

IS IRISH PUBLIC SECTOR EMPLOYMENT A BURDEN?

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1. INTRODUCTION

In Ireland at the time of writing, strenuous efforts are being made to reduce the numbers at work in the public sector. Employment cuts of one form or another in health, education and public administration make news almost daily. This is not altogether surprising, since Irish economists have, for a generation, been warning of the disasters which are likely to be caused by the growth of public sector employment. As a result, it came to be believed that the Irish public sector was much too big and growing at an almost uncontrollable rate. The consequences of this were expected to be high unemployment, reduced employment in the non-government sectors, and a slowing of economic growth. The main reason for these effects was held to be the unbearable tax burden imposed by the public sector. However, the growing political power of the public sector and the draining of talent from the 'productive' private sector were also feared.

This paper attempts to throw some light on these matters by comparing the growth of the public sector in Ireland with that in the OECD countries over the period 1970-1985. It does not appear unreasonable to believe that the Irish economy is broadly similar to the general OECD model. We are geographically close to many of those countries, have strong trading links, similar political systems and use the same technology. Furthermore, it will emerge that in most of the matters raised here our performance is similar to the general OECD experience.

A comparative study of this kind has become possible only recently. Data on public sector employment across a reasonably big sample of countries has become available only in the last few years. The source for most of the data is the OECD National Accounts Statistics Vol. II which gives,

amongst a great many other things, numbers employed in the public sector and employee compensation in the public sector. The period 1970-1985 has been chosen because it enables one to obtain full data-series for most variables in 20 out of the 24 OECD countries. The countries normally excluded for lack of data are Austria, Greece, Switzerland and Turkey. The countries whose data have been used are listed in Tables 7 and 9. At the time of writing, 1985 is the last year for which data are available.

In this paper, public sector employment is taken as being equivalent to the "general government employment" of the OECD publications. Henceforth the abbreviation GGE will be used for general government employment. The definition of GGE given in OECD (1986) p.541 is as follows:-

"Those employed in all departments, establishments and other bodies of central, state and local governments, which engage in such activities as administration, defence, health, educational and social services and the promotion of economic growth, whether accounted for or financed in ordinary or extraordinary budgets or extra-budgetary funds. Included are social security schemes in respect of large sections of the community, imposed, controlled or financed by government non-profit institutions entirely or mainly financed and controlled by general government or mainly serving general government, and embassies, consulates and military establishments of a country located abroad".

This definition, admittedly, lacks something in clarity. However, the two important points about it are:

- (1) GGE clearly includes health, education, workers in public administration, police and workers in the legal system and those employed in social welfare activities.
- (2) GGE does *not* include those who are producing goods and services which are offered for sale to the public. In particular, transport employees are not included. Thus the OECD figures for GGE in Ireland are lower than those of Rose (1986) as that author includes several categories of workers whose products are offered for sale.

In general, GGE as used in this paper corresponds to employment in the non-market sector of the economy.

2. DATA SOURCES

Figures for *employment* (government employees, total employees and total at work) were mostly taken from OECD (1987A) Table 15 and from the same table in OECD (1984). In the case of Canada, Australia, New Zealand, France, Ireland, Luxembourg, the Netherlands, Portugal, Spain and the U.K., some gaps in the series were filled by reference to Table 2.13 of OECD (1987B) and OECD (1985); this table gives percentage changes in government employment from year to year. In these cases, information on total employees and total at work was obtained from Table III of OECD (1987C).

Total *compensation of employees* and pay of producers of government services came from Table 13 of OECD (1987A) and OECD (1984). Some gaps in these series for Belgium, France and Spain were filled from Tables 1 and 4.8 of Eurostat (1987).

Data on the *growth rates of GDP per head* are from Table 3.2 of OECD (1987B) and OECD (1985). *Indices of GDP per head* using current PPP's with the OECD mean as 100 are from OECD (1987D), Table 19.

3. THE RELATIVE SIZE OF GGE IN IRELAND

To provide a background to the discussion, the size and growth rate of GGE in Ireland will be put in perspective by comparing it with that in the rest of the OECD. Table 1 gives details for GGE as a fraction of the total at work in the OECD countries. Similar results can be obtained by using the ratio of GGE to the population or the population aged 15-65.

Table 1: Ratio of General Government Employment to Total at Work

	1970	1977	1985
OECD Mean	0.132	0.157	0.175
OECD Standard Deviation	0.050	0.060	0.071
Ireland	0.112	0.141	0.161
		[20 Observations]	

It is clear that the average ratio in the OECD rose steadily over the period. It is also obvious that the Irish value is below the OECD mean in all three cases. However, it is usually argued that this comparison is not valid because the proportion of the population employed in the public sector can be expected to rise as income per head increases. In passing, one may note that this hypothesis raises interesting theoretical questions: is the increase due to a high demand elasticity or to low productivity or a combination of the two?

