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An Phríomh-Oifig Staidrimh

National Employment Survey 2007

Supplementary Analysis

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Introduction

This report is a follow-up to the National Employment Survey[1] (NES) October 2007 which was released in July 2009, and presents supplementary statistical analysis on the wage differential between the public and private sectors in Ireland.

The NES publication reported that, on average, public sector hourly earnings were 47.6% higher than the private sector (€26.67 in the public sector, compared with €18.07 in the private sector) and that the public sector weekly earnings were 32.6% higher than the private sector (€847.17 in the public sector, compared with €639.05 in the private sector). However, these figures did not take into account the differences in characteristics of employees in both sectors. Sector of employment is not the only determinant of earnings; in this study, both the attributes of the employees (e.g. educational attainment, experience, hours worked etc.) and the characteristics of their employment (e.g. size of organisation) were used to further explore the wage differential between the two sectors. This analysis does not attempt to compare similar jobs between the public and private sectors.

The analyses were carried out on both weighted and unweighted data. For comparability with the recent publication by Kelly et al (2009), the main results presented in this report were based on weighted data. It should be noted that there are issues surrounding the use of survey weights in multivariate analysis.

The multivariate analysis of the NES 2007 sample yielded a public sector wage premium of 19.1%, i.e. when differences in individual and employment characteristics were controlled for, public sector employees were paid on average 19.1% more than private sector employees. Further analysis based on gender yielded a public sector wage premium of 14.8% for males and 22.9% for females.

In line with other published literature on this topic, a sub-group of the NES sample was also considered; permanent, full-time employees aged 25-59 years[2]. The analysis of this particular sub-group yielded a public sector wage premium of 12.6%, with a premium of 10.4% for males and 15.1% for females.

Further analysis of the differential at differing points throughout the earnings distribution showed that the premium was largest at the lower end of the earnings distribution and generally decreased as earnings increased. For *all* employees, at the 10th percentile of earnings the premium was 25.7% and reduced to 11.4% at the 90th percentile. For permanent full-time employees aged 25-59 the corresponding figures were 22% at the 10th percentile, and decreased to 5.8% at the 90th percentile.

This report analyses different components that account for the public-private pay differential in weekly earnings. It acknowledges that the estimated premium is sensitive to the methodology adopted as well as to the specification of the model used, i.e. the selection of the explanatory variables. This report uses a number of different models and specifications, but at all times clearly indicates the approach being taken.

[1] http://www.cso.ie/releasespublications/documents/earnings/2007/nes_2007.pdf

[2] Murphy and Ernst & Young (2007) considered this particular sub-group more appropriate as a benchmark. This is also the sub-group analysed by Kelly et al. (2009).

Data and Methodology

The National Employment Survey

The NES 2007 was a major workplace survey conducted by the CSO. The survey covered both the public and private sectors, the only excluded sectors being agriculture, forestry and fishing.

The purpose of the NES was to provide structural information on workplace issues, including earnings and factors influencing earnings. Information was collected in a linked and integrated way from a sample of employers and employees.

Only employers with more than three employees were surveyed. Employers were required to have been trading in the reference month of October in 2007. Sampled employees were required to have been employed in the reference month of October in 2007.

The NES sample of employers was selected from the CSO Central Business Register. The sample was selected based on the proportion of companies in each economic sector (NACE Rev 1.1 two digit sector) and in each size class. The employers were asked to select a systematic sample of employees from their payrolls. The table below outlines the number of employers and employees sampled for each size group of business unit:

Size of Enterprise	No of employers sampled	No. Employees sampled
3-9	1 in 20	All
10-19	1 in 10	All
20 - 49	1 in 7	1 in 2
50 - 99	1 in 4	1 in 3
100 - 249	1 in 2	1 in 7
250 - 999	All	1 in 10
1000 +	All	1 in 20

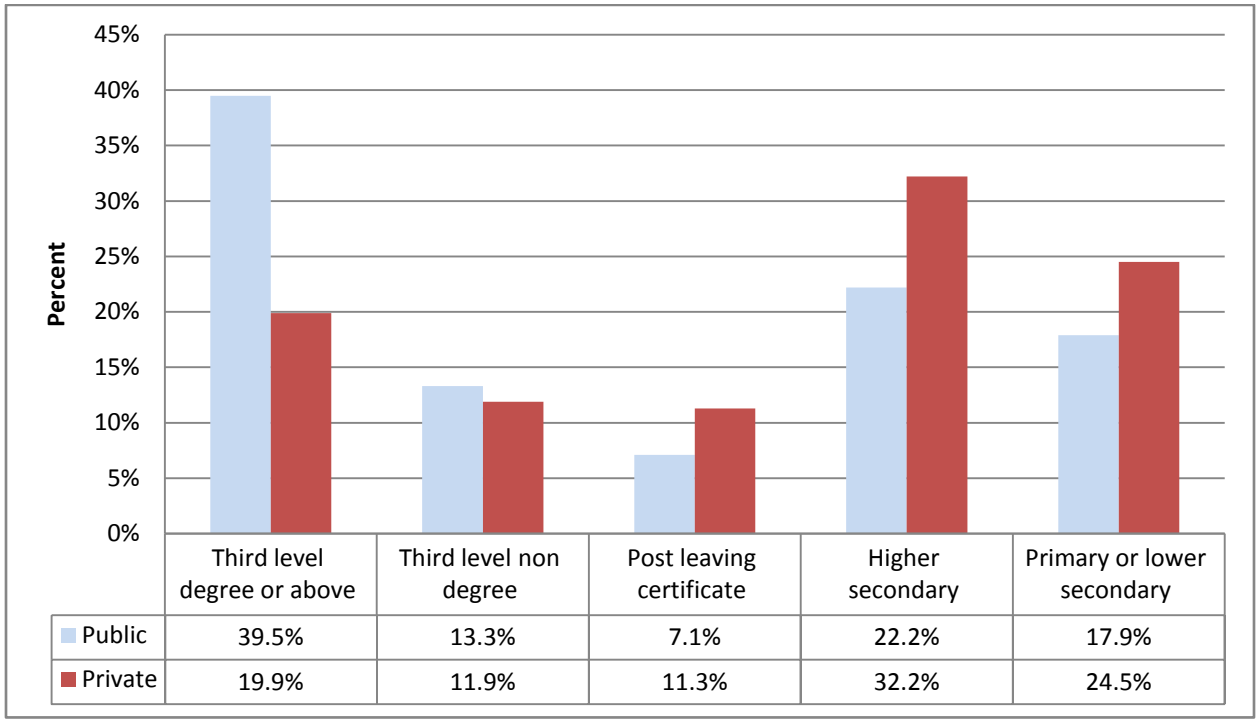
The responding employers returned the employer questionnaire that contained a list of the names of sampled employees to the CSO who were then contacted and asked to return a questionnaire directly to the CSO.

Overall the number of respondent employees was equivalent to 3.5% of all relevant employees. The respondent enterprises represented approximately 6% of all enterprises which employed approximately 56% of all employees. The data provided from employers and employees were then weighted to compensate for differing sampling fractions, nonresponse and to gross up to the overall population. Nonresponse rates were higher in the smaller size classes.

Data

The characteristics of people working in the public and private sectors differ. An analysis of educational qualifications in the public and private sectors showed that 39.5% of public sector employees had a third level degree or higher qualification compared with 19.9% in the private sector. Almost 25% of private sector employees had a primary or lower secondary qualification while in the public sector, this figure was 17.9%. *See Figure 1.*

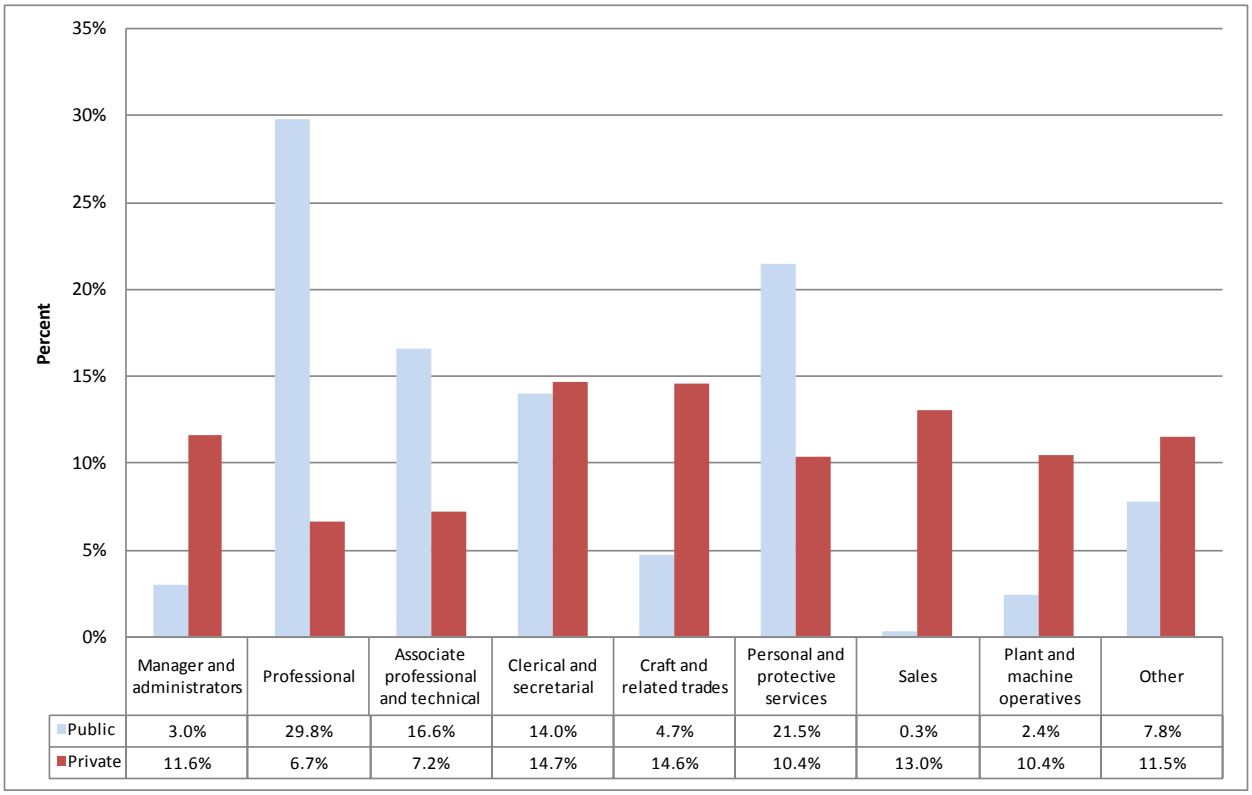
Figure 1. Distribution of highest educational attainment by employment sector (from NES 2007)



	Third level degree or above	Third level non degree	Post leaving certificate	Higher secondary	Primary or lower secondary
Public	39.5%	13.3%	7.1%	22.2%	17.9%
Private	19.9%	11.9%	11.3%	32.2%	24.5%

There was also a noticeable difference in the structure of employment in the two sectors. In the private sector, 11.6% of employees were Managers compared with 3.0% in the public sector. Almost 30% of public sector workers described themselves as Professional, compared with 6.7% in the private sector. In contrast, only 0.3% of public sector employees were categorised in Sales occupations whereas this figure was 13% in the private sector. *See Figure 2.*

Figure 2. Distribution of occupation by employment sector (from NES 2007)



	Manager and administrators	Professional	Associate professional and technical	Clerical and secretarial	Craft and related trades	Personal and protective services	Sales	Plant and machine operatives	Other
Public	3.0%	29.8%	16.6%	14.0%	4.7%	21.5%	0.3%	2.4%	7.8%
Private	11.6%	6.7%	7.2%	14.7%	14.6%	10.4%	13.0%	10.4%	11.5%

Apart from differences in personal characteristics between public and private sector employees, there are also differences in occupations between the two sectors. For example it is difficult to match Gardaí, prison officers or members of the defence forces with equivalent jobs in the private sector. Similarly, occupations such as those associated with sales are not found in the public sector. This analysis does not attempt to match jobs across the sectors.

Table 1 summarises the key estimates from the NES. These estimates are based on the weighted data.

The average public service weekly earnings were €847.17, compared with €639.05 in the private sector; over 32% higher. The corresponding premium for hourly earnings was almost 48%, with hourly earnings in the public sector at €26.67and €18.07 in the private sector. The average male pay differential for hourly earnings was 42.5% (€28.17 in the public sector compared with €19.77 in the private sector) and for females it was 61.8% (€25.79 in the public sector compared with €15.94 in the private sector). The gender gap was smaller in the public service where the hourly earnings were on average 9.2% higher for males than for females, compared with 24.0% higher in the private sector.

Public service employees tended to be older that those in the private sector; the average age in the public sector was 40.4 years, compared with 36.1 years in the private sector.

Employees in the public sector had spent on average 11.6 years with their current employer. The comparable figure for the private sector was 8.2 years. Similarly, public sector employees had more overall experience than those in the private sector, with 17.2 years in total paid employment compared with 14.4 years for the private sector.

Employees in the private sector worked on average a longer week than those in the public sector. The average number of hours worked per week in the public sector was 32.7 compared with 35.0 hours in the private sector.

The median values are also presented in Table 1. Median values are considered more robust measures where there are outliers, i.e. skewed distributions. The median value is the point which divides the distribution into two equal parts, i.e. 50% of employees are above this value, and 50% are below.

Overall, the summary results show that, on average, public sector employees had higher educational attainment, longer service, were older, and were more likely to be in professional jobs than their counterparts in the private sector.

Table 1: Descriptive Statistics – NES 2007 Weighted Data – All employees

Summary Data - Means

	Male			Female			Total		
	Public	Private	Total	Public	Private	Total	Public	Private	Total
Earnings per week (€)	1,003.17	750.28	792.66	755.55	498.72	576.25	847.17	639.05	687.51
Earnings per hour (€)	28.17	19.77	21.17	25.79	15.94	18.91	26.67	18.07	20.08
Age (Years)	41.8	36.6	37.5	39.6	35.5	36.7	40.4	36.1	37.1
Length of service with current employer (Years)	14.4	9.1	10.0	10.0	7.1	8.0	11.6	8.2	9.0
Total time in all paid employment (Years)	20.7	16.0	16.8	15.2	12.4	13.3	17.2	14.4	15.1
Hours worked per week	37.2	38.1	38.0	30.0	31.0	30.7	32.7	35.0	34.4
Working full-time (%)	93.8	93.1	93.2	71.9	66.6	68.2	80.0	81.4	81.1
Trade-union membership (%)	72.2	27.4	34.9	69.5	21.8	36.2	70.5	24.9	35.5
Professional body membership (%)	19.3	12.5	13.7	22.5	11.8	15.0	21.3	12.2	14.3
Working in permanent positions (%)	74.4	83.6	82.0	67.5	85.0	79.7	70.0	84.2	80.9
Working shifts (%)	38.5	25.3	27.5	25.6	24.7	24.9	30.4	25.0	26.3
Percentage supervising staff (%)	30.7	35.5	34.7	25.9	27.7	27.2	27.7	32.1	31.0

Summary Data - Medians

	Male			Female			Total		
	Public	Private	Total	Public	Private	Total	Public	Private	Total
Earnings per week (€)	927.25	646.00	688.17	721.50	429.08	489.75	807.75	544.25	593.00
Earnings per hour (€)	23.27	16.32	17.43	21.86	12.94	15.09	22.39	14.77	16.29
Age (Years)	42.0	35.0	36.0	39.0	33.0	35.0	40.0	34.0	35.0
Length of service with current employer (Years)	10.0	6.0	6.0	7.0	4.0	5.0	8.0	5.0	6.0
Total time in all paid employment (Years)	20.0	13.0	14.0	13.0	10.0	10.0	15.0	11.0	12.0
Hours worked per week	39.0	39.0	39.0	32.0	35.0	35.0	35.0	38.3	37.5

The distribution of earnings also differs between sectors. Table 1a gives details of various percentiles of the distribution of weekly earnings. The difference between the 75th and the 25th percentiles is commonly referred to as the Interquartile Range. It corresponds to the range of earnings into which the middle 50% of earners fall. In the public sector, 50% of employees earned weekly wages in the range €548.40 to €1,084.00, and in the private sector, 50% of employees earned weekly wages in the range €368.25 to €785.75.

