of the clear and unambiguous gains from EMU: a decline in the need to hold state assets in the form of low-return liquid positions. There are some ECB constraints on the management of these funds.

Minister of Finance on a contemporaneous basis whereas there is no drawdown from the Fund until 2025.

From a consolidated government balance sheet perspective, it would be optimal to co-ordinate the investment strategies of the Central Bank and the new Fund. One option is to transfer the Bank's excess assets to the new Fund. However, that step would eliminate one source of current income for the Minister of Finance. Another is for an exchange of information between the Bank and the new Commission or the National Treasury Management Agency (NTMA): however, it is not clear which should be the "lead" party in this relationship. A coherent policy statement on the desired role of the Bank's excess assets is required to properly address these questions. The impending reorganisation of the Central Bank may provide a useful opportunity in this regard.

### *3.6 Social Welfare Pensions versus Public Sector Pensions*

The objective of the Fund is to partly pre-fund future social welfare and public sector pension liabilities. The legislation leaves open the possibility of creating two separate Funds in the future to reflect these two functions. In general, there are clear distinctions between the two types of pension liabilities. The social welfare pension is not related to earnings and is essentially a minimal anti-poverty measure. As such, maintaining an adequate social welfare pension (at least as currently designed) will plausibly always be the responsibility of the state and the social welfare pension fund is essentially just a means for the government to efficiently smooth revenue streams.

The pensions of public sector workers rather are much more similar to a standard defined-benefit private pensions scheme. For the latter group, one can think of alternative ways to pre-fund pensions and to organise the management of the fund. For instance, a defined contribution scheme could be envisaged for public sector workers and even individual retirement accounts, with each employee making a personal choice re risk/return tradeoffs and the design of her personal retirement fund. Even under a model in which the public sector employee fund were collectively invested, its managers would be much more directly accountable to the public sector workforce, which is a different design to the current set-up for the Fund.

## **4. The Investment Strategy for the Fund**

The objective of the Fund is to meet

... as much as possible of the cost to the Exchequer of social welfare pensions and public sector pensions to be paid from the year 2025 until the year 2055 ... (section 18 (1) of the *National Pensions Reserve Fund*, 2000).

To this end, the Commission has been granted

... a strictly commercial investment mandate for the Fund with the objective of securing the optimal return over the long term subject to prudent risk management (Department of Finance, 2000b).

In this section, we analyse some issues concerning the optimal investment strategy for the Fund.

### *4.1 The Four Stages of the Fund's Life Cycle*

We can think of the Fund as evolving through four stages. The first stage is the initiation phase during which the Fund invests the current cash pile. There are potentially some timing issues as to how quickly the Fund attains its "optimal portfolio" but this implementation problem is beyond the scope of this paper. The second stage is the pure accumulation phase running until 2025. During this interval, there will be no withdrawals from the fund. The third stage is the 2025-2055 period during which there will still be new inflows into the fund but also annual withdrawals. The fourth and final stage is the post-2055 period in which no further contributions are made and the Fund will be run down over time.<sup>9</sup>

In thinking about the appropriate investment strategy of the Fund, I will focus on the second and third stages of the Fund's life cycle.

### *4.2 The Second Stage*

Finance theory broadly distinguishes between three asset classes: cash, bonds and equity.

Bonds and equity can be jointly considered the set of "risky" assets.<sup>10</sup> One decision facing an investor is the share of the portfolio that should

<sup>9</sup> The legislation allows for the end-date to be extended beyond 2055 but we take it as fixed for convenience.

<sup>10</sup> The absence of inflation indexation and time variation in the real interest rate means that cash is not strictly risk-free but we adopt the conventional terminology here. The riskiness of cash is dealt with later in this section.

be allocated to risky assets. The existence of an “equity premium” – higher average returns on equity than on bonds – also means that the investor must also decide the composition of the risky part of the portfolio between equity and bonds.

Recent developments in portfolio theory suggest that an investor can afford to be more aggressive, the longer is the investment horizon (Barberis, 2000; Campbell and Viceira, 2000; Viceira, 2001). One reason is that equity returns are less volatile, the longer is the investment horizon. Another is that financial assets form a smaller part of total wealth (including human capital) the further away is an investor from retirement, so that such an investor can afford to be more aggressive in accepting risk in return for high potential returns. As the financial portfolio grows in importance in total wealth, the optimal investment strategy becomes less aggressive over time.