The hypothesis has been investigated and the results are presented in Table 2. In Tables 2, 4, 5 and 6 the main point at issue is whether any functional form can be found which will provide a statistically significant correlation between the two variables. In all these cases the first step was to use the Box-Cox method (which can approximate a wide variety of functional forms) to find the function which gives the best fit. If this turned out to be close to the linear form (i.e. if the Box-Cox λ was close to 1), the results of the linear form, which are easier to interpret, are given. If not, the Box-Cox results are presented. In many of the tables, where the only question is whether a relationship between the variables exists or not, the only information presented is the correlation coefficient R . This is used, rather than the most usual R^2 because R can be positive or negative and so can indicate the sign of the relationship; R^2 must, of course, be positive. The standard F -test is used to investigate the statistical significance of the correlation. As is well known (e.g. Snedecor & Cochran (1980) p.185), in a simple regression the F -test on the correlation coefficient provides exactly the same information as the t -test on the slope coefficient; both investigate the existence or otherwise of a relationship between the two variables. The significance levels of the F -test are indicated on the tables. In most cases there are 20 observations and, with these, the values of R for 10%, 5% and 1% probability are 0.3790, 0.4436 and 0.5613 respectively.

In the case of Table 2, the Box-Cox results are only trivially different from the linear form, so the latter are presented. In each case, the regression was used to produce an estimated value for Ireland. The number of standard errors by which the observed value differs from the calculated value is given under 'S' in the table:

Table 2: (General Government Employment/Total at Work) regressed on Income per Head OECD

Year	R	F-value	S
1970	+0.5514	6.93**	+ 0.64
1977	+0.3685	2.83	+ 0.42
1985	+0.2698	1.420	+ 0.27

**Significant at 5% level

In the period there was a positive but declining association between the fraction of the total at work employed in the public sector and income per head. Richer countries tended to have a higher proportion of the total at work employed in the public sector. The S values are all positive; the proportion employed in the public sector in Ireland is in all cases above that predicted for our income level. However, the S values are all very small - to be significant at the 10% level they would have to be 1.33 or over. Furthermore, they are clearly declining over the period. Thus we can say that, when the level of income is taken into account, the ratio of GGE to total at work is a little high in Ireland but not high enough to be regarded as abnormal by OECD standards.

One may also consider the relative growth-rate of the GGE in Ireland. In passing, it is perhaps worth mentioning that all the 20 OECD countries considered have positive growth rates in 1970-1977, 1977-1985 and 1970-1985. The growth of public sector employment in developed countries is thus not merely normal; it seems to be an integral part of the development process. Table 3 compares the Irish growth-rate with the OECD mean.

Table 3: Proportional Increase in General Government Employment OECD

	1970-1977	1977-1985	1970-1985
OECD Mean	0.270	0.148	0.464
Standard Error	0.129	0.084	0.228
Irish Value	0.297	0.131	0.466
			[20 Observations]

The Irish value is almost identical with the OECD mean over the whole period - below it in one sub-period and above it in the other. Ireland is clearly very normal indeed in this respect. There is no statistically significant correlation between the growth rates and income per head; for the Box-Cox regressions which provide the best fit, the values of R are: (1970-1977) -0.2907, (1977-1985) -0.0539, and (1970-1985) -0.2423. With 20 observations, none of these is significant at any practical level. There is thus no evidence that richer countries had a different growth rate of GGE.

In summary then, it appears that neither the level nor the growth-rate of GGE in Ireland between 1970 and 1985 was abnormal by OECD standards.

4. THE RELATION BETWEEN GGE AND EMPLOYMENT, UNEMPLOYMENT AND ECONOMIC GROWTH

It is often proposed that the growth of GGE is hostile to economic well-being. Specifically, it is widely believed that if GGE is allowed to grow it will:

- (a) Reduce the growth of employment in other sectors
- (b) Increase unemployment
- (c) Reduce the rate of economic growth

These views have been expressed frequently - for evidence see O'Riordan (1987) pp. 57-58. The most coherent and forceful expression of them is, of course, that given by Bacon and Eltis (1978): pages 19 and 110-111 set them out in a direct form.

The data have been used to examine these hypotheses in the most simple way. That is to say, the Box-Cox method has been employed to discover whether there is any functional form which will give a statistically significant correlation between GGE and the variables involved. The method is simple, but the results which it yields are far from trivial. If such a correlation can be found, it may be regarded as prima facie evidence that the theory must be taken seriously bearing in mind, however, that a correlation does not tell us anything about causation. If no such correlation can be found, then one of the following must be true.

Either

- (a) There is no relationship between the variables
- or
- (b) A relationship exists but it is systematically concealed in the sample by the action of some other variable or set of variables.

In either case the original theory would need to be re-examined. At the very least, statements of the following type which imply a simple relationship between the two variables would need to be avoided or substantially qualified:

"(In Britain) the government has sought to provide jobs outside industry ... but this has resulted in a further squeeze on profits, still less industrial investment and more redundant workers to be absorbed by the public sector". Friedman (1979) p.51.

"Unemployment has increased most rapidly in those (OECD) countries where public sector employment has grown rapidly". Walsh (1986) p.95.

"As a simple rule of thumb to concentrate the mind, it may be assumed that each 5% of national disposable income absorbed by state consumption implies a 1% drop in the growth rate". Bacon and Eltis (1978) p.106.