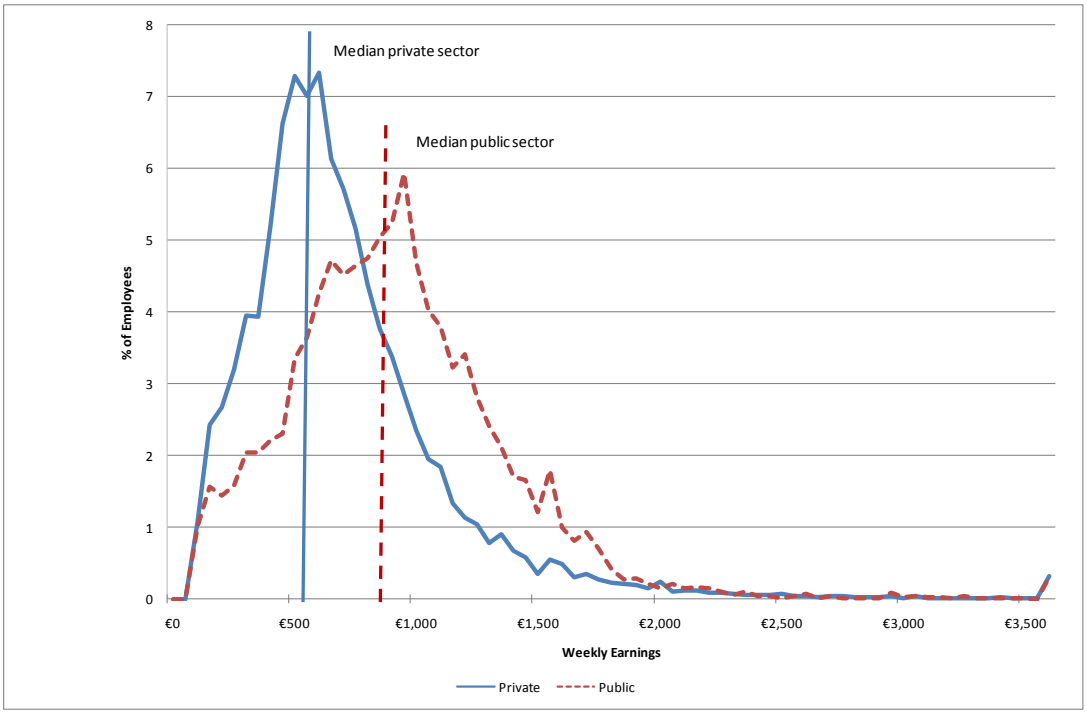
Table 1a - Distribution of Weekly Earnings (€)

Percentiles of Earnings by Sector

Percentile	Public	Private	All
90%	1,394.75	1,111.00	1,213.50
75%	1,084.00	785.75	869.33
50% (Median)	807.75	544.25	593.00
25%	548.40	368.25	393.75
10%	306.25	207.25	219.25

Figure 3 shows the distribution of weekly earnings in both the public and private sectors. It is clear from the graph that the earnings distribution for the private sector was more positively skewed than that for the public sector. There was a higher concentration of employees from the private sector at the lower end of the earnings distribution. It should also be noted that the top end of the earnings distribution also contained a higher concentration of employees from the private sector.

Figure 3. Distribution of Hourly Earnings, All Employees



Determinants of Earnings within Sector

Given the structural differences in employment between the sectors, it is helpful to look at each sector separately to examine the determinants of earnings. An analysis looking at the public sector only found that some of the main determinants of earnings were educational attainment, job occupation, full-time/part-time status, etc. These particular determinants were also found to be important in the private sector (although the contributions of these characteristics varied across the two sectors). In the public sector almost all organisations are large in size. In the private sector, the size of the enterprise was found to be a significant determinant of earnings, with people who work in large (250 or more employees) enterprises earning a premium over those working in small to medium enterprises.

Multivariate Analysis

Simple comparisons of weekly earnings, as presented earlier, do not take account of the differing composition of private sector and public sector employees with regard to education, gender, experience etc. It is important to control for all of these characteristics when drawing comparisons between public and private sector pay. This report presents a typical multivariate model which controls for relevant factors such as age, gender, and education. This analysis did not attempt to match individuals across the two sectors, or to control for differences in job "types" etc. between the sectors. There may be other factors which impact on earnings for which we have no measures.

In accordance with the standard approach in the literature, the public-private wage differential was estimated in this analysis using the log of weekly earnings as the dependent variable. Weekly earnings are defined as gross earnings (before the deduction of tax, PRSI and superannuation) payable by organisations to its employees. It includes normal wages, salaries and overtime, taxable allowances, regular bonuses[3] and commissions, holiday and sick pay. It does not include benefit in kind, irregular bonuses and commissions, employer's PRSI, employer's pension contributions, redundancy payments or back pay.

The analyses were carried out on both weighted and unweighted data. For comparability with the recent publication by Kelly et al (2009), the main results presented in this report were based on weighted data. Some results on analyses based on unweighted data are presented for comparison purposes and more detailed results are provided in Appendices C and D.

It should be noted that there are issues surrounding the use of survey weights in multivariate analysis. Survey weights are designed to make the sample representative of the population so that summary statistics such as means and cross-tabulations will be unbiased. Their use in multivariate analyses

[3] A regular bonus is defined as a bonus received every pay period although the amount may vary from period to period.

involving correlations between variables is not straightforward. There are numerous problems associated with constructing accurate survey weights for use in regression analysis, see Gelman (2007), Fazio et al (2006) and Winship and Radbill (1994). The survey weights associated with the NES October 2007 were constructed based on NACE sector, education group, public-private sector, occupation, gender, full-time/part-time status and age group, and as most of these variables were already controlled for in the models presented here, the use of these survey weights may be problematic. For this reason, unweighted regression results are also presented in this report.

Three types of analyses are used:

(a) Ordinary least squares regression analysis
(b) Blinder-Oaxaca decompositions
(c) Quantile regression

(a) Basic weekly earnings regression

An ordinary least square (OLS) regression was used to model the natural log of weekly earnings on a set of explanatory variables that account for some of the variation in earnings. Details of the OLS methodology are available in Appendix F. This standard OLS model is widely used in the analysis of gender and public-private wage gaps in both the national and international literature. The approach adopted in this report is similar to that used in Belman and Heywood (2004) and used the following explanatory variables:

(i) occupation, (ii) educational attainment, (iii) full-time status, (iv) gender, (v) public or private sector, (vi) nationality, (vii) membership of a trade union, (viii) membership of a professional body, (ix) age, (x) age-squared[4], (xi) size of enterprise, (xii) permanent/non-permanent job status, (xiii) length of service with current employer, (xiv) total length in employment, (xv) log[5] of overtime hours (38+) worked, (xvi) log of hours worked, (xvii) shift work and (xviii) supervisory status.

The approach is sometimes referred to as a hybrid approach (Belman and Heywood (1996), Bender and Elliott (2007)) in that it accounts both for differences in the characteristics of the employees in the two sectors, and for differences in the characteristics of the workplace. Models both including and excluding size of enterprise[6] as an explanatory variable were considered in this analysis, and while we focus on the results including size, full details of the models excluding size are included in Appendix C. In an analysis of the determinants of earnings in the private sector (see Appendix D, Tables D1 and D2) the size of enterprise is found to be a significant factor in explaining earnings. Since public sector organisations are generally large (250 or more employees) organisations, and there is evidence that workers in large private organisations are paid more, the expectation is that including the size of enterprise as an

[4] Age-squared was used as an explanatory variable to capture the non-linear relationship between earnings and age.
[5] In line with Murphy and Ernst & Young (2007).
[6] Boyle, McElligott and O'Leary (2004) include firm size as an explanatory variable in their analysis of European Community Household Panel (ECHP) 1994-2001 data. Murphy and Ernst & Young (2007) analyse models that include and exclude size separately. Kelly et al. (2009) exclude size as an explanatory variable.

explanatory variable will decrease the public sector premium. According to Chatterji and Mumford (2007) it is important to include workplace specific variables in the model to account for potential gains in the marginal product of labour arising from these variables, particularly in the private sector.

The analysis focuses on *all* employees, as well as a permanent full-time employees aged 25 – 59, which is a well established cohort in the published literature. Separate OLS regression equations were also estimated for males and females on each of these sub-groups.

(b) The Blinder-Oaxaca Decomposition

The public-private sector wage differential calculated using the OLS regression method, described above, is limited in the information it provides about the differential. While it takes account of individual characteristics, it assumes that the return on these characteristics is the same for both the public and private sectors.

In the Blinder-Oaxaca[7] method, separate OLS equations are calculated for the public and private sectors. Using the estimated parameters from the two models, the differential can be decomposed into the part that can be explained by the different attributes of individuals and the characteristics of their workplace in the public and private sectors with the remainder representing the unexplained part of the differential. This unexplained part of the decomposition can be interpreted as the public-private pay differential. For further details on the Blinder-Oaxaca decomposition, see Appendix F.

Although developed for analysis of gender earnings differentials, the Blinder-Oaxaca decomposition is currently considered the preferred method of calculating the public–private wage differential in the literature. In keeping with Kelly et al (2009), the reference category[8] used for the Blinder-Oaxaca decompositions was the private sector.

(c) Quantile Regression

OLS regression is limited in the information that it can provide about earnings as it only estimates average earnings corresponding to the various explanatory variables. In Figure 3, earlier, the differences in the distribution of earnings between public and private sectors is shown. Quantile regression is used when an estimate at various points in the distribution is required (quantiles or percentiles) rather than simply estimating the mean. It is widely used in the literature on the public-private sector wage gap as it allows us to examine how the public sector differential varies across the earnings distribution.

[7] Blinder (1973), Oaxaca (1973).

[8] The Blinder-Oaxaca decomposition is not unique and the choice of reference group affects the results. Results were also calculated using the public sector as the reference group but these results negate the effect that size of enterprise has as an explanatory variable. Results based on calculations that used public as the reference group are available from the CSO on request.

Results

The OLS regression results and the Blinder-Oaxaca decompositions are summarised in Tables 2a and 2b. Only the estimated public sector premia[9] are presented in the following tables. More detailed OLS regression model results and Blinder-Oaxaca decompositions, both including and excluding size of enterprise as an explanatory variable, are provided in Appendix C.

The results reported in Table 2a suggest that, on average, an employee in the public sector earned a premium, holding all other explanatory variables constant, compared with an employee in the private sector. The size of the differential was a function of which subset of the NES 2007 sample was being considered as well as which variables were used in the model. The public sector premium also differed for males and females, with males receiving a smaller premium than females in all of the instances modelled. The use of weighted data rather than unweighted data had the effect of increasing the estimated public sector premia.

Table 2a – Estimates of the Public Sector Premia *(Size of enterprise included as an explanatory variable)*

Weighted Results

Estimated Public Sector Premium (weekly earnings)	Males & Females	Males	Females
All Employees			
Blinder-Oaxaca Decomposition	**19.1%**	**14.8%**	**22.9%**
OLS Regression	**17.8%**	**16.1%**	**18.6%**
Permanent Full-Time Employees Aged 25 - 59			
Blinder-Oaxaca Decomposition	**12.6%**	**10.4%**	**15.1%**
OLS Regression	**13.7%**	**12.9%**	**13.8%**

If the size of enterprise is *included* as an explanatory variable then the Blinder-Oaxaca results show that for *all* employees, the public sector received a 19.1% earnings premium over those working in the private sector. The earnings premium for *all* males working in the public sector was on average 14.8% with a premium of 22.9% for *all* females.

[9] The estimated premia presented in Tables 2a and 2b were derived from the estimated OLS regression coefficients and the unexplained component of the Blinder-Oaxaca decompositions. The premia were calculated as the antilog of the coefficient minus 1.

In keeping with other published analyses[10] on previous NES data, this report also looked at permanent, full-time employees aged 25–59. The average premium received by public sector employees in this cohort was 12.6%. The earnings premium for permanent, full-time males aged 25 - 59 working in the public sector was on average 10.4% for males and 15.1% for females.

When this analysis was conducted on unweighted data the resulting premia were generally smaller. For *all* employees the estimated premium was 16.1% and for permanent full-time employees aged 25-59 the premium was 10.8%. For further details of the unweighted results see Appendix C.

It is noteworthy that when an OLS analysis was carried out for private sector employees only, a premium of 11.6% was estimated for employees working in large enterprises (i.e. enterprises employing more than 250 employees) over those employees working in small to medium enterprises. When this analysis was repeated for permanent full-time employees aged 25-59, a premium of 13.4% was received by those working in large enterprises. Results for these analyses are available in Appendix D.

Table 2b shows that if the size of enterprise is *excluded* as an explanatory variable then the Blinder-Oaxaca decomposition results show that for *all* employees, the premium received by the average public sector employee was 25.1%. The earnings premium for *all* males working in the public sector was on average 20.8% with a premium of 29.6% for *all* females. When permanent, full-time employees aged 25–59, were analysed, the premium received by the average public sector employee was 18.3%, (16.2% for males and 21.2% for females).

Table 2b – Estimates of the Public Sector Premia *(Size of enterprise excluded as an explanatory variable)*

Weighted Results

Estimated Public Sector Premium (weekly earnings)	Males & Females	Males	Females
All Employees			
Blinder-Oaxaca Decomposition	**25.1%**	**20.8%**	**29.6%**
OLS Regression	**24.4%**	**22.4%**	**26.2%**
Permanent Full-Time Employees Aged 25 - 59			
Blinder-Oaxaca Decomposition	**18.3%**	**16.2%**	**21.2%**
OLS Regression	**20.1%**	**19.2%**	**21.4%**

[10] Murphy and Ernst & Young (2007) considered this particular sub-group more appropriate as a benchmark. This is also the sub-group analysed by Kelly et al. (2009).