With respect to the public equity allocation, a natural benchmark is for the Fund to “hold the world”. What would justify deviations from this neutral strategy?

From a macroeconomic viewpoint, one may wish to take into account the co-variation of equity returns with some large and identifiable macroeconomic risks to the Irish economy. For instance, it is plausible that the Irish output growth positively depends on economic developments in our major trading partners.<sup>11</sup> As such, to hedge against the risk of slow growth at home, it may be wise to underweight our trading partners in the design of the Fund’s portfolio.<sup>12</sup>

By similar logic, the portfolio weights that are allocated to those industrial sectors in which Ireland specialises may need some adjustment. It is actually ambiguous whether these sectors should be over-weighted or under-weighted in the Fund’s portfolio.<sup>13</sup> Put differently, is what is good for Intel also good for Ireland? For instance, if Intel discovered a more attractive location and shifted production out of Ireland, the fortunes of Intel and Ireland would move in opposite directions. In this case, a natural hedge is for the Fund to own Intel stock. On the other hand, a negative technological or competitive shock that hurt Intel and

<sup>11</sup> For instance, there is evidence that international diffusion of productivity innovations follows trade patterns (Coe and Helpman, 1995). FDI and migration patterns provide other mechanisms that link productivity growth across nations.

<sup>12</sup> Honohan and Lane (2000b), however, show that our trading partners are actually heavily represented in Irish investment portfolios. In particular, the UK is strikingly over-represented. That paper discusses the potential explanations for this apparent sub-optimality. See also Lane (2000b) on Irish international financial diversification.

<sup>13</sup> See also Davis and Willen (2000).



also caused it to contract production in Ireland would see the fortunes of Intel and Ireland moving in the same direction. Here, the appropriate hedge is to underweight or even go short in Intel's equity. Assessing the balance of risk requires detailed sectoral – and firm-level analysis: this may be an interesting avenue for future research in modelling the optimal portfolio for the Fund.

Beyond these systematic macroeconomic and sectoral risks, there may also be some scope for active management to exploit some potential “gaps” in the market. Here, it is important to take into account the impact of active management strategies on overall portfolio risk by understanding the correlations of the returns on actively-managed stocks with other components of the portfolio.<sup>14</sup> To some extent, this risk analysis can be conducted using historical correlation patterns. However, historical correlation matrices are of limited value during periods of market illiquidity and with respect to shares in entirely-new sectors (such as internet stocks).<sup>15</sup> Moreover, it is difficult to work out potential covariation patterns between publicly-traded assets and more illiquid assets such as private equity, venture capital and property investments.

Finally, a long horizon also means that cash is a risky investment, since it must be reinvested at uncertain real interest rates. Accordingly, the conservative part of the portfolio should largely take the form of long-term bonds rather than cash, since this hedges against the risk of a decline in real interest rates (Campbell and Viceira, 2001).

### *4.3 The Third Stage*

During the third stage, the Fund will be making contributions to the fiscal budget to ease the costs of the increased pension burden that is expected after 2025. As such, the investment horizon will naturally be shorter and the mix of the fund will shift away from equities and towards bonds and cash. However, the fact that the peak of the Irish pensions burden is not expected until around 2050 means that the investment horizon should actually remain quite long, with only a gradual shift out of equities in the initial years after 2025.

However, the short-term covariances between Irish fiscal variables and asset returns may take on greater importance in portfolio selection during this third stage. Ideally, the payout from the Fund to the Exchequer should stabilise the fiscal positions, with a larger payout being made

<sup>14</sup> Returns should of course be measured net of the higher fees charged by active managers.

<sup>15</sup> See Shleifer and Vishny (1997) and Lowenstein (2000).

during recessions than in expansions. This can be best achieved if the Fund's return negatively covaries with domestic tax revenues and positively covaries with domestic public spending needs.<sup>16</sup>

#### 4.4 Some Empirical Analysis

In this subsection, we conduct some empirical analysis that illustrates the potential importance of taking into account the covariation between domestic macroeconomic performance and international asset returns.