To examine the first of the propositions, the rate of growth of non-government employment (i.e. the total at work less GGE) has been regressed on that of GGE. The values of R for the three periods 1970-1977, 1977-1985 and 1970-1985 were, respectively, $-.2834$, $+.0768$ and $-.2311$ for the Box-Cox regressions and $-.2577$, $+.0714$ and $-.1822$ for OLS. With 20 observations, none of these is significant at even the 10% level. The sample does not provide any statistically significant support for the hypothesis that the growth rates of employment in the government and non-government sectors are negatively correlated. This agrees well with the findings of Gemmel (1983) who, in a study of 27 countries (some industrialised and some less-developed) found the impact of non-market sector employment to be mixed, being positive in some and negative in others.

In passing, it is interesting to note that the mean growth rates of employment for the 20 countries were as follows:

	1970-1977	1977-1985	1970-1985
Government Sector	28.1%	15.5%	48.6%
Non-Government Sector	2.9%	2.3%	5.9%

In assessing these figures one must take into account the fact that, in general, GGE is only about 20% of the non-government employment. But even allowing for this, it is clear that the greater part of the growth in employment in the period has been in the government sector.

The second hypothesis is that of a positive correlation between GGE and unemployment. This has been examined by relating unemployment as a fraction of the labour force to GGE as a fraction of the total at work. Regressions were run between the levels of these variables and also between their rates of change. Table 4 gives the best correlation coefficients found by the Box-Cox method.

Table 4: (Unemployment/Labour Force) regressed on (General Government Employment/Total at work)

	Correlation Coefficients		
	1970	1977	1985
Levels	0.1960	-0.0245	-0.0911
Changes	0.2837	-0.1428	0.1140

[20 Observations]

Even the highest value on the table (0.2837) has a probability of nearly 25%. The remainder have, of course, a much higher probability of occurring by chance. Thus, in the sample, there is no evidence that the level of unemployment and the proportion employed in the public sector are related in any systematic way.

The third hypothesis is that a high level of GGE adversely affects economic growth. As a first step in investigating this, the changes in GDP per head were regressed first on the level of (GGE/Total at work) and secondly on the changes in that variable. To investigate the effect of lags as fully

as possible, three sub-periods were considered, namely 1970-1975, 1975-1980 and 1980-1985. Table 5 shows the correlation coefficients obtained. The results are for the best fit obtained by Box-Cox, though the linear form gives results which are not markedly different. When (GGE/Total at work) is the dependent variable, its value at the beginning of the periods is used. The results are changed very little when the value in the middle of the period is substituted.

Table 5: Growth Rate of GDP per head (OECD) Regressed on (General Government Employment/Total at Work) = G and on Δ G

Dependent Variable	Correlation Coefficients			
	1970-1975	1975-1980	1980-1985	1970-1985
G	-0.3172	-0.1039	0.1005	-0.3750
Δ G	+0.600	+0.1162	-0.0283	+0.0754

[20 Observations]

None of the correlation coefficients reaches even the 10% level of significance, so we can say that there is no evidence that either the level of (GGE/Total at work) or its rate of change is associated with slower economic growth. In the case of G, since the correlation coefficients for 1970-1975 and for 1970-1985 *approach* the 10% level, it might be more accurate to say that there is very weak evidence of a negative relationship which tended to die out over the period. The coefficients for Δ G are, in all cases, utterly trivial. There is no evidence that the growth of GGE is associated with slower economic growth.

The possibility of a lagged effect was investigated very thoroughly. For example G and Δ G in the first sub-period were regressed on the growth rate of GDP in all the succeeding periods. All the correlation coefficients so found were statistically trivial.

The results above could be objected to on the grounds that GDP includes the output produced by GGE. If this output were consistently overestimated, spurious results could be obtained. Estimates of the size or growth rate of real non-government output are not available for the OECD. However, the growth-rate of industrial output may be obtained from OECD (1987B) Table 3.4.

This has been regressed on both G and ΔG as defined for the last table with the results shown below. The values given are for the best-fit Box-Cox regression.

Table 6: Growth Rate of Industrial Output (OECD) Regressed on (General Government Employment/Total at Work) = G

Dependent Variable	Correlation Coefficients			
	1970-1975	1975-1980	1980-1985	1970-1985
G	+0.3646	+0.2516	+0.3418	-0.2537
ΔG	+0.1792	-0.1149	-0.1775	-0.0141
[18 Observations]				

The highest value found (+0.3646) is close to the 10% level of significance. However this is a *positive* correlation. Thus, there is no evidence that a high level of G or a high rate of change in G is associated with a reduction in the rate of economic growth.

These results on the relation between G and the growth rate confirm the views of Rose (1986) p.77 who concluded from a much smaller sample that there is "no tendency for countries with high levels of public employment to have distinctive growth rates".

There have been several other studies of the effect of government size on economic growth, but all have measured government size as the ratio of government revenue or expenditure to national income. In passing, it is perhaps worth mentioning that only one of them - Landau (1983) has found evidence that government size is negatively correlated with economic growth. His results are suspect, partly because he used government consumption as a proxy for government size and partly because, as Ram (1986) points out (p.197) the results may be due to mis-specification of the equation estimated. On the other hand Rubinson (1977), Ram (1986) and Conte and Darrat (1988) have all found evidence of a positive correlation between the rate of economic growth and the size of government. In the words of Ram (p.202) "it is difficult not to conclude that government size has a positive effect on economic performance and growth".