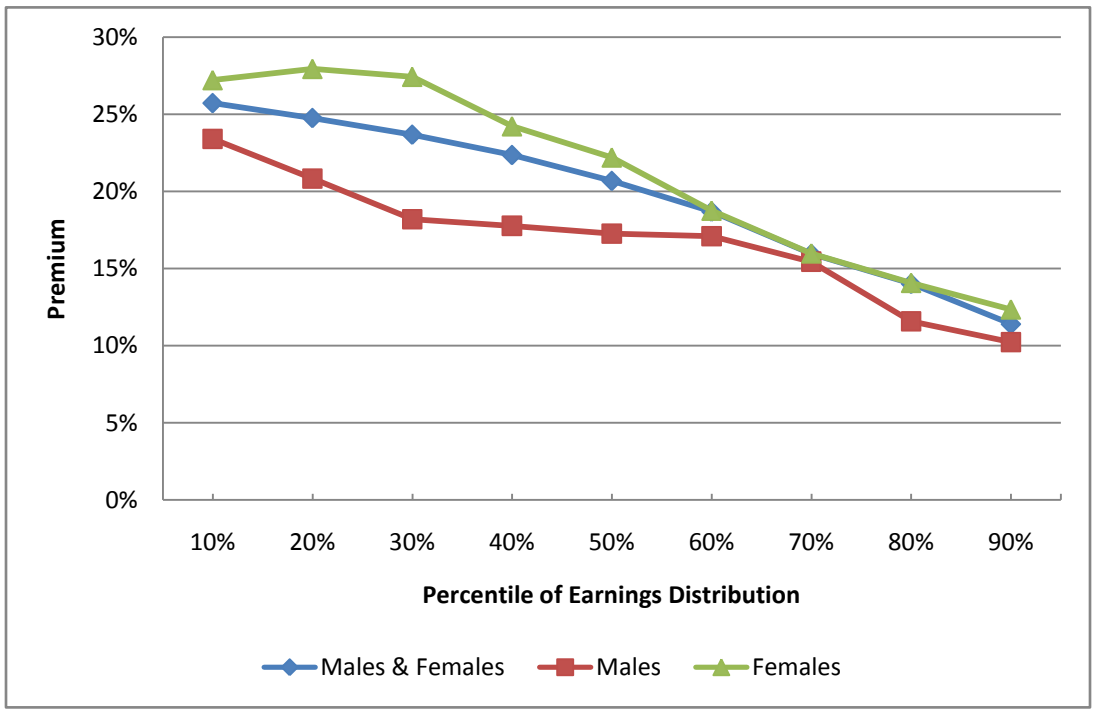
In all of the OLS regressions, the public-private sector dummy variable was statistically significant in explaining the weekly earnings reported by employees. In general, all of the explanatory variables used to explain weekly earnings were statistically significant and in the expected direction (had the expected sign). Since most public sector organisations are large (250 or more employees), size of enterprise adds no explanatory power to earnings within that sector. However in the private sector models, size of enterprise *was* found to be significant.

It is possible to estimate how well the models explained the variations observed. The coefficient of determination (the R-Square) is a measure of the goodness-of-fit. Each of the models analysed displayed a relatively high R-Square indicating that the variation in the variable being modelled (log of weekly earnings) was effectively explained by the explanatory variables. The actual R-Square values are reported in the detailed multivariate results in Appendices C and D.

Quantile Regression Results

Figure 4 shows the premia at various points in the earnings distribution based on quantile regression analysis for *all* employees. The analysis was again based on a regression model that included the size of enterprise as an explanatory variable. The quantile regression results clearly show that the public sector premium was highest for those at the lower end of the earnings distribution.

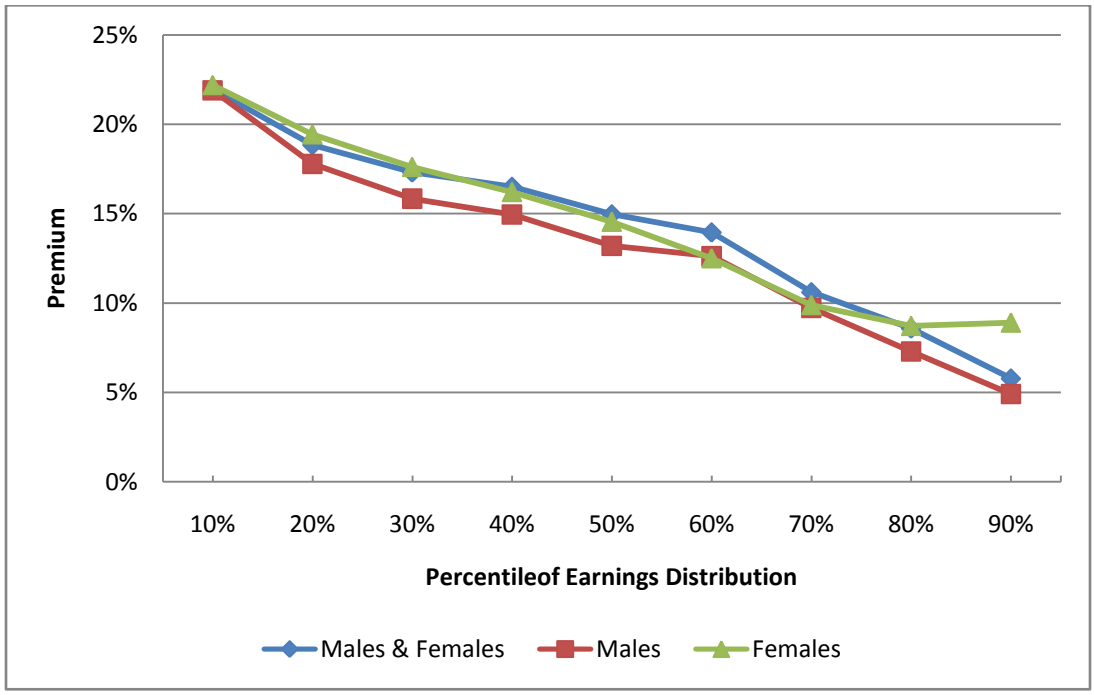
Figure 4. Public service premia (%) across weekly earnings distribution for All Employees – including size as an explanatory variable (Weighted)



For males and females combined, the premium decreased consistently as earnings increased. At the 10th percentile of earnings the premium was 25.7% and reduced to 11.4% at the 90th percentile. For males the premium also decreased, from 23.4% at the 10th percentile to 10.2% at the 90th percentile[11]. The public sector premium was higher for females at each of the percentiles across the earnings distribution. The premium for females was 27.2% at the 10th percentile and peaked at 27.9% at the 20th percentile before declining to 12.4% at the 90th percentile.

Similar quantile regression analysis was performed on permanent full-time employees aged 25-59 and is summarised in Figure 5. The trend across the distribution of earnings was similar to that for *all* employees. However, the magnitude of the premia was smaller for this sub-group.

Figure 5. Public service premia (%) across weekly earnings distribution for Permanent Full-time Employees aged 25-59 – including size as an explanatory variable (Weighted)



At the 10th percentile of earnings, for permanent full-time employees aged 25-59, the premium was 22% and decreased to 5.8% at the 90th percentile[12]. A premium existed for females employed in the public sector at each of the estimated percentiles, and varied from 22.2% at the 10th percentile to 8.9% at the 90th percentile. For males, the premium was 21.9% at the 10th percentile and decreased to 4.9% at the 90th percentile.

[11] These trends continued into the top decile of earnings. For *all* employees the premium was 5.8% at the 99th percentile. For *all* males, the premium was 1.1% at the 99th percentile.

[12] For permanent full-time employees aged 25-59 these trends continued into the top decile. For males and females combined the premium was 0.5% at the 99th percentile. For males the premium actually became a discount of 1.8% at the 98th percentile. For females the premium averaged around 10% throughout the top decile.

Similar analysis was conducted using unweighted data and while the overall trend across the distribution of earnings was similar to the weighted analysis, the estimated premia using the unweighted data was smaller at each percentile. In the unweighted quantile regression analysis, the pay differential became a discount for the public sector at the 99th percentile for *all* employees, and at the 90th percentile for permanent full-time employees aged 25-59. Another noteworthy difference when using unweighted data was that there was a more pronounced difference between the premia for males and females. More detailed results of the quantile regression analysis, including the unweighted results, are available in Appendix E.

Analysis of Large Enterprises Only

This analysis shows that size of enterprise is an important determinant of earnings in the private sector; for *all* employees a premium of 11.6% was estimated for those working in large enterprises over those working in small to medium enterprises (13.4% for permanent full-time employees aged 25-59). When a public-private wage differential was calculated using weighted data for large enterprises only, the estimated premium was 18.5% for *all* employees and 11.6% for permanent full-time employees aged 25-59. (See Appendix D, Tables D1 and D2).

Limitations

This analysis attempts to explain the different components that account for the public-private pay differential in weekly earnings in the NES October 2007. It is acknowledged that the estimated premium is sensitive to the methodology adopted as well as to the specification of the model used. This report attempts to be transparent in the approach adopted.

While trade-union membership was statistically significant in explaining some of the variation in earnings, there are issues to be considered; firstly, there is a tendency for workers with a trade union presence to benefit from a company pay-policy influenced by trade-unions for all workers regardless of whether they are members or not, so the model here may understate the trade-union premium. Secondly, membership of trade-unions is considerably more prevalent in the public sector so there may be issues of collinearity between trade-union membership and sector. Similarly, within the private sector, non union membership is not necessarily coterminous with low rates of pay. However, according to Greene (2003) one has to counter this concern with the more serious issue of omitted variable bias; excluding this variable from the model may have the effect of biasing the public sector premium upwards. Trade union membership was included as an explanatory variable in all the models covered in this report.

This analysis did not attempt to match individuals across the two sectors, or to control for differences in job “types” etc. between the sectors.

Weekly earnings, as mentioned earlier, are gross earnings and only include normal wages, salaries and overtime, taxable allowances, regular bonuses and commissions, holiday and sick pay. This analysis does not take into account or make any allowances for benefit in kind, both irregular bonuses and commissions, employer's PRSI, employer's pension contributions, redundancy payments or back pay.

Conclusions

The results presented in this report suggest that, on average, holding other characteristics and attributes constant, employees in the public sector earned a premium over employees in the private sector. The public sector premium varied for males and females with males receiving a smaller premium than females. The estimation of the public sector premium is influenced by the model selection, with the exclusion of the size of enterprise as an explanatory variable increasing the public sector premium.

Including the size of enterprise as an explanatory variable, the Blinder-Oaxaca decomposition results showed that the public sector received a 19.1% earnings premium over those working in the private sector. The earnings premium for all males working in the public sector was on average 14.8% with a premium of 22.9% for all females. This analysis also focused on permanent, full-time employees aged 25-59 years and yielded a public sector wage premium of 12.6% (10.4% for males and 15.1% for females).

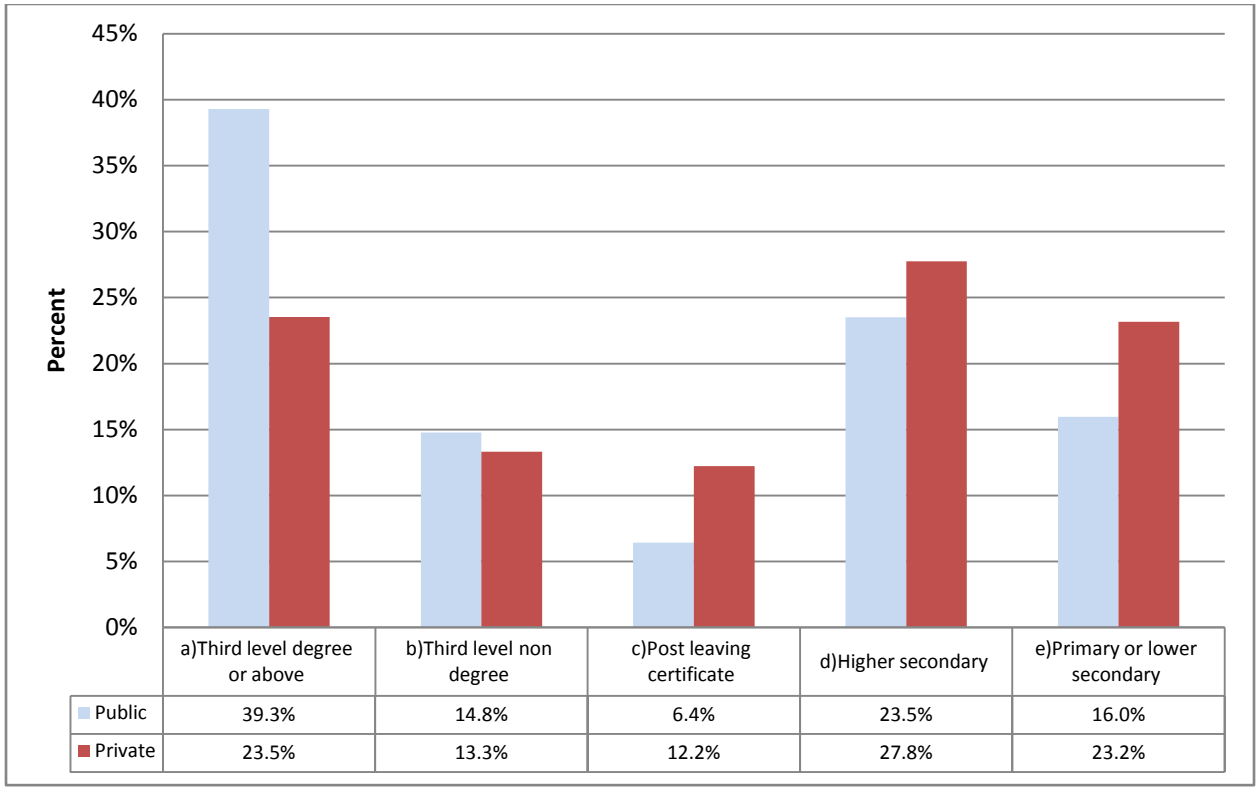
The data was also modelled using quantile regression. These results showed that the premium was highest at the lower end of the earnings distribution and, in general, decreased as earnings increased. For *all* employees, at the 10^{th} percentile of earnings the premium was 25.7% and reduced to 11.4% at the 90^{th} percentile. For permanent full-time employees aged 25-59 the corresponding figures were 22% at the 10^{th} percentile, and decreased to 5.8% at the 90^{th} percentile.

Appendix A

Summary Statistics for Permanent Full-Time Employees Aged 25-59 Years

As well as earnings data, the NES 2007 contained a wide range of data on the background characteristics of each individual employee (see Appendix B for more details and definitions of the variables collected). The profiles of the public sector and private sector employees differed in a number of ways. An analysis of educational qualifications in the public and private sectors showed that 39.3% of public sector employees had a third level degree or higher qualification compared with 23.5% in the private sector. In the private sector 16% of employees had a primary or lower secondary qualification while in the public sector, this figure was 23.2%. *See Figure A1.*

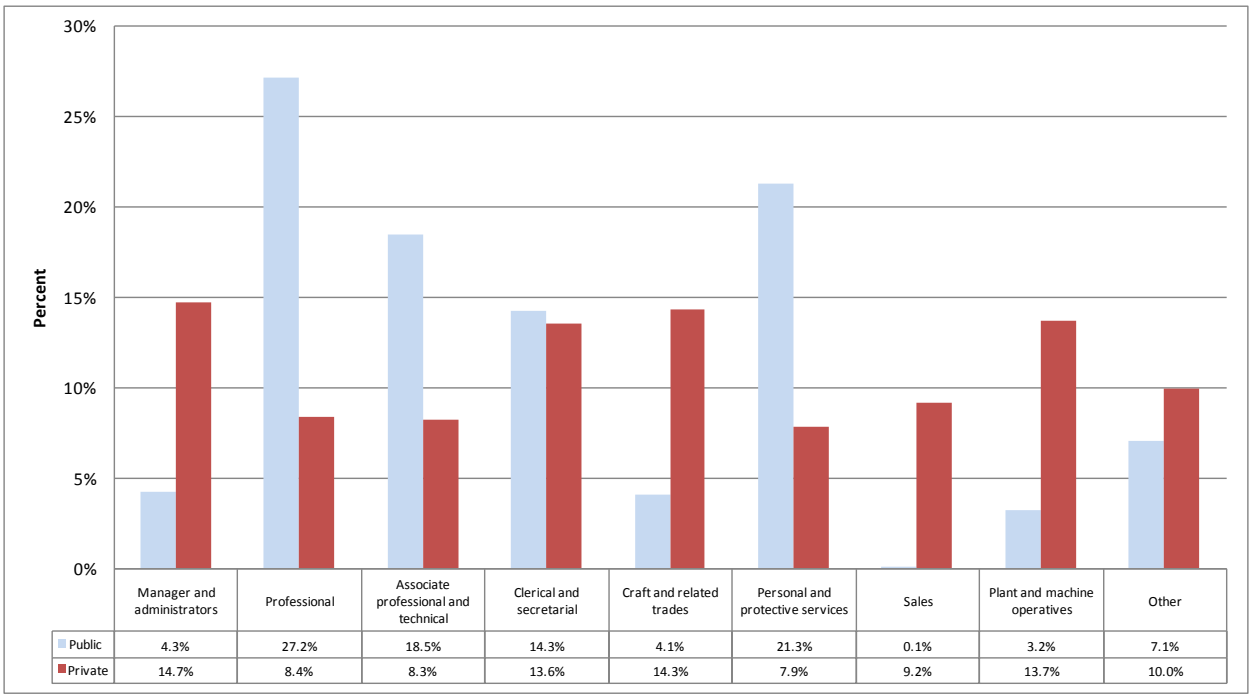
Figure A1. Distribution of highest educational attainment by employment sector, Permanent Full-Time Employees Aged 25-59



	a)Third level degree or above	b)Third level non degree	c)Post leaving certificate	d)Higher secondary	e)Primary or lower secondary
Public	39.3%	14.8%	6.4%	23.5%	16.0%
Private	23.5%	13.3%	12.2%	27.8%	23.2%

There was also a noticeable difference in the structure of employment in the two sectors. In the private sector, 14.7% of employees were Managers compared with 4.3% in the public sector. Over 27% of public sector workers described themselves as Professional, compared with 8.4% in the private sector. In contrast, only 0.1% of public sector employees were categorised in Sales occupations whereas this figure was 9.2% in the public sector. *See Figure A2.*

Figure A2. Distribution of occupation by employment sector, Permanent Full-Time Employees Aged 25-59



	Manager and administrators	Professional	Associate professional and technical	Clerical and secretarial	Craft and related trades	Personal and protective services	Sales	Plant and machine operatives	Other
Public	4.3%	27.2%	18.5%	14.3%	4.1%	21.3%	0.1%	3.2%	7.1%
Private	14.7%	8.4%	8.3%	13.6%	14.3%	7.9%	9.2%	13.7%	10.0%

Table A1 presents a summary of some of the information collected in the NES. The summary statistics are based on the weighted sample data.