In Table 3, we regress Irish output growth on international equity returns and bond yields.<sup>17</sup> Column (1) just includes the return on the MSCI world equity index (EQW) and a GDP-weighted average world bond yield (BW).<sup>18</sup> This simple specification does quite well in terms of "explaining" 30 per cent of the movement in Irish output. Importantly, Irish growth negatively covaries with the world equity return and world bond yield: holding positive positions in these financial assets provides a hedge against Irish output risk.

In columns (2)-(5), we add additional country-level asset returns.<sup>19</sup> The addition of the UK and US in columns (2) and (3) do improve the fit of the regression and the most striking finding is that, holding fixed world asset returns, there is positive co-variation between UK and US financial returns and Irish growth. The implication is that hedging would require us to underweight UK and US assets relative to their importance in world financial indices.

In columns (4) and (5), we see that there is essentially no relation between German asset returns and Irish growth performance but that the addition of Japan improves explanatory power to some extent. Here, the point estimate indicates that Irish growth negatively covaries with the Japanese bond yield, suggesting that Japan should perhaps be overweighted in the bond component of the Fund.

The results in Table 3 are clearly only a crude first step in thinking about the relation between international financial returns and Irish macroeconomic performance. It would be interesting to extend this analysis to look at the relation between asset returns and Irish fiscal

<sup>16</sup> See Lloyd-Ellis and Zhu (2000).

<sup>17</sup> These asset returns are adjusted for currency depreciation and inflation to obtain the real returns that matter to Irish investors. See also Davis *et al.* (2001).

<sup>18</sup> The bond yield is on 10-year government bonds and the world index includes the United States, Japan, Germany and the United Kingdom. Ideally, one would like to use the total bond return but these data were not to hand.

<sup>19</sup> Limited degrees of freedom means that we add countries one-at-a-time.

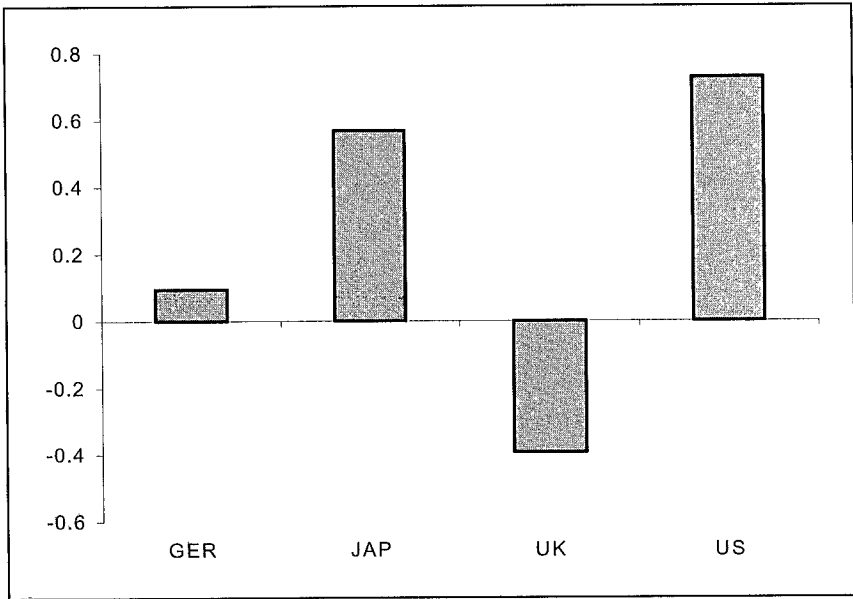
variables (aggregate and subcomponents of public expenditure, tax revenue and the fiscal deficit) and consider a broader array of asset returns. The historical returns are clearly also only a limited guide to the future: in particular, Ireland's membership of EMU means that the co-variation of Irish domestic variables and currency fluctuations is likely to be quite different.