The correlations found in this section have all been trivial. There is no statistical evidence of any direct relationship between the level of GGE (or its rate of growth) on the one hand and the level of non-government employment, the level of unemployment or the rate of economic growth on the other. The absence of a simple correlation does not, of course, prove that these relationships might not be found to exist if the influence of other variables were allowed for. However, those who believe that GGE does, in fact, influence those variables should, at least specify what the other variables are and explain why their influence seems to systematically conceal the effect that GGE is believed to have.

It appears that, in terms of the numbers employed, the Irish government sector is not unusually large, and, in any case, the evidence suggests that large numbers employed in the government sector do not, in general, damage the economy. Thus the size of the government sector, in terms of the numbers employed, is unlikely to be a burden on the economy. However, the numbers at work in the sector is only one dimension of the problem; another highly significant aspect is the cost of employing those who work in there. It is, accordingly, instructive to look at the average wage rates of those in GGE.

6. AVERAGE PAY IN THE GOVERNMENT SECTOR

Table 7 presents the basic data for this section. The variable P is the ratio of average employee compensation (that is, 'pay' for all practical purposes) received by producers of government services to average employee compensation in the marketed sector. G is the ratio of producers of government services to total at work.

There is a difficulty here, caused by the fact that the OECD data which are available refer to producers of government services rather than general government employees. In most of the OECD countries, the difference between the 'general government employees' and 'producers of government services' are trivial or non-existent. However, in Ireland the sector 'producers of government services', from which the data for pay are derived, includes 'other producers', so one cannot compare the figures for general government employment (which are the only public sector employment data available) with the data on pay.

The main categories included in 'producers of government services' but not in 'general government employment' are:- secondary teachers, university staff, domestics and ministers of religion. With the help of suggestions and data kindly supplied by the Central Statistics Office, the data were adjusted in the following way. The figures for general government employment were increased by adding estimates of the numbers of secondary teachers and university staff. The data for pay of producers of government services were reduced by subtracting estimates of the pay of domestics and ministers of religion. These changes bring the Irish data broadly into line with the practice in other countries, so that valid comparisons can be made in Table 7. Even with the inclusion of secondary teachers and university staff, the ratio of producers of government services to total at work in Ireland is not abnormal by OECD standards. The Irish ratios for 1970, 1977 and 1985 are 0.123, 0.157 and 0.181 respectively; these are very close to the OECD means of 0.136, 0.162 and 0.179 for the same years.

The most obvious fact revealed by Table 7 is that the ratio of average pay of producers of government services to average pay of market sector employees in Ireland is very normal by OECD standards. The difference between the Irish value and the (unweighted) OECD mean (shown at the foot of the table) is, in each case only a small fraction of a standard deviation. Clearly the relative pay of Irish public sector employees is not a major problem. We will return to this point shortly.

It is also clear that the trend of the pay ratio (P) in Table 7 is generally downward. Most of the OECD countries, including Ireland were paying their public employees **relatively** less per head in 1985 than in 1970. This would appear to cast doubt on the assumption which is sometimes made (as for example by Adachi (1984)) that the wage rate in the public sector follows that in the rest of the economy.

Another hypothesis suggested by Table 7 is that of a negative relationship between P (the relative wage rate) and G (the fraction of the total at work employed in the public sector). The results of testing this hypothesis are given in Table 8. OLS results are presented as they are only trivially different from the best obtained by the Box-Cox method.

Table 7: Average Pay Producers Government Services/Average Market Sector Pay

Country	P1 1970	P2 1977	P3 1985
Canada	1.066	1.136	1.239
US	0.969	1.093	1.129
Japan	1.597	1.748	1.756
Australia	1.565	1.514	1.342
New Zealand	0.851 ¹	0.894	0.981
Belgium	1.229	1.096	0.956
Denmark	1.236	1.049	0.967
Finland	1.481	1.162	1.107
France	n.a.	0.974	0.897
Germany	1.269	1.218	1.083
Iceland	1.174 ²	1.115	1.065
Ireland	1.260	1.175	1.180
Italy	1.272	1.007	1.172
Luxembourg	1.379	1.525	1.542
Netherlands	1.469 ²	1.450	1.221
Norway	1.070	0.961	0.918
Portugal	n.a.	1.742	1.580
Spain	n.a.	1.340 ³	1.271
Sweden	1.065	0.943	0.867
UK	0.855 ¹	0.888	0.890
OECD MEAN	1.224	1.201	1.158
Std. Dev.	0.23	0.27	0.25

¹ = 1971 ² = 1972 ³ = 1980

Table 8: Results of OLS Regressions

(A) P on G (See text for definitions)

Year	Constant	Slope Coefficient	t-value of Slope Coefficient	Correlation Coefficient (R)	S (See Below)
1970	1.7199	- 3.490	- 5.16 ***	- .7996	- .22
1977	1.767	- 3.533	- 6.01 ***	- .8168	- .24
1985	1.656	- 2.776	- 5.63 ***	- .7989	+ .17

(B) - Δ P on Δ G

1970-1977	0.036	- 4.011	- 3.40 ***	- .639	+ 1.55*
1977-1985	0.022	- 2.360	- 1.46 *	- .362	- 0.97
1970-1985	0.040	- 3.383	- 3.42 ***	- .637	- 0.88

S = Number of standard errors by which the Irish actual value differs from the predicted value

* = Significant at the 10% level

*** = Significant at the 1% level

It is clear that, in the sample, there was a strong negative relationship between both the levels of, and the changes in, the two variables. Countries in which employment in the government sector formed a relatively high proportion of the total at work tended in all three periods to pay them a relatively low average wage. Countries which, in the period 1970-85, raised the proportion at work in the government sector tended to reduce the relative average wage in that sector. The relationships are statistically significant at a high level of probability.