The average public service weekly earnings were over 24% higher than the private sector. The corresponding premium for hourly earnings was almost 36%. The male premium for hourly earnings was 31.2% and for females it was 48.5%. The hourly earnings for males were €22.88 and €21.20 for females. The gender gap was smaller in the public service where the hourly earnings were on average 4.3% higher for males than for females, compared with 18% higher in the private sector.

Public service employees tended to be older that those in the private sector; the average age in the public sector was 40.7 years, compared with 37.7 in the private sector.

Employees in the public sector had spent on average 13.3 years with their current employer. This figure was 9.4 years for the private sector. Similarly, public sector employees had more overall experience than

those in the private sector, with 18.9 years in total paid employment compared with 16.3 for the private sector.

Table A1: Descriptive Statistics – Weighted NES 2007 Data – Permanent Full-time Employees 25-59

Summary Data - Means

	Male			Female			Total		
	Public	**Private**	**Total**	**Public**	**Private**	**Total**	**Public**	**Private**	**Total**
n	*4,031*	*16,321*	*20,352*	*4,423*	*10,272*	*14,695*	*8,454*	*26,593*	*35,047*
Earnings per week (€)	1057.89	850.48	884.38	905.95	663.95	738.41	973.71	784.59	826.35
Earnings per hour (€)	28.57	21.77	22.88	27.40	18.45	21.20	27.92	20.60	22.21
Age (Years)	42.2	38.5	39.1	39.5	36.2	37.2	40.7	37.7	38.4
Length of service with current employer (Years)	15.5	10.1	11.0	11.6	8.0	9.1	13.3	9.4	10.2
Total time in all paid employment (Years)	21.6	17.7	18.3	16.8	13.8	14.7	18.9	16.3	16.9
Hours worked per week	38.7	39.8	39.6	34.0	36.5	35.8	36.1	38.7	38.1
Trade-union membership (%)	74.3	30.3	37.5	74.6	24.2	39.7	74.5	28.1	38.3
Professional body membership (%)	18.7	13.9	14.7	24.9	14.8	17.9	22.2	14.2	16.0
Working shifts (%)	44.9	25.7	28.8	25.8	22.8	23.7	34.3	24.7	26.8
Percentage supervising staff (%)	34.8	40.8	39.9	34.4	37.9	36.9	34.6	39.8	38.7

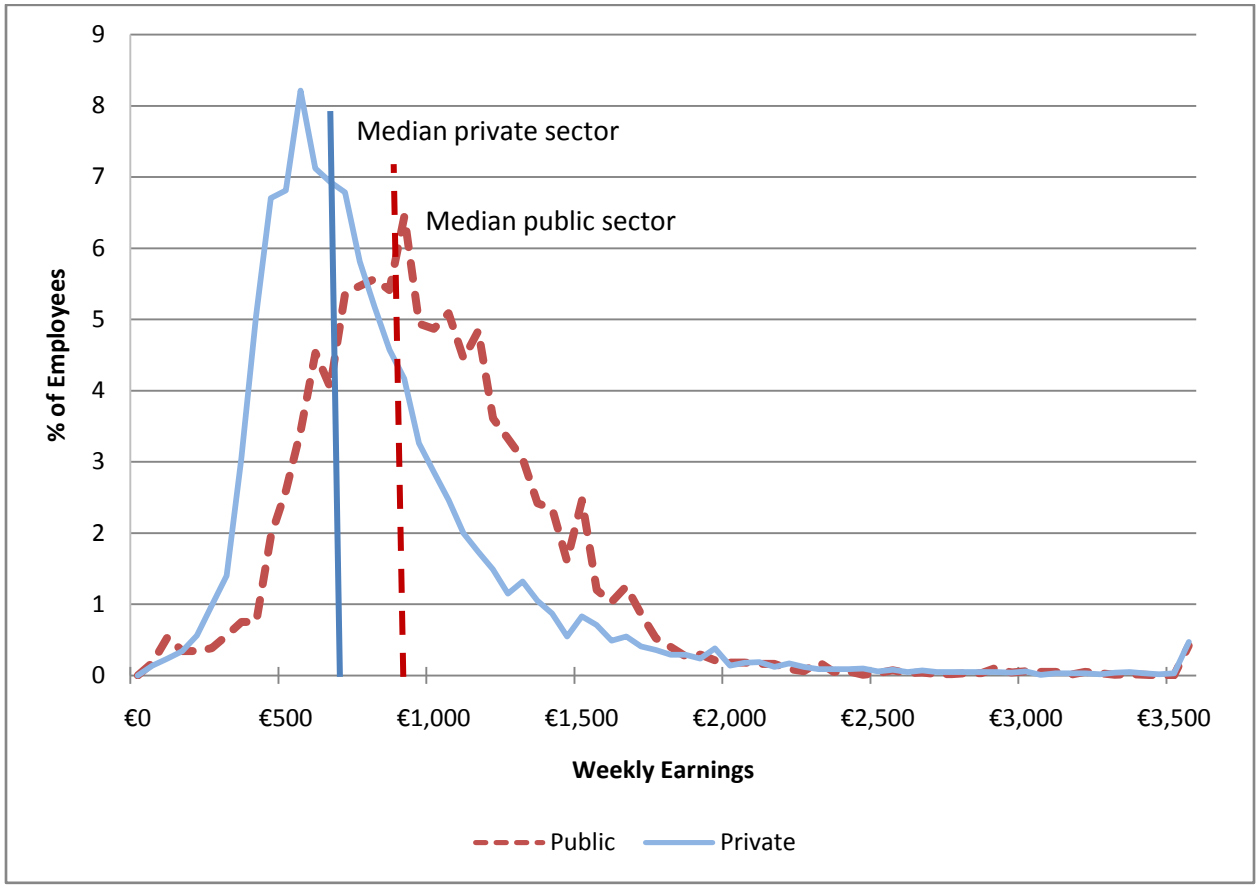
Summary Data - Medians

	Male			Female			Total		
	Public	**Private**	**Total**	**Public**	**Private**	**Total**	**Public**	**Private**	**Total**
n	*4,031*	*16,321*	*20,352*	*4,423*	*10,272*	*14,695*	*8,454*	*26,593*	*35,047*
Earnings per week (€)	977.50	724.25	766.50	861.50	568.75	642.75	912.87	668.60	716.45
Earnings per hour (€)	24.01	18.00	18.95	23.69	15.34	17.48	23.83	17.00	18.41
Age (Years)	43.0	37.0	38.0	39.0	34.0	35.0	40.0	36.0	37.0
Length of service with current employer (Years)	12.0	7.0	8.0	8.0	6.0	7.0	9.0	7.0	7.0
Total time in all paid employment (Years)	22.0	16.0	17.0	15.0	12.0	12.0	18.0	14.0	15.0
Hours worked per week	39.0	39.3	39.0	35.0	37.5	37.3	36.0	39.0	39.0

Employees in the private sector worked on average a longer week than those in the public sector. The average number of hours worked per week in the public sector was 36.1 compared with 38.7 in the private sector.

Figure A3 shows the distribution of weekly earnings in both the public and private sectors. It is clear from the graph that the earnings distribution for the private sector was more positively skewed than that for the public sector. There was a higher concentration of employees from the private sector at the lower end of the earnings distribution.

Figure A3. Distribution of Weekly Earnings, Permanent Full-Time Employees Aged 25-59.



Appendix B

Variable Definitions & Interpretation of Regression Results

Earnings

This is defined as gross earnings (before the deduction of tax, PRSI, superannuation) payable by organisations to its employees. It includes normal wages, salaries and overtime, taxable allowances, regular bonuses and commissions, holiday and sick pay. It does not include irregular bonuses and commissions, employer's PRSI, redundancy payments and back pay.

Hours

This is defined as total paid contracted hours plus paid overtime hours. It includes paid leave and excludes unpaid leave and unpaid overtime.

Nationality

Irish: Republic of Ireland.

EU15 excluding Ireland: Great Britain and Northern Ireland, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Netherlands, Italy, Luxembourg, Portugal, Spain, and Sweden.

Accession States EU15 to EU27: Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, and Slovenia.

Other nationalities: All other nationalities not included in the above three groupings as well as those who could not be coded (the uncoded employees represented approximately 1.2% of all employees).

Public Sector

The Public Sector includes:

- Civil Service;
- Defence Forces;
- Garda Síochána;
- Local Authorities;
- Education (excluding private institutions)
- Regional Bodies
- Health (excluding private institutions)
- Semi-State Bodies (excluding their subsidiary companies)

Explanatory Variables

The tables in Appendices C and D present the detailed results of the various models described earlier. The dependent variable for all models was the natural log of weekly earnings, and the explanatory variables were:

- Occupation (d),
- Educational attainment (d),
- Full-time status (d),
- Gender (d),
- Public or private sector (d),
- Nationality (d),
- Membership of a trade union (d),
- Membership of a professional body (d),
- Age (years),
- Age-squared,
- Size of enterprise (greater or smaller than 250 employees) (d),
- Permanent/non-permanent job status (d),
- Length of service with current employer (years),
- Total time in paid employment (years),
- Log of overtime hours worked,
- Log of hours worked,
- Shift work (d),
- Supervisory status (d).

Dummy variables, denoted with (d) above, were used in the regression models to estimate the effects for all of the categorical explanatory variables.

The models analysed are presented both including and excluding size of enterprise as an explanatory variable.

In this analysis, the following factors were not considered:

- Tenure,
- Pension values,
- Annual leave entitlement,
- Unpaid overtime and
- Irregular payments.

Interpretation of the regression results

The column labelled “Estimate” in the following regression results tables contains the estimated parameters (i.e. β coefficients) from the regression equation.

For the continuous explanatory variables (e.g. length of service with the current employer), these estimated parameters can be interpreted as the percentage change in weekly earning per unit change of

the explanatory variable. For example, in Table C5, the estimated regression coefficient for "length of service with current employer" is 0.005. This value may be interpreted as follows: holding all other variables constant, average weekly earnings increases by 0.5% for every additional year's service with the current employer.

The estimated models contain two explanatory variables which were analysed on the log-scale (log of over-time hours and log of hours). These coefficients can be interpreted as the percentage change in weekly earnings as a result of the percentage change in the relevant explanatory variable holding all other variables constant. For example, in Table C5, the coefficient for "Ln Hours" is 0.909. This value may be interpreted as follows: holding all other variables constant, for a 1% increase in hours worked per week average weekly earnings increases by 0.909%.

For the dummy explanatory variables (e.g. sector of employment), interpretation of the estimated parameters is more complicated. For example, in Table C5, the coefficient for "public sector" is 0.164. Generally, in the literature, this figure would be interpreted as a 16.4% premium for public sector employees. However, the strict interpretation is that the estimated coefficient measures the premium in terms of log weekly earnings rather than weekly earnings. To estimate the premium in terms of average weekly earnings we need to get the anti-log of the estimated coefficient and subtract 1. For this example we find the antilog of 0.164 ≈ 1.178. Subtracting 1 from this we obtain 0.178 or 17.8%; the public sector premium is 17.8%.

The estimated coefficients for the categorical variables in the regression models compare average weekly earnings for each of the categories in comparison to the reference category. For example the reference category for nationality is "Irish", therefore this is used as the base comparison group for each of the other nationality classes. For example, in the first column of Table C5, the coefficient for "EU15 excluding Ireland" is -0.048. This value may be interpreted as follows: holding all other variables constant, an employee from "EU15 excluding Ireland" would be expected to receive approximately 4.9% less in weekly earnings than an "Irish" employee.

The reference categories used in the regression analyses for the categorical variables are as follows:

- Occupation = Other,
- Education attained = Primary or Lower Secondary,
- Full-time/Part-time Status = Part-time,
- Gender = Female,
- Public/Private Sector = Private,
- Nationality = Irish,
- Trade Union Membership = Not a Trade Union Member,
- Professional Body Membership = Not a Member of a Professional Body,
- Size of Enterprise = 250 or more employees,
- Job status = Not Permanent,
- Shift work = No shift work,
- Supervision of staff = Does not supervise staff.