**Table 2: Irish Growth and International Asset Returns**

	(1)	(2)	(3)	(4)	(5)
EQW	-0.039 (1.67)	-0.079 (2.82)	-0.141 (2.5)	-0.052 (1.97)	-0.133 (2.41)
BW	-0.84 (3.69)	-0.88 (2.8)	-1.34 (3.33)	-0.568 (1.94)	-0.51 (1.74)
EQUK		0.041 (3.0)			
BUK		0.046 (.3)			
EQUS			0.093 (1.61)		
BUS			0.43 (1.35)		
EQGER				0.005 (.27)	
BGER				-0.49 (1.3)	
EQJAP					0.089 (1.54)
BJAP					-0.335 (1.23)
Chi-Sq		21.88 (.001)	13.64 (.001)	3.91 (.142)	4.8 (.091)
adj. R2	0.3	0.33	0.39	0.27	0.38

*Note:* Absolute values of t-statistics in parentheses. Standard errors are HAC-corrected, using the Newey-West procedure. Chi-Sq is the test of the joint significance of the country equity return and bond yield (p-value in parentheses).

**Figure 5: "Efficient" Foreign Portfolio Shares**



Source: Honohan and Lane (2000b).

Honohan and Lane (2000b) provide an alternative empirical approach. In that paper, the authors calculated the matrix of return correlations over 1970-97 between Irish national income (NNI) and historical stock market returns in the United Kingdom, the United States, Germany and Japan.<sup>20</sup> On the assumption that the return correlations remain stable, the authors were then able to compute the geographical composition of the mean-variance efficient portfolio.<sup>21</sup> Figure 5 reveals that the efficient portfolio would not be heavily weighted in UK and German assets: on the contrary, it would involve negative holdings (short sales) of UK stocks and near-zero holdings of German stocks in order to finance higher holdings of Japanese and US assets. Again, the mean-variance calculations clearly are not an adequate basis for portfolio decisions but the exercise

<sup>20</sup> See also Bodie and Merton (2000).

<sup>21</sup> The calculation also requires some assumption about mean and variance of future returns. We experimented with various assumptions here, including (i) the use of historic values, (ii) imposition of common mean and variance across countries, (iii) increasing the assumed mean return for Ireland to reflect home preference. While different assumptions do change the efficient portfolio, the qualitative conclusions were unaffected.

reinforces the point that the covariance between domestic macroeconomic and fiscal variables and financial returns should be incorporated into the design of the Fund's portfolio.

In the foregoing, we have examined country-level returns. For the reasons noted above, it would be useful to also examine the co-movement between domestic macroeconomic and fiscal variables with sectoral returns – for instance, what is the covariance between Irish tax revenue and the global high-technology sector?

## **5. The Management of the Fund**

In this section, we discuss some corporate governance and operational issues in the management of the Fund. Box 5.1 at the end of the section contains a case study of the Norwegian Government Petroleum Fund which also provides some useful lessons for the design of the new Fund.

Under the legislation, a Commission will be appointed to oversee the Fund. It will be responsible for setting the investment strategy for the Fund. The NTMA will be the manager of the Fund and its chief executive is *ex-officio* also a member of the Commission. The Commission will *perform* all its functions through the Manager and it is also free to *delegate* any of its functions to the Manager. The NTMA has been initially appointed for a ten-year period: after that, the management contract will be five years in duration and the Commission will be free to appoint another agent as manager of the Fund. The legislation requires the Commission to make an annual report to the Minister of Finance. The Oireachtas Committee on Public Accounts will also be free to interview the Chairman of the Commission and the Chief Executive of the Manager.

This structure has the considerable advantage of avoiding the need to establish an all-new agency to manage the Fund. However, its formal organisation has some debatable features. First, the Commission does not have freedom in the first ten years in its choice of manager. It has no direct power to fire the chief executive of the Fund, since the head of the NTMA is appointed by the Minister of Finance. Moreover, the head of the NTMA is also a member of the Commission: as the only “executive” member, he will have an extraordinarily influential position within the Commission. The special status of the NTMA head is reinforced by the fact that the Manager has been appointed for ten years whereas the longest contract for the other Commissioners is only five years.<sup>22</sup>

<sup>22</sup> The Chairman is appointed for five years. The ordinary members of the Commission will be appointed for three or four years.

The option to delegate any (all) functions to the manager further enhances the potential power of the manager. For instance, the legislation could permit the NTMA to set its own benchmark, if the Commission delegated this function to it. Standard corporate governance principles suggest that this structure may be unstable. Indeed, it is hard to see how the NTMA could be replaced even at the end of its initial contract since the advantages of incumbency are potentially very high under the legislation. Still, the option to change managers will presumably curb to some extent incentives to “empire build” on the part of the NTMA.