The last column of Table 8 (S) shows the number of standard errors by which the value observed in Ireland differs from its predicted value. In part (A) of the Table it will be seen that the values are trivially small. In part (B) the value for 1970-77 is positive and significant at the 10% level. For 1977-1985 and overall the values are not significant at any meaningful level. The most reasonable conclusion from these figures is that the Irish level of average government pay and its rate of change are normal by OECD standards.

One possible major objection to Table 7 is that it only shows pay per person and makes no allowance of differences in the hours worked in the two sectors. If, for example, Ireland had an unusually low ratio of part-time workers in the public sector, this could influence the public sector pay ratio as shown in the Table. Data on the hours worked in the government sector are not readily available. In the case of three countries (USA, Finland and Sweden), Table 15 of OECD (1987A) gives hours worked in each sector. No other information is available from OECD sources.

However, Eurostat (1980, 1986) gives (in Tables 4.5 and 5.4 respectively) information on hours worked in the whole economy and in NACE category 9 which corresponds fairly closely to the definition of the government sector used here. It is thus possible to calculate the ratio of pay-per-hour in the government and market sectors. By confining the period to 1975-86, values for 12 countries for both years may be obtained, with single observations for another two. The results are shown in Table 9.

Table 9: Ratio of Government To Market Sector Pay-Per-Hour

Country	1975	1986
USA	1.275	1.292
Belgium	1.263	0.994
Denmark	1.227	1.021
Finland	1.512	1.281
France	0.947	0.857
Greece	-	1.273
Germany	1.316	1.110
Ireland	1.321	1.240
Italy	1.113	1.324
Luxembourg	1.638	1.655
Netherlands	1.583	1.374
Portugal	-	1.798 ¹
Sweden	1.164	1.291
UK	1.070	1.048

¹ = 1981

If Table 9 is compared with Table 7 (using the period 1977-1985 which is the one most directly comparable), it will be seen that there is little difference. The only exception is Sweden where, apparently, large numbers of part-time workers were introduced into the government sector.

Apart from this, the inferences drawn from Table 7 stand. The general trend of government pay-per-hour is downward (in 8 out of 12 countries). The OECD means were 1.286 in 1975 and 1.254 in 1986 with standard errors of 0.21 and 0.25 respectively, so it can be seen that the Irish values differ from the means by only a small fraction of a standard error. The relationships shown in Table 8 also hold. Using HP for the ratio of government average pay-per-hour to market sector pay-per-hour and HG for the ratio of hours worked by government employees to hours worked by market sector employees, the results are as shown in Table 10.

Table 10: Relative Hourly Pay (HP) Regressed on Relative Hours Worked (HG)

(A) HP on HG

Year	t-value of slope coefficient	S (See below)
1975	- 3.36 ***	+ 0.17
1986	- 3.41 ***	- 0.13

(B) Δ HP on Δ HG

1975-1986	- 2.23 **	- 0.20
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S = Number of standard errors by which the Irish value exceeds its predicted value

*** = Significant at the 1% level

** = Significant at the 2.5% level

It is clear that, even when differences in hours worked are allowed for, relative pay-per-hour in the government sector tended to fall in the OECD countries as relative hours worked in the government sector increased. As before, the relative pay-per-hour and the change in that variable were normal by OECD standards.

The difficulties in calculating relative public sector pay, which were referred to at the beginning of this section prompt one to look for any other insight into the matter which may be available. One may gain some information by looking at employee compensation in the public sector expressed as a fraction of GDP. The results of this are shown in Table 11.

Table 11: Pay of Producers of Government Services/GDP

Country	1970	1977	1985
Canada	.127	.135	.129
US	.121	.113	.108
Japan	.059	.082	.077
Australia	.039	.043	.038
New Zealand	.099	.116	.114
Belgium	.100	.125	.131
Denmark	.132	.172	.179
Finland	.105	.126	.139
France	.115	.137	.141
Germany	.088	.110	.106
Iceland	.092 ¹	.094	.105 ³
Ireland	.113	.131	.146
Italy	.101	.101	.116
Luxembourg	.072	.113	.112
Netherlands	.119	.131	.112
Norway	.111	.140	.128
Portugal	n.a.	.111	.116
Spain	n.a.	.098 ²	.107
Sweden	.145	.193	.187
UK	.098	.125	.124
OECD MEAN	.102	.120	.121
OECD Std. Dev.	.026	.031	.032

¹ = 1973 ² = 1980 ³ = 1982

It will be seen that the Irish value in this table is above the OECD mean in all three years. The amount by which it exceeds the mean is less than one standard error in all cases, so it is not statistically significant at any important level. However the excess is consistently positive and it was greater in 1985 than in 1970, so some explanation is required.