Appendix C – Detailed Regression Results

Table C1 – Estimates of the Public Sector Premia *(Size of enterprise included as an explanatory variable)*

Unweighted

Estimated Public Sector Premium (weekly earnings)	Males & Females	Males	Females
All Employees			
Blinder-Oaxaca Decomposition	16.1%	10.5%	21.3%
OLS Regression	14.0%	10.0%	17.9%
Permanent Full-Time Employees Aged 25 - 59			
Blinder-Oaxaca Decomposition	10.8%	8.1%	14.3%
OLS Regression	10.1%	7.3%	12.9%

Table C2 – Estimates of the Public Sector Premia *(Size of enterprise excluded as an explanatory variable)*

Unweighted

Estimated Public Sector Premium (weekly earnings)	Males & Females	Males	Females
All Employees			
Blinder-Oaxaca Decomposition	21.7%	16.6%	26.5%
OLS Regression	19.5%	15.5%	23.4%
Permanent Full-Time Employees Aged 25 - 59			
Blinder-Oaxaca Decomposition	16.0%	13.7%	19.2%
OLS Regression	15.1%	12.6%	17.9%

Table C3: Components of Blinder-Oaxaca Decomposition

Weighted Results

INCLUDING SIZE OF ENTERPRISE AS AN EXPLANATORY VARIABLE

	All Employees		
	Males & Females	**Males**	**Females**
Raw Differential	0.350	0.292	0.484
Explained	0.175	0.154	0.278
Unexplained	0.175	0.138	0.206

	Permanent Full-time Employees aged 25-59		
	Males & Females	**Males**	**Females**
Raw Differential	0.269	0.227	0.380
Explained	0.150	0.128	0.239
Unexplained	0.119	0.099	0.141

EXCLUDING SIZE OF ENTERPRISE AS AN EXPLANATORY VARIABLE

	All Employees		
	Males & Females	**Males**	**Females**
Raw Differential	0.352	0.295	0.484
Explained	0.128	0.106	0.225
Unexplained	0.224	0.189	0.259

	Permanent Full-time Employees aged 25-59		
	Males & Females	**Males**	**Females**
Raw Differential	0.271	0.230	0.379
Explained	0.103	0.080	0.188
Unexplained	0.168	0.150	0.192

Table C4: Components of Blinder-Oaxaca Decomposition

Unweighted Results

INCLUDING SIZE OF ENTERPRISE AS AN EXPLANATORY VARIABLE

	All Employees		
	Males & Females	**Males**	**Females**
Raw Differential	0.327	0.266	0.458
Explained	0.177	0.166	0.265
Unexplained	0.149	0.100	0.193

	Permanent Full-time Employees aged 25-59		
	Males & Females	**Males**	**Females**
Raw Differential	0.250	0.210	0.356
Explained	0.146	0.132	0.222
Unexplained	0.103	0.078	0.134

EXCLUDING SIZE OF ENTERPRISE AS AN EXPLANATORY VARIABLE

	All Employees		
	Males & Females	**Males**	**Females**
Raw Differential	0.327	0.266	0.458
Explained	0.131	0.112	0.222
Unexplained	0.196	0.154	0.235

	Permanent Full-time Employees aged 25-59		
	Males & Females	**Males**	**Females**
Raw Differential	0.250	0.210	0.356
Explained	0.101	0.082	0.181
Unexplained	0.148	0.128	0.176

List of Regression Tables

Table C5: OLS model estimates on log weekly earnings: Including size of enterprise as an explanatory variable

All Employees (Weighted Results)

	Males & Females		Males		Females	
Parameter	**Estimate**	**t Value**	**Estimate**	**t Value**	**Estimate**	**t Value**
Intercept	1.839	99.64	1.727	58.17	2.055	86.77
Occupation						
Manager and administrators	0.436	60.18	0.411	40.56	0.479	46.20
Professional	0.432	59.80	0.391	37.06	0.482	48.43
Associate professional and technical	0.222	31.46	0.167	15.46	0.280	29.79
Clerical and secretarial	0.096	15.20	0.018	1.72	0.164	19.51
Craft and related trades	0.144	22.25	0.119	15.10	0.068	3.53
Personal and protective services	0.032	5.17	0.005	0.51	0.076	9.04
Sales	0.010	1.43	0.017	1.63	0.029	3.24
Plant and machine operatives	0.054	7.85	0.020	2.34	0.097	7.17
Education attained						
Third level degree or above	0.287	53.06	0.277	34.41	0.298	40.87
Third level non degree	0.165	29.19	0.170	19.52	0.166	22.31
Post leaving certificate	0.116	20.49	0.133	17.72	0.075	8.55
Higher secondary	0.078	18.01	0.073	12.11	0.087	13.96
Full-time	0.174	35.85	0.228	22.22	0.150	27.83
Male	0.147	41.46				
Public sector	**0.164**[13]	**34.05**	**0.149**	**19.86**	**0.171**	**27.30**
Nationality						
EU15 excluding Ireland	-0.048	-5.91	-0.071	-6.02	-0.020	-1.83
EU Accession states	-0.133	-19.61	-0.126	-13.06	-0.141	-14.94
Other nationality	-0.094	-12.60	-0.131	-11.99	-0.049	-4.85
Trade Union Member	0.058	15.62	0.063	11.70	0.044	8.62
Member of a Professional Body	0.047	9.99	0.048	6.89	0.049	7.80
Age	0.035	45.40	0.044	37.49	0.025	23.49
Age^2	-0.403	-43.76	-0.493	-36.13	-0.287	-22.77
Less than 250 employees	-0.102	-26.69	-0.096	-16.90	-0.119	-23.02
Permanent	0.065	16.55	0.076	13.02	0.049	9.45
Length of service with current employer	0.005	21.78	0.004	11.93	0.007	20.41
Total time in all paid employment	0.004	17.16	0.004	12.22	0.003	8.74
Ln Overtime Hours	-0.012	-17.46	-0.013	-13.14	-0.014	-14.97
Ln Hours	0.909	224.32	0.926	125.04	0.904	193.68
Shift Work	-0.032	-8.74	-0.033	-6.06	-0.026	-5.13
Supervisor	0.075	20.68	0.089	17.30	0.059	11.66
n	60,022		29,526		30,496	
R-Square	0.766		0.680		0.806	

[13] The estimated premium is calculated taking exp(β) - 1, where β is the estimated coefficient above.

Table C6: OLS model estimates on log weekly earnings: Including size of enterprise as an explanatory variable

Permanent Full-Time Employees aged 25 - 59 (Weighted Results)

	Males & Females		Males		Females	
Parameter	**Estimate**	**t Value**	**Estimate**	**t Value**	**Estimate**	**t Value**
Intercept	2.030	43.22	2.077	31.46	2.200	32.76
Occupation						
Manager and administrators	0.436	47.85	0.431	36.70	0.471	31.68
Professional	0.397	42.25	0.384	31.07	0.444	29.41
Associate professional and technical	0.209	22.83	0.173	13.96	0.274	19.04
Clerical and secretarial	0.077	8.93	0.014	1.06	0.145	10.89
Craft and related trades	0.166	19.46	0.150	15.43	0.127	4.46
Personal and protective services	0.044	5.05	0.029	2.52	0.095	6.75
Sales	0.031	3.17	0.066	5.10	0.029	1.90
Plant and machine operatives	0.043	5.07	0.028	2.82	0.074	4.13
Education attained						
Third level degree or above	0.310	44.46	0.303	31.99	0.308	28.62
Third level non degree	0.182	25.29	0.181	18.26	0.178	16.29
Post leaving certificate	0.112	15.45	0.127	14.37	0.060	4.54
Higher secondary	0.082	14.36	0.083	11.49	0.077	7.90
Full-time						
Male	0.176	39.45				
Public sector	**0.129**[14]	**21.38**	**0.122**	**14.02**	**0.130**	**15.32**
Nationality						
EU15 excluding Ireland	-0.081	-8.18	-0.091	-6.79	-0.066	-4.55
EU Accession states	-0.207	-23.62	-0.189	-16.27	-0.230	-17.48
Other nationality	-0.142	-15.10	-0.178	-13.80	-0.090	-6.67
Trade Union Member	0.046	9.77	0.060	9.61	0.015	2.06
Member of a Professional Body	0.064	11.15	0.057	7.12	0.073	9.07
Age	0.039	20.67	0.045	17.94	0.030	10.62
Age^2	-0.468	-20.75	-0.528	-17.62	-0.381	-11.05
Less than 250 employees	-0.118	-24.48	-0.110	-16.97	-0.140	-19.70
Permanent						
Length of service with current employer	0.005	15.88	0.003	9.18	0.008	15.49
Total time in all paid employment	0.005	15.23	0.005	10.38	0.005	9.03
Ln Overtime Hours	-0.015	-17.25	-0.015	-12.25	-0.017	-13.36
Ln Hours	0.916	109.43	0.917	73.49	0.912	83.46
Shift Work	-0.028	-5.75	-0.027	-4.17	-0.018	-2.40
Supervisor	0.072	16.41	0.083	14.19	0.056	8.64
n	35,047		20,352		14,695	
R-Square	0.552		0.496		0.608	

[14] The estimated premium is calculated taking exp(β) - 1, where β is the estimated coefficient above.

Table C7: OLS model estimates on log weekly earnings: Excluding size of enterprise as an explanatory variable

All Employees (Weighted Results)

	Males & Females		Males		Females	
Parameter	**Estimate**	**t Value**	**Estimate**	**t Value**	**Estimate**	**t Value**
Intercept	1.749	95.81	1.630	55.70	1.962	83.34
Occupation						
Manager and administrators	0.436	59.79	0.413	40.58	0.474	45.32
Professional	0.442	60.82	0.407	38.60	0.481	47.93
Associate professional and technical	0.232	32.75	0.183	16.86	0.283	29.84
Clerical and secretarial	0.099	15.47	0.032	3.03	0.156	18.45
Craft and related trades	0.130	20.05	0.110	13.95	0.047	2.42
Personal and protective services	0.036	5.70	0.010	1.01	0.074	8.71
Sales	0.018	2.68	0.027	2.56	0.033	3.62
Plant and machine operatives	0.055	7.85	0.020	2.34	0.111	8.19
Education attained						
Third level degree or above	0.296	54.57	0.289	35.79	0.304	41.35
Third level non degree	0.170	30.00	0.178	20.40	0.168	22.39
Post leaving certificate	0.118	20.61	0.137	18.07	0.074	8.38
Higher secondary	0.080	18.47	0.077	12.69	0.087	13.86
Full-time	0.174	35.60	0.227	21.98	0.150	27.71
Male	0.144	40.39				
Public sector	**0.218**[15]	**49.66**	**0.202**	**29.34**	**0.233**	**41.07**
Nationality						
EU15 excluding Ireland	-0.038	-4.69	-0.061	-5.17	-0.010	-0.94
EU Accession states	-0.133	-19.39	-0.128	-13.20	-0.136	-14.32
Other nationality	-0.097	-12.84	-0.131	-12.01	-0.053	-5.18
Trade Union Member	0.080	21.86	0.080	15.12	0.074	14.74
Member of a Professional Body	0.045	9.59	0.047	6.70	0.046	7.36
Age	0.035	45.32	0.044	37.40	0.025	23.46
Age^2	-0.406	-43.84	-0.496	-36.13	-0.292	-22.94
Permanent	0.072	18.20	0.082	14.03	0.057	10.85
Length of service with current employer	0.005	21.78	0.004	11.86	0.008	20.45
Total time in all paid employment	0.004	16.80	0.004	12.24	0.003	8.21
Ln Overtime Hours	-0.012	-17.64	-0.013	-13.07	-0.014	-15.15
Ln Hours	0.910	223.30	0.929	124.77	0.905	192.21
Shift Work	-0.024	-6.42	-0.021	-3.95	-0.022	-4.21
Supervisor	0.070	19.22	0.083	16.12	0.055	10.69
n	60,022		29,526		30,496	
R-Square	0.763		0.677		0.802	

[15] The estimated premium is calculated taking exp(β) - 1, where β is the estimated coefficient above.

Table C8: OLS model estimates on log weekly earnings: Excluding size of enterprise as an explanatory variable

All Permanent Full-Time Employees (Weighted Results)

	Males & Females		Males		Females	
Parameter	**Estimate**	**t Value**	**Estimate**	**t Value**	**Estimate**	**t Value**
Intercept	1.913	40.60	1.950	29.52	2.088	30.80
Occupation						
Manager and administrators	0.436	47.53	0.433	36.58	0.467	30.96
Professional	0.411	43.44	0.403	32.47	0.448	29.24
Associate professional and technical	0.225	24.47	0.193	15.48	0.282	19.39
Clerical and secretarial	0.083	9.54	0.031	2.35	0.139	10.30
Craft and related trades	0.150	17.49	0.138	14.09	0.108	3.74
Personal and protective services	0.050	5.63	0.034	2.92	0.095	6.67
Sales	0.035	3.54	0.070	5.33	0.028	1.83
Plant and machine operatives	0.042	4.96	0.026	2.56	0.091	5.01
Education attained						
Third level degree or above	0.324	46.18	0.317	33.39	0.320	29.33
Third level non degree	0.191	26.32	0.192	19.26	0.182	16.48
Post leaving certificate	0.114	15.59	0.130	14.66	0.059	4.38
Higher secondary	0.086	14.94	0.087	11.97	0.080	8.05
Male	0.172	38.33				
Public sector	**0.183**[16]	**32.51**	**0.175**	**21.58**	**0.194**	**24.54**
Nationality						
EU15 excluding Ireland	-0.068	-6.82	-0.077	-5.75	-0.053	-3.65
EU Accession states	-0.208	-23.51	-0.192	-16.37	-0.227	-17.07
Other nationality	-0.145	-15.34	-0.178	-13.75	-0.097	-7.12
Trade Union Member	0.070	15.19	0.081	13.18	0.047	6.69
Member of a Professional Body	0.064	11.03	0.057	7.13	0.072	8.86
Age	0.039	20.73	0.045	18.07	0.030	10.56
Age^2	-0.475	-20.90	-0.537	-17.80	-0.388	-11.11
Length of service with current employer	0.005	16.40	0.004	9.39	0.008	16.08
Total time in all paid employment	0.005	15.05	0.005	10.40	0.004	8.62
Ln Overtime Hours	-0.015	-17.45	-0.015	-12.20	-0.017	-13.73
Ln Hours	0.921	109.11	0.922	73.46	0.917	82.77
Shift Work	-0.015	-3.14	-0.012	-1.89	-0.010	-1.41
Supervisor	0.064	14.61	0.075	12.73	0.049	7.55
n	35,047		20,352		14,695	
R-Square	0.545		0.489		0.597	

[16] The estimated premium is calculated taking exp(β) - 1, where β is the estimated coefficient above.

Table C9: OLS model estimates on log weekly earnings: Including size of enterprise as an explanatory variable

All Employees (Unweighted Results)

	Males & Females		Males		Females	
Parameter	**Estimate**	**t Value**	**Estimate**	**t Value**	**Estimate**	**t Value**
Intercept	1.843	92.66	1.645	51.85	2.136	83.77
Occupation						
Manager and administrators	0.493	64.92	0.471	46.06	0.507	43.38
Professional	0.428	66.00	0.409	41.89	0.449	51.83
Associate professional and technical	0.255	35.50	0.214	20.85	0.297	29.74
Clerical and secretarial	0.125	20.54	0.041	3.99	0.171	21.79
Craft and related trades	0.165	22.25	0.153	17.10	0.066	3.18
Personal and protective services	0.066	8.64	0.053	4.71	0.086	8.41
Sales	0.046	6.30	0.068	5.90	0.042	4.46
Plant and machine operatives	0.080	11.46	0.053	6.08	0.097	7.61
Education attained						
Third level degree or above	0.318	56.06	0.311	37.17	0.317	41.18
Third level non degree	0.177	31.40	0.181	21.23	0.168	22.32
Post leaving certificate	0.108	18.39	0.124	15.64	0.068	7.81
Higher secondary	0.091	18.75	0.096	13.84	0.082	12.00
Full-time	0.199	41.17	0.245	23.57	0.177	32.99
Male	0.143	40.29				
Public sector	**0.131**[17]	**28.52**	**0.095**	**13.54**	**0.165**	**27.08**
Nationality						
EU15 excluding Ireland	-0.050	-6.37	-0.070	-6.13	-0.031	-2.88
EU Accession states	-0.141	-18.15	-0.149	-13.47	-0.122	-11.28
Other nationality	-0.094	-12.15	-0.130	-11.39	-0.050	-4.91
Trade Union Member	0.059	15.33	0.056	9.95	0.054	10.55
Member of a Professional Body	0.053	12.00	0.062	9.39	0.050	8.53
Age	0.035	44.38	0.044	36.23	0.024	22.45
Age^2	-0.398	-43.78	-0.488	-35.43	-0.278	-22.54
Less than 250 employees	-0.097	-25.83	-0.105	-19.31	-0.091	-17.78
Permanent	0.047	11.43	0.057	9.07	0.036	6.78
Length of service with current employer	0.005	24.11	0.004	12.35	0.008	23.32
Total time in all paid employment	0.004	18.02	0.004	12.20	0.003	10.46
Ln Overtime Hours	-0.014	-20.99	-0.017	-17.11	-0.015	-15.84
Ln Hours	0.891	212.25	0.930	122.36	0.873	179.17
Shift Work	-0.030	-7.58	-0.006	-1.00	-0.054	-9.81
Supervisor	0.088	24.22	0.101	19.26	0.078	15.52
n	60,022		29,526		30,496	
R-Square	0.752		0.676		0.786	

[17] The estimated premium is calculated taking exp(β) - 1, where β is the estimated coefficient above.