In managing the Fund, it is anticipated that the NTMA will employ an array of external managers, especially in investing the equity component of the Fund. Keeping a lid on management fees will be an important factor in determining the Fund’s overall net return so that it is to be hoped that intense competition among external managers will shave fees to a minimum. The instruction and monitoring of the external managers will be a major responsibility for the NTMA.

The optimal reporting frequency on the performance of the Fund is an interesting problem. The legislation mandates an annual report but the Commission could voluntarily release information at a higher frequency (say, quarterly) if it wished. On the one side, more frequent reporting would promote transparency and openness. On the other, at least in its early stages, the projected investment horizon for the Fund is twenty-five/fifty-five years such that high-frequency reporting may distort the behaviour of the Fund by placing the manager under pressure to produce high short-term returns, even at the expense of worse long-term performance.

In general, the long-term investment horizon makes proper evaluation of the Fund’s performance a very difficult technical question. Evaluation really has three parts: (a) is the benchmark portfolio optimally designed?; (b) are deviations from the benchmark justifiable?; (c) has the operation of the fund been efficient and cost effective? Part (a) is at least initially the responsibility of the Commission; part (b) is the responsibility of the manager, if it is given the freedom to depart from the benchmark; and part (c) refers to the operation of both the Commission and the manager.

### **Box 5.1: A Case Study: Norway's Government Petroleum Fund**

Norway established the Government Petroleum Fund (GPF) in 1990 to invest part of its significant oil revenues.<sup>23</sup> The objective is to accumulate assets that will generate investment income for the government in future years, when oil revenues decline and the burden of rising pension expenditures becomes more severe.<sup>24</sup>

The Norwegian Ministry of Finance directs the GPF's investment strategy, with the Norwegian Central Bank charged with its management. The resources of the Ministry of Finance means that it is not reliant on the manager for advice on strategy, providing a high degree of independence between the "trustees" and the "manager". The Ministry of Finance sets the benchmark portfolio: fixing the allocation between equity and fixed-income instruments and the geographical spread within each asset class. The manager has some limited freedom to depart from this benchmark but the actual portfolio may never deviate from the benchmark portfolio to the extent that annualised expected tracking error exceeds 1.5 percentage points.<sup>25</sup>

None of the capital of the GPF is invested in Norway. As such, the politicisation problem in setting and executing investment strategy is eliminated.<sup>26</sup> To further avoid control problems, the GPF can hold only a maximum of 3 per cent of the share capital (or of the voting shares) in any one firm.

## **6. Conclusions**

This paper has reviewed some key issues in understanding the role to be played by the new National Pensions Reserve Fund. In particular, we have emphasised the importance of avoiding the politicisation of investment policy. To this end, it is regrettable that the Act failed to prohibit investment in domestic assets.

<sup>23</sup> See the elaborate and detailed web site for the Norwegian Petroleum Fund at [http://www.norges-bank.no/english/petroleum\\_fund](http://www.norges-bank.no/english/petroleum_fund)

<sup>24</sup> The GPF is not formally a pension fund but the rising pensions burden is cited as a motive for its establishment.

<sup>25</sup> Expected tracking error is defined as the expected value of the standard deviation of the difference between the annual return on actual investments and the return on the benchmark portfolio. This means that, over time, the difference between the returns on the actual portfolio and the benchmark portfolio will be less than 1.5 percentage points in two out of three years. The tracking error is calculated using the BARRA risk-management model.

<sup>26</sup> However, there is a vigorous political debate in Norway about the trade-off between current consumption and accumulating assets for the future.

The long horizon of the Fund suggests that it initially should be largely invested in equities. Within the equity allocation, it is desirable to take into account the pattern of national and sectoral covariation with Irish macroeconomic and fiscal variables, since the goal of the Fund is to supplement the Irish public finances. Much more research on this question is required. Comprehensive risk assessment of the actively-managed components of the Fund is also highly important but this is a very difficult task, since evaluation cannot solely rely on historical return correlation matrices.

Finally, we have also raised some questions about the organisational structure of the Fund. In particular, the relation between the Commission and the Manager is quite fluid in the legislation. It will be interesting to observe how the operation of the Fund evolves over time.



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