At first sight it will seem anomalous that the ratio of government sector pay to GDP in Ireland should be high, given that both the ratio of public sector employment to total at work (Tables 1,2) and public sector relative pay (Tables 7,8,9,10) are both normal by OECD standards. The explanation for this lies in the fact that the average wage earner in the economy as a whole receives a rather larger share of the GDP than is normal in the OECD. For example, in 1985 the ratio of total employee

compensation to GDP in Ireland was 0.539, slightly above the OECD mean of 0.521. However, the ratio of total employees to total at work in Ireland was 0.757 which was well below the OECD mean of 0.828. Thus a proportion of employees which was somewhat below the mean for the group of countries in question received a fraction of the GDP which was well above the average. Hence the reason that public sector employees received an above-average fraction of the GDP was not that they were particularly numerous or relatively well-paid but because all employees in Ireland receive a proportion of the GDP which is rather high by OECD standards.

Incidentally, this casts doubt on an argument that is often advanced about pay levels. When it is proposed that some (or all) of the public sector workers are well-paid relative to wage earners in the rest of the economy, it is argued that this is so not because public sector workers are well-paid but because the others are badly paid. However, this would seem to imply that the wage-earners in the market sector receive an unusually low share of the 'national cake', which is patently not the case. It is, of course, possible that the rather low share of GDP received by non-wage earners is caused by the presence of large numbers of farmers on relatively low cash incomes. However, even if it were true, this would do nothing to worsen the plight of the wage-earners.

7. CONCLUSIONS

The data on general government employment (GGE) which have recently become available from the OECD for the period 1970-1985 provide strong support for the following conclusions:-

1. The growth of GGE either in absolute terms or as a proportion of the total at work was a normal feature of the OECD countries.
2. In Ireland neither the level of GGE nor its rate of growth was abnormal by OECD standards even when levels of income are allowed for.
3. There is no evidence that a high level or a high rate of growth of GGE damages the economy in regard to unemployment, employment in other sectors or economic growth.
4. There is a well established negative relationship between (GGE/Total at work) and (Average government sector pay/Average pay in other sectors) and also between the rates of change of those two variables.

5. Problems with the Irish data make it a little difficult to produce accurate figures for the ratio of Average Public Sector Pay to Average Market Sector Pay. However, the information available suggests quite strongly that there is nothing abnormal (by OECD standards at least) about the Irish ratio. This remains true, even when differences in hours worked are allowed for. On the other hand, the proportion of GDP received as pay by workers in the public sector is rather high and, if anything, is becoming higher. This phenomenon is associated with the fact that wage earners in general in Ireland receive a rather higher proportion of the GDP than is normal in the OECD.

The main thrust of the argument presented here is that the size of the public sector in Ireland *in terms of the numbers employed* is not a threat to our economic well-being. There is no evidence that general government employment in Ireland is high by OECD standards or that it is growing unusually fast. Even if it were high, there is no evidence that a large public sector is hostile to economic growth; indeed the results produced by Ram (1986), which were referred to above suggest that the opposite is the case. It also seems to be true that the ratio of average government pay to average market sector pay in Ireland is normal by OECD standards. Workers in the government sector are, in general, paid a little more than those in the market sector, possibly because they are, on average, better qualified.

In view of this it is difficult to justify a policy of cutting the numbers employed in the government sector. The main conclusion reached in this paper (that government employment is not unduly high) is in keeping with the casual evidence derived from the news-media which suggests that reductions in government employment deprive the community of services that are needed and valued. On the other hand, it must be remembered that the taxes needed to finance these services are a burden and cannot be increased without creating economic problems. Given that Irish government workers seem to receive a rather higher share of the GDP than their counterparts in the OECD, it may well make more sense to ease the tax burden by putting a downward pressure on government wage rates rather than numbers. Some decades ago, the security of government employment, and the generous pensions associated with it, made it possible to secure employees of high calibre at pay-rates which were rather less than those prevailing in the private sector. In the boom-years of the 1970's and early 1980's these considerations became unimportant.

However, now that the world is again a risky place, they may carry weight once more.

8. ABSTRACT

The data on employment and pay in the public sector in OECD countries which are contained in Vol. II of the OECD "National Accounts Statistics" are used to compare public sector employment in Ireland with that in the rest of the OECD and to infer some of its effects on the Irish economy. The period covered is 1970-1985.

It appears that neither the size nor the growth-rate of public sector employment in Ireland is abnormal by OECD standards even when the level of income is taken into account. It also appears that countries where a large proportion of the total at work are employed in the public sector do not seem to suffer from higher unemployment or slower rates of economic growth.

The data available suggest that relative pay rates in the Irish public sector are not abnormal by OECD standards. On the other hand, the proportion of GDP formed by pay of the public sector producers is rather high. This is because all wage-earners in Ireland receive a rather higher share of GDP than is normal in the OECD.