Table C10: OLS model estimates on log weekly earnings: Including size of enterprise as an explanatory variable

Permanent Full-Time Employees aged 25 - 59 (Unweighted Results)

	Males & Females		Males		Females	
Parameter	**Estimate**	**t Value**	**Estimate**	**t Value**	**Estimate**	**t Value**
Intercept	1.962	39.70	1.781	25.26	2.336	33.81
Occupation						
Manager and administrators	0.488	50.88	0.480	39.81	0.502	31.04
Professional	0.416	47.72	0.397	34.12	0.448	33.15
Associate professional and technical	0.239	25.79	0.216	18.13	0.285	19.16
Clerical and secretarial	0.103	12.16	0.036	2.85	0.155	12.16
Craft and related trades	0.176	18.31	0.167	15.16	0.094	3.14
Personal and protective services	0.080	7.62	0.079	5.73	0.097	5.89
Sales	0.066	6.18	0.102	7.10	0.044	2.76
Plant and machine operatives	0.062	7.20	0.048	4.72	0.069	4.06
Education attained						
Third level degree or above	0.335	45.11	0.326	32.96	0.331	28.48
Third level non degree	0.187	25.35	0.185	18.79	0.180	15.74
Post leaving certificate	0.112	14.53	0.126	13.27	0.064	4.76
Higher secondary	0.093	14.17	0.094	11.31	0.087	7.96
Male	0.163	37.17				
Public sector	**0.096**[18]	**16.56**	**0.070**	**8.70**	**0.121**	**14.79**
Nationality						
EU15 excluding Ireland	-0.076	-7.83	-0.084	-6.50	-0.062	-4.36
EU Accession states	-0.208	-21.09	-0.208	-15.64	-0.193	-13.25
Other nationality	-0.123	-12.82	-0.159	-11.68	-0.075	-5.72
Trade Union Member	0.043	8.93	0.043	6.64	0.032	4.56
Member of a Professional Body	0.069	12.81	0.076	10.12	0.064	8.46
Age	0.041	21.65	0.051	19.32	0.031	10.98
Age^2	-0.495	-21.67	-0.578	-18.66	-0.394	-11.60
Less than 250 employees	-0.107	-23.02	-0.113	-18.29	-0.102	-14.74
Length of service with current employer	0.005	17.52	0.003	9.48	0.008	17.72
Total time in all paid employment	0.006	17.10	0.005	11.04	0.005	9.96
Ln Overtime Hours	-0.018	-20.05	-0.020	-16.47	-0.016	-12.91
Ln Hours	0.906	102.42	0.952	71.97	0.857	74.38
Shift Work	-0.020	-4.05	0.000	0.04	-0.050	-6.42
Supervisor	0.086	19.70	0.095	15.99	0.082	12.86
n	35,047		20,352		14,695	
R-Square	0.554		0.505		0.595	

[18] The estimated premium is calculated taking exp(β) - 1, where β is the estimated coefficient above.

Table C11: OLS model estimates on log weekly earnings: Excluding size of enterprise as an explanatory variable

All Employees (Unweighted Results)

	Males & Females		Males		Females	
Parameter	**Estimate**	**t Value**	**Estimate**	**t Value**	**Estimate**	**t Value**
Intercept	1.755	89.06	1.534	48.86	2.064	81.57
Occupation						
Manager and administrators	0.494	64.68	0.473	45.92	0.508	43.21
Professional	0.441	67.83	0.426	43.54	0.458	52.75
Associate professional and technical	0.265	36.78	0.228	22.12	0.303	30.22
Clerical and secretarial	0.126	20.62	0.054	5.16	0.167	21.24
Craft and related trades	0.156	20.87	0.145	16.16	0.053	2.55
Personal and protective services	0.071	9.29	0.060	5.27	0.089	8.65
Sales	0.051	7.00	0.074	6.37	0.045	4.80
Plant and machine operatives	0.085	12.17	0.057	6.53	0.112	8.74
Education attained						
Third level degree or above	0.324	56.95	0.323	38.42	0.318	41.11
Third level non degree	0.182	32.09	0.190	22.19	0.169	22.30
Post leaving certificate	0.109	18.43	0.128	16.01	0.066	7.55
Higher secondary	0.094	19.18	0.101	14.46	0.082	11.92
Full-time	0.200	41.13	0.243	23.28	0.178	33.10
Male	0.142	39.81				
Public sector	**0.178**[19]	**41.77**	**0.144**	**22.08**	**0.210**	**37.72**
Nationality						
EU15 excluding Ireland	-0.043	-5.40	-0.061	-5.29	-0.025	-2.37
EU Accession states	-0.139	-17.73	-0.149	-13.42	-0.117	-10.75
Other nationality	-0.094	-12.08	-0.130	-11.27	-0.050	-4.88
Trade Union Member	0.079	21.02	0.076	13.58	0.076	15.03
Member of a Professional Body	0.050	11.20	0.059	8.93	0.046	7.87
Age	0.036	44.52	0.045	36.42	0.024	22.43
Age^2	-0.403	-44.04	-0.495	-35.72	-0.280	-22.62
Permanent	0.054	13.04	0.064	10.07	0.043	8.04
Length of service with current employer	0.005	24.27	0.004	12.57	0.008	23.33
Total time in all paid employment	0.004	17.43	0.004	12.00	0.003	9.99
Ln Overtime Hours	-0.014	-20.89	-0.017	-16.87	-0.015	-15.81
Ln Hours	0.891	211.2	0.933	121.97	0.873	178.21
Shift Work	-0.021	-5.34	0.008	1.35	-0.049	-9.00
Supervisor	0.085	23.07	0.095	18.09	0.076	15.00
n	60,022		29,526		30,496	
R-Square	0.750		0.672		0.784	

[19] The estimated premium is calculated taking exp(β) - 1, where β is the estimated coefficient above.

Table C12: OLS model estimates on log weekly earnings: Excluding size of enterprise as an explanatory variable

Permanent Full-Time Employees aged 25 - 59 (Unweighted Results)

	Males & Females		Males		Females	
Parameter	**Estimate**	**t Value**	**Estimate**	**t Value**	**Estimate**	**t Value**
Intercept	1.863	37.55	1.653	23.37	2.267	32.64
Occupation						
Manager and administrators	0.488	50.52	0.481	39.59	0.500	30.71
Professional	0.428	48.83	0.414	35.37	0.454	33.36
Associate professional and technical	0.252	27.01	0.232	19.35	0.292	19.49
Clerical and secretarial	0.106	12.36	0.050	3.9	0.149	11.66
Craft and related trades	0.164	16.97	0.156	14.1	0.079	2.62
Personal and protective services	0.084	7.91	0.084	6.04	0.097	5.80
Sales	0.065	6.09	0.102	7.01	0.041	2.55
Plant and machine operatives	0.066	7.53	0.050	4.86	0.082	4.75
Education attained						
Third level degree or above	0.346	46.26	0.340	34.15	0.336	28.72
Third level non degree	0.195	26.26	0.196	19.73	0.184	15.93
Post leaving certificate	0.113	14.58	0.129	13.48	0.062	4.58
Higher secondary	0.097	14.69	0.099	11.81	0.088	8.04
Male	0.162	36.63				
Public sector	**0.141**[20]	**25.79**	**0.119**	**15.42**	**0.165**	**21.47**
Nationality						
EU15 excluding Ireland	-0.065	-6.7	-0.072	-5.52	-0.054	-3.75
EU Accession states	-0.207	-20.81	-0.208	-15.56	-0.190	-12.94
Other nationality	-0.123	-12.77	-0.156	-11.41	-0.077	-5.81
Trade Union Member	0.065	13.74	0.065	10.11	0.055	7.95
Member of a Professional Body	0.067	12.27	0.074	9.82	0.061	8.01
Age	0.042	21.73	0.051	19.46	0.031	10.91
Age^2	-0.503	-21.84	-0.590	-18.87	-0.397	-11.60
Length of service with current employer	0.005	18.15	0.004	9.97	0.008	18.12
Total time in all paid employment	0.006	16.85	0.005	11.03	0.005	9.65
Ln Overtime Hours	-0.018	-19.95	-0.020	-16.22	-0.017	-12.97
Ln Hours	0.908	101.9	0.958	71.81	0.857	73.86
Shift Work	-0.008	-1.62	0.016	2.48	-0.044	-5.57
Supervisor	0.082	18.49	0.088	14.73	0.080	12.43
n	35,047		20,352		14,695	
R-Square	0.547		0.497		0.589	

[20] The estimated premium is calculated taking exp(β) - 1, where β is the estimated coefficient above.

Appendix D – Separate OLS Regression Results for Public and Private Sector

List of Regression Tables

Table D1: OLS model estimates on log weekly earnings: Including size of enterprise as an explanatory variable

All Employees (Weighted Results)

	Public & Private		Public		Private	
Parameter	**Estimate**	**t Value**	**Estimate**	**t Value**	**Estimate**	**t Value**
Intercept	1.839	99.64	2.303	57.46	1.768	83.31
Occupation						
Manager and administrators	0.436	60.18	0.469	23.25	0.425	53.29
Professional	0.432	59.80	0.490	37.58	0.373	40.49
Associate professional and technical	0.222	31.46	0.253	19.74	0.228	26.41
Clerical and secretarial	0.096	15.20	0.078	5.85	0.110	15.26
Craft and related trades	0.144	22.25	0.104	6.18	0.145	20.30
Personal and protective services	0.032	5.17	0.100	8.49	0.001	0.13
Sales	0.010	1.43	-0.017	-0.30	0.003	0.41
Plant and machine operatives	0.054	7.85	0.047	2.26	0.049	6.46
Education attained						
Third level degree or above	0.287	53.06	0.343	32.42	0.257	40.80
Third level non degree	0.165	29.19	0.162	14.54	0.164	25.10
Post leaving certificate	0.116	20.49	0.076	6.08	0.119	18.67
Higher secondary	0.078	18.01	0.081	8.59	0.075	15.58
Full-time	0.174	35.85	0.145	17.28	0.176	29.99
Male	0.147	41.46	0.117	17.66	0.160	38.09
Public sector	**0.164**	**34.05**				
Nationality						
EU15 excluding Ireland	-0.048	-5.91	-0.022	-1.31	-0.051	-5.61
EU Accession states	-0.133	-19.61	-0.068	-1.33	-0.125	-17.66
Other nationality	-0.094	-12.60	-0.100	-6.66	-0.085	-9.92
Trade Union Member	0.058	15.62	0.047	7.42	0.061	13.45
Member of a Professional Body	0.047	9.99	0.011	1.46	0.061	10.49
Age	0.035	45.40	0.017	10.11	0.039	44.38
Age^2	-0.403	-43.76	-0.194	-9.90	-0.449	-42.72
Less than 250 employees	-0.102	-26.69	-0.001	-0.04	-0.110[21]	-27.02
Permanent	0.065	16.55	0.020	3.15	0.091	18.77
Length of service with current employer	0.005	21.78	0.009	21.45	0.004	14.29
Total time in all paid employment	0.004	17.16	0.002	3.86	0.005	17.36
Ln Overtime Hours	-0.012	-17.46	-0.010	-7.16	-0.013	-17.44
Ln Hours	0.909	224.32	0.927	134.55	0.906	184.10
Shift Work	-0.032	-8.74	0.006	0.85	-0.047	-10.88
Supervisor	0.075	20.68	0.031	4.48	0.094	22.19
n	60,022		15,161		44,861	
R-Square	0.766		0.773		0.758	

[21] The estimated differential is calculated taking exp(β) - 1, where β is the estimated coefficient above.

Table D2: OLS model estimates on log weekly earnings: Including size of enterprise as an explanatory variable

Permanent Full-Time Employees aged 25 - 59 (Weighted Results)

	Public & Private		Public		Private	
Parameter	**Estimate**	**t Value**	**Estimate**	**t Value**	**Estimate**	**t Value**
Intercept	2.030	43.22	2.399	28.67	2.002	35.90
Occupation						
Manager and administrators	0.436	47.85	0.479	20.93	0.422	41.73
Professional	0.397	42.25	0.495	29.23	0.357	31.03
Associate professional and technical	0.209	22.83	0.231	14.05	0.225	20.25
Clerical and secretarial	0.077	8.93	0.087	5.02	0.085	8.50
Craft and related trades	0.166	19.46	0.078	3.58	0.163	17.27
Personal and protective services	0.044	5.05	0.168	10.90	-0.030	-2.75
Sales	0.031	3.17	0.071	0.68	0.019	1.84
Plant and machine operatives	0.043	5.07	0.028	1.22	0.040	4.29
Education attained						
Third level degree or above	0.310	44.46	0.338	25.45	0.294	36.20
Third level non degree	0.182	25.29	0.172	12.51	0.176	21.10
Post leaving certificate	0.112	15.45	0.050	3.02	0.116	14.28
Higher secondary	0.082	14.36	0.101	8.46	0.074	11.31
Full-time						
Male	0.176	39.45	0.135	17.28	0.185	34.73
Public sector	**0.129**	**21.38**				
Nationality						
EU15 excluding Ireland	-0.081	-8.18	-0.031	-1.40	-0.084	-7.64
EU Accession states	-0.207	-23.62	-0.133	-1.71	-0.191	-20.62
Other nationality	-0.142	-15.10	-0.098	-5.48	-0.144	-13.27
Trade Union Member	0.046	9.77	-0.002	-0.25	0.068	11.95
Member of a Professional Body	0.064	11.15	0.003	0.35	0.077	10.93
Age	0.039	20.67	0.014	4.11	0.045	20.51
Age^2	-0.468	-20.75	-0.167	-4.10	-0.541	-20.38
Less than 250 employees	-0.118	-24.48	0.023	1.18	-0.126[22]	-24.39
Permanent						
Length of service with current employer	0.005	15.88	0.007	13.57	0.004	10.19
Total time in all paid employment	0.005	15.23	0.003	5.06	0.005	14.16
Ln Overtime Hours	-0.015	-17.25	-0.016	-8.98	-0.016	-16.09
Ln Hours	0.916	109.43	0.975	71.98	0.894	87.17
Shift Work	-0.028	-5.75	0.033	3.80	-0.056	-9.78
Supervisor	0.072	16.41	0.051	6.33	0.088	17.18
n	35,047		8,454		26,593	
R-Square	0.552		0.598		0.529	

[22] The estimated differential is calculated taking exp(β) - 1, where β is the estimated coefficient above.