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DISCUSSION

S. Barrett: It gives me great pleasure to propose the vote of thanks to Dr. O'Riordan for his most interesting paper. The size of the public sector and its wage bill are vitally important in a small open economy. In an era of decreasing national economic sovereignty our subject matter this evening will remain within the discretion of the Irish government after 1993 and the creation of the internal EC market.

How did the Irish government exercise its economic sovereignty in the public sector labour market? In his conclusions Dr. O'Riordan states that "it is difficult to justify a policy of cutting the numbers employed in the public sector. The main conclusion reached in this paper (that government employment is not unduly high) is in keeping with the casual evidence derived from the news media which suggests that reductions in government employment deprive the community of services that are needed and valued.....".

Official policy during the years 1987-1989 was that the public sector wage bill was excessive. About 10,000 public sector posts were bought out with a special grant of £128m from the Central Bank. That policy was abandoned as part of the departure from fiscal rectitude in the 1990 and 1991 Budgets and the PESP. My strong belief is that the 1987-1989 policy of reducing public sector numbers was correct. I find myself at variance with the paper and the policy reversals of 1990 and 1991.

At the heart of the policy difference between the paper and me is a data problem in Tables 1, 7 and 11 of the paper. I believe that these tables are incompatible and negate the policy conclusion drawn by the author. Table 1 tells us that neither the level of general government employment nor its rate of growth in Ireland are abnormal by OECD standards. Table 7 tells us that "the ratio of average pay of producers of government services to average pay of market sector employees in Ireland is very normal by OECD standards". Yet in Table 11 we see that the public sector pay bill in Ireland in 1985 was the third highest as a proportion of GDP of twenty OECD countries and that its absolute growth between 1970 and 1985 was exceeded by only three countries. Between 1977 and 1985 the growth of the public sector pay bill as a proportion of GDP was higher than in any other country whereas 9 of the 20 countries experienced a contraction in the ratio of public pay to GDP.

The data dilemma in this paper is that it claims that the number of public

servants (Q) is not out of line with the other countries examined and nor is their pay (P). But however the product of these (P x Q) is seriously out of line with other countries.

The paper presents this dilemma to us in the discussion of Table 11 as follows:- "it would seem that, in Ireland, while the numbers employed in the public sector expressed as a proportion of the total at work are not abnormal by OECD standards, the fraction of the GDP which these employees receive is unusually high. Furthermore, there is no evidence that this proportion is tending to return to levels which are normal by OECD standards".

The GDP cost of public pay is the bottom line which the Department of Finance and the Government faced in 1987 as they faced up to the public pay problem. The valuable document, Framework for the 1987 Budget, prepared by the outgoing administration, showed that public pay rose from 10.0% of GNP in 1975 to 16.2% in 1986. Social welfare increased in the same period from 5.5% to 9.8% and all other items fell from 11.7% to 11.2% of GNP (p.15).

Deflating the increase in GNP taken by the public pay bill by the 17% increase in numbers employed results in a 38% increase in the GNP cost per public employee between 1975 and 1986. The Framework document shows that Ireland's debt to GDP ratio of 132% in 1986 was caused by two items on the current budget side - pay and social welfare. The choice made by the 1987-1989 government was to tackle the pay problem by reduction of numbers and slowing down the rate of pay increase.

In view of Dr. O'Riordan's findings that the fraction of GDP paid to public employees is undoubtedly unusually high by OECD standards and that there is no evidence that it is returning to levels which are normal by OECD standards the policy of the 1987-1989 government in reducing public service numbers was correct in a situation where wages are sticky downwards.

Other Policy Implications

Dr. O'Riordan notes that "the taxes needed to finance these (public) services are a burden and cannot be increased without creating economic problems. Given that Irish government workers seem to receive a rather higher share of the GDP than their counterparts in the OECD, it may well make more sense to ease the tax burden by putting a downward pressure on

government wage rates rather than numbers". This is a most interesting agenda. I would propose abolition of the public service arbitrators and pay review bodies; abolition of the "social partner" system of determining public expenditures because of the public sector dominance of the Irish trade union movement and, increasingly, the employer organisations; and the transfer of public sector activities to the market.

The Burden of Public Pay in Ireland

Table 11 shows no room for complacency about the public pay problem in Ireland. GDP per head in Ireland is similar to that in Spain but the Irish public pay bill as a proportion of GDP is 36% higher. In 1970 the GDP share accounted for by the public pay bill was 7% lower in Ireland than in the US but by 1985 the Irish share was 35% greater than in the US. Ireland has to take its standards in economic policy within the EMS from Germany but has a public pay bill which is 38% greater as a proportion of GDP. The burden is 18% greater than in the UK, which remains our major trading partner.

The power of public sector trade unions in Ireland contrasts with the data in Table 11 which show that the general trend of relative government pay is downward in eleven of the twenty OECD countries examined over the period 1977 to 1985. For example, the US reduced its public pay bill from 0.113 to 0.108 of GDP over the period. Ireland's public sector pay determination procedures are designed to ensure that this movement does not occur. There is a preoccupation with relativities and disregard of labour market conditions and the public sector ability to pay.