Table D3: OLS model estimates on log weekly earnings: Excluding size of enterprise as an explanatory variable

All Employees (Weighted Results)

	Public & Private		Public		Private	
Parameter	**Estimate**	**t Value**	**Estimate**	**t Value**	**Estimate**	**t Value**
Intercept	1.749	95.81	2.303	57.46	1.664	79.08
Occupation						
Manager and administrators	0.436	59.79	0.469	23.26	0.426	53.08
Professional	0.442	60.82	0.490	37.60	0.391	42.29
Associate professional and technical	0.232	32.75	0.253	19.75	0.241	27.70
Clerical and secretarial	0.099	15.47	0.078	5.85	0.113	15.51
Craft and related trades	0.130	20.05	0.104	6.18	0.129	18.02
Personal and protective services	0.036	5.70	0.101	8.49	0.004	0.51
Sales	0.018	2.68	-0.017	-0.30	0.013	1.77
Plant and machine operatives	0.055	7.85	0.047	2.26	0.049	6.50
Education attained						
Third level degree or above	0.296	54.57	0.343	32.42	0.271	42.78
Third level non degree	0.170	30.00	0.162	14.54	0.171	26.01
Post leaving certificate	0.118	20.61	0.076	6.08	0.121	18.81
Higher secondary	0.080	18.47	0.081	8.59	0.079	16.16
Full-time	0.174	35.60	0.145	17.28	0.177	29.94
Male	0.144	40.39	0.117	17.68	0.155	36.67
Public sector	**0.218**	**49.66**				
Nationality						
EU15 excluding Ireland	-0.038	-4.69	-0.022	-1.32	-0.039	-4.26
EU Accession states	-0.133	-19.39	-0.068	-1.33	-0.124	-17.35
Other nationality	-0.097	-12.84	-0.100	-6.66	-0.088	-10.21
Trade Union Member	0.080	21.86	0.047	7.42	0.093	21.03
Member of a Professional Body	0.045	9.59	0.011	1.46	0.057	9.71
Age	0.035	45.32	0.017	10.11	0.039	44.08
Age^2	-0.406	-43.84	-0.194	-9.90	-0.452	-42.68
Permanent	0.072	18.20	0.020	3.15	0.101	20.82
Length of service with current employer	0.005	21.78	0.009	21.46	0.004	14.14
Total time in all paid employment	0.004	16.80	0.002	3.86	0.005	17.17
Ln Overtime Hours	-0.012	-17.64	-0.010	-7.16	-0.014	-17.85
Ln Hours	0.910	223.30	0.927	134.55	0.909	183.11
Shift Work	-0.024	-6.42	0.006	0.85	-0.037	-8.54
Supervisor	0.070	19.22	0.031	4.48	0.088	20.59
n	60,022		15,161		44,861	
R-Square	0.763		0.773		0.754	

Table D4: OLS model estimates on log weekly earnings: Excluding size of enterprise as an explanatory variable

All Permanent Full-Time Employees (Weighted Results)

	Public & Private		Public		Private	
Parameter	**Estimate**	**t Value**	**Estimate**	**t Value**	**Estimate**	**t Value**
Intercept	1.913	40.60	2.398	28.66	1.868	33.28
Occupation						
Manager and administrators	0.436	47.53	0.480	20.98	0.425	41.52
Professional	0.411	43.44	0.494	29.21	0.380	32.78
Associate professional and technical	0.225	24.47	0.230	14.02	0.245	21.84
Clerical and secretarial	0.083	9.54	0.088	5.04	0.091	9.08
Craft and related trades	0.150	17.49	0.078	3.62	0.146	15.32
Personal and protective services	0.050	5.63	0.167	10.88	-0.027	-2.43
Sales	0.035	3.54	0.078	0.75	0.025	2.35
Plant and machine operatives	0.042	4.96	0.030	1.29	0.040	4.27
Education attained						
Third level degree or above	0.324	46.18	0.338	25.46	0.313	38.24
Third level non degree	0.191	26.32	0.172	12.51	0.187	22.17
Post leaving certificate	0.114	15.59	0.050	3.03	0.118	14.44
Higher secondary	0.086	14.94	0.101	8.44	0.079	11.94
Male	0.172	38.33	0.136	17.35	0.179	33.33
Public sector	**0.183**	**32.51**				
Nationality						
EU15 excluding Ireland	-0.068	-6.82	-0.031	-1.38	-0.068	-6.14
EU Accession states	-0.208	-23.51	-0.132	-1.70	-0.190	-20.35
Other nationality	-0.145	-15.34	-0.098	-5.51	-0.149	-13.56
Trade Union Member	0.070	15.19	-0.002	-0.25	0.101	18.26
Member of a Professional Body	0.064	11.03	0.003	0.35	0.076	10.65
Age	0.039	20.73	0.014	4.12	0.046	20.64
Age^2	-0.475	-20.90	-0.167	-4.10	-0.553	-20.63
Length of service with current employer	0.005	16.40	0.007	13.53	0.004	10.60
Total time in all paid employment	0.005	15.05	0.003	5.06	0.005	14.03
Ln Overtime Hours	-0.015	-17.45	-0.016	-8.99	-0.017	-16.34
Ln Hours	0.921	109.11	0.975	72.03	0.900	86.77
Shift Work	-0.015	-3.14	0.032	3.74	-0.042	-7.22
Supervisor	0.064	14.61	0.051	6.37	0.079	15.33
n	35,047		8,454		26,593	
R-Square	0.545		0.598		0.519	

Table D5: OLS model estimates on log weekly earnings: Including size of enterprise as an explanatory variable

All Employees (Unweighted Results)	Public & Private		Public		Private	
Parameter	**Estimate**	**t Value**	**Estimate**	**t Value**	**Estimate**	**t Value**
Intercept	1.843	92.66	2.319	53.24	1.736	76.23
Occupation						
Manager and administrators	0.493	64.92	0.492	24.13	0.481	57.73
Professional	0.428	66.00	0.471	36.77	0.389	50.89
Associate professional and technical	0.255	35.50	0.262	19.62	0.266	30.65
Clerical and secretarial	0.125	20.54	0.087	6.60	0.140	20.48
Craft and related trades	0.165	22.25	0.105	6.19	0.172	20.87
Personal and protective services	0.066	8.64	0.139	10.49	0.020	2.10
Sales	0.046	6.30	0.053	0.84	0.041	5.37
Plant and machine operatives	0.080	11.46	0.060	3.10	0.076	9.98
Education attained						
Third level degree or above	0.318	56.06	0.362	31.96	0.289	43.92
Third level non degree	0.177	31.40	0.164	14.33	0.178	27.60
Post leaving certificate	0.108	18.39	0.076	5.96	0.110	16.70
Higher secondary	0.091	18.75	0.092	8.70	0.090	16.33
Full-time	0.199	41.17	0.189	22.64	0.191	32.60
Male	0.143	40.29	0.100	15.10	0.161	38.44
Public sector	**0.131**	**28.52**				
Nationality						
EU15 excluding Ireland	-0.050	-6.37	-0.028	-1.73	-0.057	-6.40
EU Accession states	-0.141	-18.15	-0.067	-1.17	-0.139	-17.33
Other nationality	-0.094	-12.15	-0.072	-4.73	-0.095	-10.68
Trade Union Member	0.059	15.33	0.056	8.56	0.056	12.03
Member of a Professional Body	0.053	12.00	0.019	2.55	0.071	13.07
Age	0.035	44.38	0.020	11.27	0.039	42.98
Age^2	-0.398	-43.78	-0.221	-11.21	-0.437	-42.42
Less than 250 employees	-0.097	-25.83	-0.007	-0.52	-0.106[23]	-26.51
Permanent	0.047	11.43	0.005	0.68	0.076	14.85
Length of service with current employer	0.005	24.11	0.009	22.62	0.004	15.17
Total time in all paid employment	0.004	18.02	0.002	5.21	0.005	18.07
Ln Overtime Hours	-0.014	-20.99	-0.013	-9.14	-0.016	-20.14
Ln Hours	0.891	212.25	0.886	122.13	0.903	177.27
Shift Work	-0.030	-7.58	-0.010	-1.34	-0.039	-8.30
Supervisor	0.088	24.22	0.042	6.22	0.111	25.82
n (Sample size)	60,022		15,161		44,861	
R-Square	0.752		0.748		0.747	

[23] The estimated differential is calculated taking exp(β) - 1, where β is the estimated coefficient above.

Table D6: OLS model estimates on log weekly earnings: Including size of enterprise as an explanatory variable

Permanent Full-Time Employees aged 25 - 59 (Unweighted Results)						
	Public & Private		Public		Private	
Parameter	Estimate	t Value	Estimate	t Value	Estimate	t Value
Intercept	1.962	39.70	2.663	30.22	1.753	29.81
Occupation						
Manager and administrators	0.488	50.88	0.485	21.27	0.478	44.47
Professional	0.416	47.72	0.470	28.78	0.385	37.55
Associate professional and technical	0.239	25.79	0.227	13.81	0.259	23.16
Clerical and secretarial	0.103	12.16	0.080	4.77	0.116	11.85
Craft and related trades	0.176	18.31	0.073	3.45	0.186	17.09
Personal and protective services	0.080	7.62	0.187	11.34	-0.010	-0.72
Sales	0.066	6.18	0.090	0.82	0.061	5.35
Plant and machine operatives	0.062	7.20	0.036	1.65	0.062	6.47
Education attained						
Third level degree or above	0.335	45.11	0.346	24.52	0.320	36.84
Third level non degree	0.187	25.35	0.165	11.64	0.186	21.77
Post leaving certificate	0.112	14.53	0.060	3.70	0.117	13.41
Higher secondary	0.093	14.17	0.101	7.67	0.088	11.71
Male	0.163	37.17	0.124	16.21	0.176	33.48
Public sector	**0.096**	**16.56**				
Nationality						
EU15 excluding Ireland	-0.076	-7.83	-0.033	-1.51	-0.081	-7.52
EU Accession states	-0.208	-21.09	-0.090	-1.20	-0.200	-19.22
Other nationality	-0.123	-12.82	-0.080	-4.47	-0.129	-11.58
Trade Union Member	0.043	8.93	0.010	1.18	0.055	9.38
Member of a Professional Body	0.069	12.81	0.014	1.63	0.087	13.15
Age	0.041	21.65	0.018	5.29	0.048	21.31
Age^2	-0.495	-21.67	-0.204	-5.09	-0.583	-21.34
Less than 250 employees	-0.107	-23.02	0.013	0.84	-0.116[24]	-23.12
Length of service with current employer	0.005	17.52	0.007	14.60	0.004	11.15
Total time in all paid employment	0.006	17.10	0.004	6.46	0.006	16.09
Ln Overtime Hours	-0.018	-20.05	-0.015	-8.34	-0.020	-19.37
Ln Hours	0.906	102.42	0.866	58.70	0.930	86.52
Shift Work	-0.020	-4.05	0.011	1.29	-0.038	-6.22
Supervisor	0.086	19.70	0.054	7.07	0.105	20.14
n (Sample size)	35,047		8,454		26,593	
R-Square	0.554		0.566		0.538	

[24] The estimated differential is calculated taking exp(β) - 1, where β is the estimated coefficient above.

Table D7: OLS model estimates on log weekly earnings: Excluding size of enterprise as an explanatory variable

All Employees (Unweighted Results)

	Public & Private		Public		Private	
Parameter	**Estimate**	**t Value**	**Estimate**	**t Value**	**Estimate**	**t Value**
Intercept	1.755	89.06	2.319	53.24	1.629	72.13
Occupation						
Manager and administrators	0.494	64.68	0.491	24.12	0.484	57.62
Professional	0.441	67.83	0.471	36.84	0.408	53.27
Associate professional and technical	0.265	36.78	0.262	19.69	0.277	31.70
Clerical and secretarial	0.126	20.62	0.087	6.60	0.142	20.50
Craft and related trades	0.156	20.87	0.105	6.19	0.160	19.20
Personal and protective services	0.071	9.29	0.139	10.52	0.024	2.46
Sales	0.051	7.00	0.051	0.80	0.049	6.25
Plant and machine operatives	0.085	12.17	0.060	3.09	0.081	10.64
Education attained						
Third level degree or above	0.324	56.95	0.362	31.96	0.299	45.30
Third level non degree	0.182	32.09	0.164	14.33	0.185	28.45
Post leaving certificate	0.109	18.43	0.076	5.96	0.111	16.73
Higher secondary	0.094	19.18	0.093	8.71	0.093	16.86
Full-time	0.200	41.13	0.189	22.63	0.193	32.77
Male	0.142	39.81	0.100	15.10	0.159	37.82
Public sector	**0.178**	**41.77**				
Nationality						
EU15 excluding Ireland	-0.043	-5.40	-0.029	-1.74	-0.047	-5.25
EU Accession states	-0.139	-17.73	-0.068	-1.18	-0.136	-16.74
Other nationality	-0.094	-12.08	-0.072	-4.73	-0.095	-10.64
Trade Union Member	0.079	21.02	0.056	8.59	0.087	19.10
Member of a Professional Body	0.050	11.20	0.019	2.56	0.064	11.73
Age	0.036	44.52	0.020	11.27	0.039	42.94
Age^2	-0.403	-44.04	-0.221	-11.21	-0.442	-42.57
Permanent	0.054	13.04	0.005	0.69	0.087	16.92
Length of service with current employer	0.005	24.27	0.009	22.67	0.004	15.22
Total time in all paid employment	0.004	17.43	0.002	5.20	0.005	17.59
Ln Overtime Hours	-0.014	-20.89	-0.013	-9.13	-0.016	-20.25
Ln Hours	0.891	211.19	0.886	122.2	0.905	176.27
Shift Work	-0.021	-5.34	-0.010	-1.32	-0.028	-5.93
Supervisor	0.085	23.07	0.042	6.21	0.107	24.61
n (Sample size)	60,022		15,161		44,861	
R-Square	0.750		0.748		0.743	

Table D8: OLS model estimates on log weekly earnings: Excluding size of enterprise as an explanatory variable

Permanent Full-Time Employees aged 25 - 59 (Unweighted Results)

	Public & Private		Public		Private	
Parameter	**Estimate**	**t Value**	**Estimate**	**t Value**	**Estimate**	**t Value**
Intercept	1.863	37.55	2.661	30.21	1.635	27.63
Occupation						
Manager and administrators	0.488	50.52	0.486	21.33	0.480	44.25
Professional	0.428	48.83	0.470	28.77	0.403	38.98
Associate professional and technical	0.252	27.01	0.226	13.78	0.273	24.24
Clerical and secretarial	0.106	12.36	0.080	4.79	0.119	12.07
Craft and related trades	0.164	16.97	0.074	3.48	0.171	15.64
Personal and protective services	0.084	7.91	0.187	11.32	-0.011	-0.76
Sales	0.065	6.09	0.096	0.87	0.062	5.42
Plant and machine operatives	0.066	7.53	0.036	1.67	0.066	6.80
Education attained						
Third level degree or above	0.346	46.26	0.346	24.54	0.335	38.35
Third level non degree	0.195	26.26	0.165	11.65	0.197	22.86
Post leaving certificate	0.113	14.58	0.060	3.70	0.118	13.48
Higher secondary	0.097	14.69	0.101	7.66	0.093	12.26
Male	0.162	36.63	0.125	16.28	0.175	32.86
Public sector	**0.141**	**25.79**				
Nationality						
EU15 excluding Ireland	-0.065	-6.70	-0.032	-1.50	-0.068	-6.23
EU Accession states	-0.207	-20.81	-0.089	-1.19	-0.197	-18.75
Other nationality	-0.123	-12.77	-0.080	-4.48	-0.130	-11.56
Trade Union Member	0.065	13.74	0.009	1.16	0.087	15.07
Member of a Professional Body	0.067	12.27	0.014	1.62	0.083	12.37
Age	0.042	21.73	0.018	5.30	0.049	21.43
Age^2	-0.503	-21.84	-0.204	-5.10	-0.595	-21.57
Length of service with current employer	0.005	18.15	0.007	14.58	0.004	11.71
Total time in all paid employment	0.006	16.85	0.004	6.46	0.006	15.88
Ln Overtime Hours	-0.018	-19.95	-0.015	-8.34	-0.020	-19.22
Ln Hours	0.908	101.93	0.866	58.76	0.933	85.94
Shift Work	-0.008	-1.62	0.011	1.25	-0.023	-3.76
Supervisor	0.082	18.49	0.054	7.11	0.100	18.92
n (Sample size)	35,047		8,454		26,593	
R-Square	0.547		0.566		0.529	