Implications for Employment Growth

The Statement in Section 4 that "it is clear that the greater part of the growth in employment in the period has been in the government sector" is in my opinion incorrect. Between 1970 and 1985 employment in the OECD countries increased from 291 million to 336 million. Only 1.3 million of the increase, or under 3%, was accounted for by the 12 EC countries. On the other hand 84% of the employment growth of the OECD countries occurred in the US, Canada, Japan and Australia. In the US the proportion of employment in the public sector fell between 1970 and 1985 whereas in Japan and Australia the proportions of general government employment to total employment were the lowest in both 1970 and 1985. The interpretation of Table 7 should be reassessed in the light of where significant employment growth actually occurred in the OECD because

the data do not confirm that "the greater part of the growth in employment in the period has been in the government sector". OECD evidence is that employment growth is highest in deregulated labour markets. This is rarely a characteristic of public sector employments.

Baumol's Disease and Public Choice Theory

Section 3 poses a most interesting question about the increase in the proportion of the population employed in the public sector - "is the increase due to a high demand elasticity or to low productivity or a combination of the two?"

The low productivity problem has been documented by O'Hagan (1984). The cost of a hospital bed per year increased from 3.386 times the GDP per head in 1966 to 6.929 times in 1979. My estimate is that it was 10.2 in 1982 compared to an OECD average of 4.9 and that in 1987 the Irish cost ratio had increased to 12.1. Between 1975 and 1987 the numbers employed by health boards and voluntary hospitals increased from 43,000 to 56,262, or 31%.

Between 1970 and 1987 the number of teachers employed in Ireland increased from 26,573 to 41,925, or 58%. The number of Gardaí increased by 73% to 12,106 in the same period. Average pay per primary teacher increased from £1,429 in 1970 to £16,883 in 1987, and per Garda from £1,211 to £17,049. The average pay of a Devlin "representative post" or secretary of a department other than Finance rose from £5,355 in 1970 to a recommended £52,000 in mid-1989. Prices increased by about 6.2 times between 1970 and 1987. Thus in three major areas of public employment, education, health services and security, we have had large increases in the numbers employed and in real pay. Such a combination has not occurred in the expanding services sector in the US.

The process of bidding up real public sector wages in Ireland has outstripped the growth of public sector productivity. Currently the public current expenditure price index for 1991 is 9% compared to 2.75% for personal consumer expenditure. There are serious supply side problems which are pushing up the cost of public services. My proposition is that a combination of the manner in which public sector wages are determined, the lack of competition in the provision of public services and the way in which they are financed makes it impossible to generate productivity increases in the provision of public sector services. These characteristics, rather than the inherent nature of the services account for the existence

of Baumol's Disease.

Public choice theory cautions against accepting the proposition in Section 7 that "the casual evidence derived from the news media which suggests that reductions in government employment deprive the community of services that are valued". Since the services concerned are financed from taxation there is considerable scope for strategic conduct by both the providers of the services and users to mount lobbying campaigns in the media (see, for example, Becker, 1985). One might add that the Irish media are far more skilled in showing the individual ill-effects of reduced public spending than in showing the effects on either individuals or the economy as a whole of the kind of borrowing and taxation spiral experienced between 1972 and 1987.

While I appreciate the data difficulties in Table 7 it is a problem that while the employment figures for Ireland have been corrected with the help of suggestions and data from the Central Statistics Office no similar adjustment was made for the other nineteen countries.

Conclusion

At the time of the presentation of this paper it was government policy to cut general government employment. Because in Ireland "the proportion of GDP received as pay by workers in the public sector is rather high and, if anything, is becoming higher", as Dr. O'Riordan has found, I believe that the policy was correct. The increase in public pay and numbers employed played a major part in the debt crisis in the Irish economy. I believe that the policy of reducing numbers was correct at the time of Dr. O'Riordan's presentation. The three-fold indexation of public pay in the PESP and the reinstatement in 1990 and 1991 of posts brought out under the policies criticised by Dr. O'Riordan present serious problems for the Irish economy in the medium term.

Although I am in disagreement with its policy implications I wish to commend Dr. O'Riordan's paper to the Society. There are many interesting and stimulating ideas in this paper which deserve the widest possible discussion. We are indebted to Bill O'Riordan and it is a great pleasure to propose the vote of thanks to him on your behalf.

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M. McGinley: I congratulate Dr. O’Riordan for his courage in writing a paper on industrial relations. Ethics and economics meet in industrial relations and economists are often ill at ease in ethics. The ethical issue in recommending a relative reduction in public sector pay was, for example, handled lamely in Conniffe and Kennedy’s *Employment and Unemployment for Ireland* (1984) in the following terms:

‘It will, of course, be objected that this measure [a relative cut in public sector pay] would be inequitable. This presupposes that the present situation is equitable....’

Dr. O’Riordan in his conclusions on Irish public sector numbers and pay placed too much reliance on comparisons with OECD averages. Such comparisons could be dangerous at any time. In the area of pay they were particularly likely to mislead because:

- Irish GDP per head was so low relative to most of the other OECD countries,
- The Irish labour force is going through a relatively high degree of structural change,
- The participation rate in Ireland is peculiarly low, and Real take home pay - a key factor in pay negotiation - has been falling for over a decade due to inflation and spiralling income tax.