Appendix E – Quantile Regression Results

Public Sector Premium/Discount

Table E1: Quantile regression model: Including size of enterprise as an explanatory variable

All Employees (Weighted Results)

Percentile	Males & Females		Males		Females	
	Estimate	t Value	Estimate	t Value	Estimate	t Value
10%	0.26	29.15	0.23	18.91	0.27	20.59
20%	0.25	35.29	0.21	21.8	0.28	27.20
30%	0.24	31.70	0.18	18.59	0.27	29.26
40%	0.22	29.65	0.18	19.41	0.24	24.32
50%	0.21	28.95	0.17	15.88	0.22	25.04
60%	0.19	25.21	0.17	16.93	0.19	19.22
70%	0.16	19.62	0.15	13.04	0.16	15.42
80%	0.14	15.34	0.12	8.97	0.14	12.07
90%	0.11	10.02	0.10	6.55	0.12	8.51

Table E2: Quantile regression model: Including size of enterprise as an explanatory variable

Permanent Full-Time Employees aged 25 - 59 (Weighted Results)

Percentile	Males & Females		Males		Females	
	Estimate	t Value	Estimate	t Value	Estimate	t Value
10%	0.22	29.15	0.22	18.91	0.22	20.59
20%	0.19	35.29	0.18	21.8	0.19	27.20
30%	0.17	31.70	0.16	18.59	0.18	29.26
40%	0.16	29.65	0.15	19.41	0.16	24.32
50%	0.15	28.95	0.13	15.88	0.15	25.04
60%	0.14	25.21	0.13	16.93	0.13	19.22
70%	0.11	19.62	0.10	13.04	0.10	15.42
80%	0.09	15.34	0.07	8.97	0.09	12.07
90%	0.06	10.02	0.05	6.55	0.09	8.51

Table E3: Quantile regression model: Excluding size of enterprise as an explanatory variable

All Employees (Weighted Results)

Percentile	Males & Females		Males		Females	
	Estimate	t Value	Estimate	t Value	Estimate	t Value
10%	0.31	36.10	0.29	22.42	0.32	24.10
20%	0.30	43.20	0.26	26.60	0.35	34.81
30%	0.29	42.68	0.23	23.88	0.34	34.83
40%	0.28	39.26	0.23	25.87	0.32	34.71
50%	0.27	42.91	0.23	25.69	0.30	36.34
60%	0.25	38.80	0.23	24.14	0.27	29.97
70%	0.23	38.04	0.21	20.28	0.25	23.16
80%	0.20	22.22	0.18	15.17	0.22	17.80
90%	0.18	15.87	0.17	10.74	0.20	14.55

Table E4: Quantile regression model: Excluding size of enterprise as an explanatory variable

Permanent Full-Time Employees aged 25 - 59 (Weighted Results)

Percentile	Males & Females		Males		Females	
	Estimate	t Value	Estimate	t Value	Estimate	t Value
10%	0.27	26.59	0.27	22.16	0.27	18.34
20%	0.25	27.89	0.24	25.08	0.27	21.27
30%	0.24	27.42	0.21	17.76	0.27	21.34
40%	0.22	27.69	0.20	18.94	0.24	18.72
50%	0.21	25.66	0.18	17.07	0.23	17.71
60%	0.20	24.26	0.17	15.58	0.20	15.95
70%	0.17	18.73	0.16	14.47	0.18	15.31
80%	0.14	14.76	0.12	10.23	0.16	11.17
90%	0.11	8.56	0.12	6.69	0.15	9.57

Table E5: Quantile regression model: Including size of enterprise as an explanatory variable

All Employees (Unweighted Results)

Percentile	Males & Females		Males			Females	
	Estimate	t Value	Estimate	t Value		Estimate	t Value
10%	0.205	29.52	0.189	17.11		0.231	25.54
20%	0.204	36.03	0.160	18.38		0.243	31.99
30%	0.190	33.38	0.139	16.88		0.243	36.15
40%	0.171	31.58	0.118	15.29		0.218	29.82
50%	0.165	30.79	0.106	12.76		0.203	29.08
60%	0.145	26.79	0.091	11.70		0.180	25.53
70%	0.116	21.94	0.070	8.15		0.147	18.97
80%	0.088	15.42	0.037	4.90		0.120	15.23
90%	0.054	6.50	0.006	0.57	***	0.102	9.47

***Not Significant at 10%

Figure E5. Public service premia/discounts (%) across weekly earnings distribution for All Employees – including size as an explanatory variable

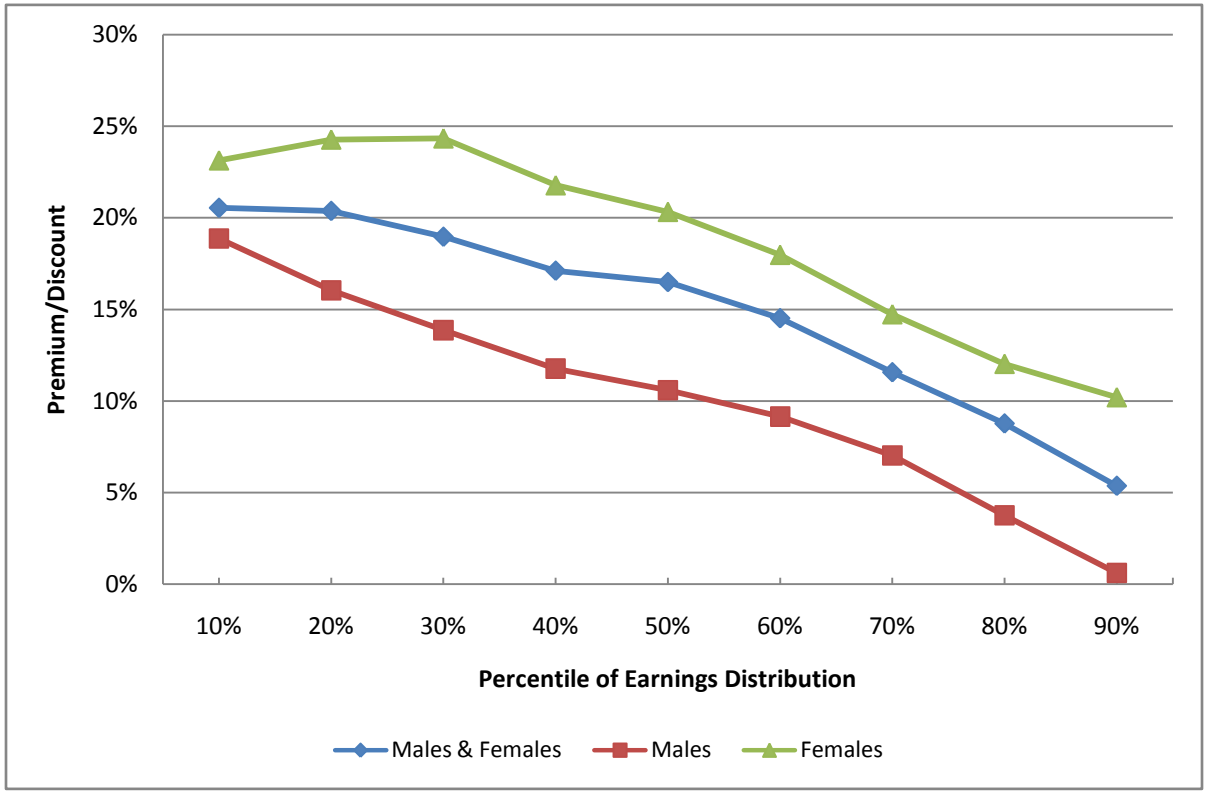


Table E6: Quantile regression model: Including size of enterprise as an explanatory variable

Permanent Full-Time Employees Aged 25 - 59 (Unweighted Results)

Percentile	Males & Females			Males			Females		
	Estimate	t Value		Estimate	t Value		Estimate	t Value	
10%	0.180	22.19		0.173	15.49		0.185	15.91	
20%	0.159	25.68		0.138	15.2		0.189	15.74	
30%	0.137	21.57		0.109	12.97		0.170	17.94	
40%	0.125	20.40		0.093	10.77		0.159	15.58	
50%	0.117	18.48		0.072	8.18		0.144	15.15	
60%	0.102	16.34		0.058	6.25		0.122	14.23	
70%	0.065	10.11		0.034	3.55		0.097	10.94	
80%	0.034	4.92		0.003	0.032	***	0.054	5.37	
90%	-0.008	-0.90	***	-0.040	-3.34		0.023	1.94	*

*Significant at 10%

***Not Significant at 10%

Figure E6. Public service premia/discounts (%) across weekly earnings distribution for Permanent Full-Time Employees Aged 25-59 – including size as an explanatory variable

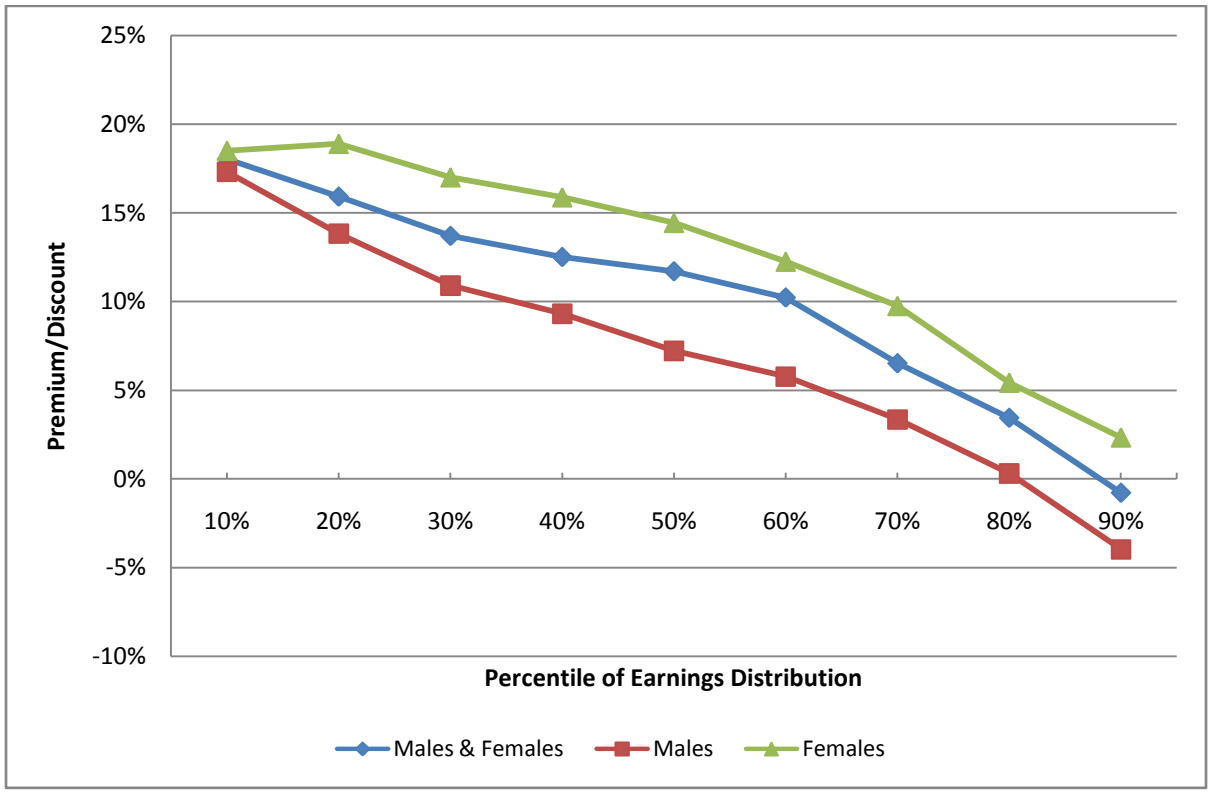


Table E7: Quantile regression model: Excluding size of enterprise as an explanatory variable

All Employees (Unweighted Results)

Percentile	Males & Females		Males		Females	
	Estimate	t Value	Estimate	t Value	Estimate	t Value
10%	0.261	40.05	0.248	25.86	0.281	32.83
20%	0.255	49.86	0.217	29.32	0.306	40.09
30%	0.239	43.91	0.186	26.46	0.300	43.33
40%	0.224	46.53	0.167	14.92	0.280	41.76
50%	0.213	41.79	0.153	21.56	0.258	36.00
60%	0.197	39.64	0.138	18.28	0.241	35.5
70%	0.176	34.32	0.122	16.62	0.208	27.86
80%	0.140	25.39	0.085	9.60	0.175	21.60
90%	0.103	15.48	0.054	4.91	0.149	14.79

Figure E7. Public service premia/discounts (%) across weekly earnings distribution for All Employees – excluding size as an explanatory variable

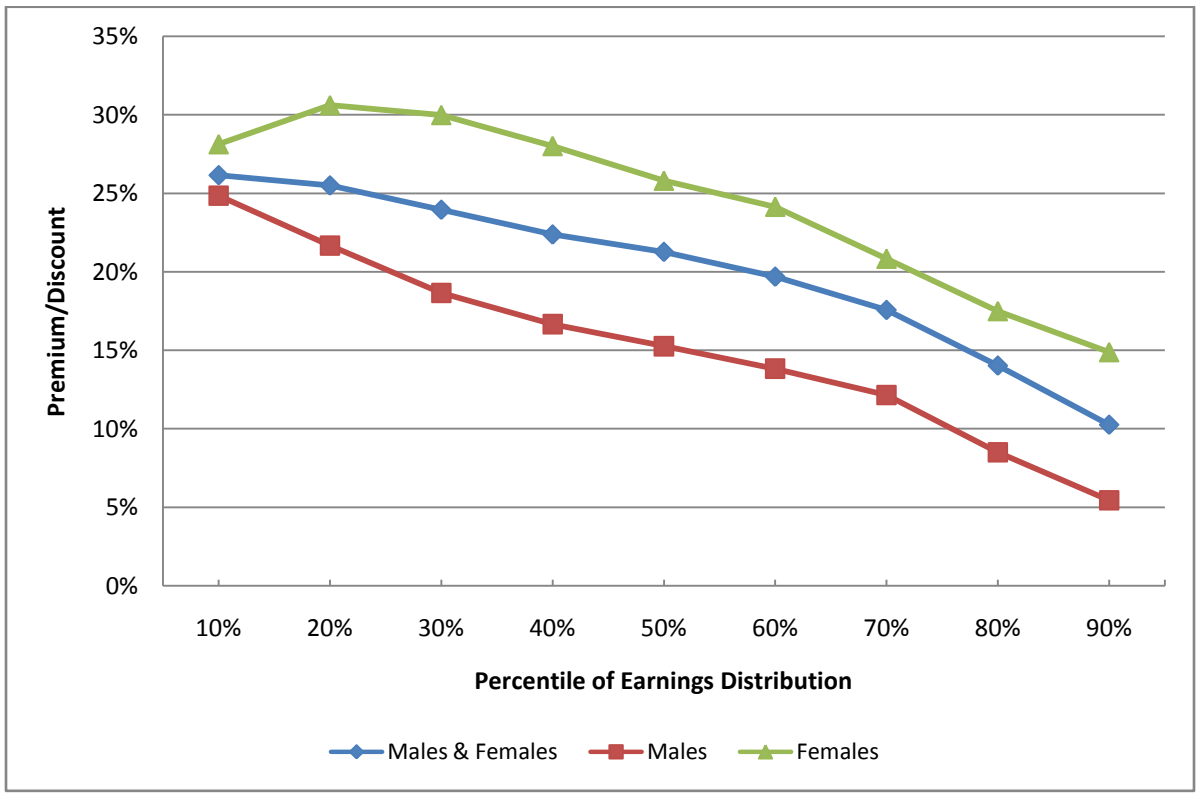


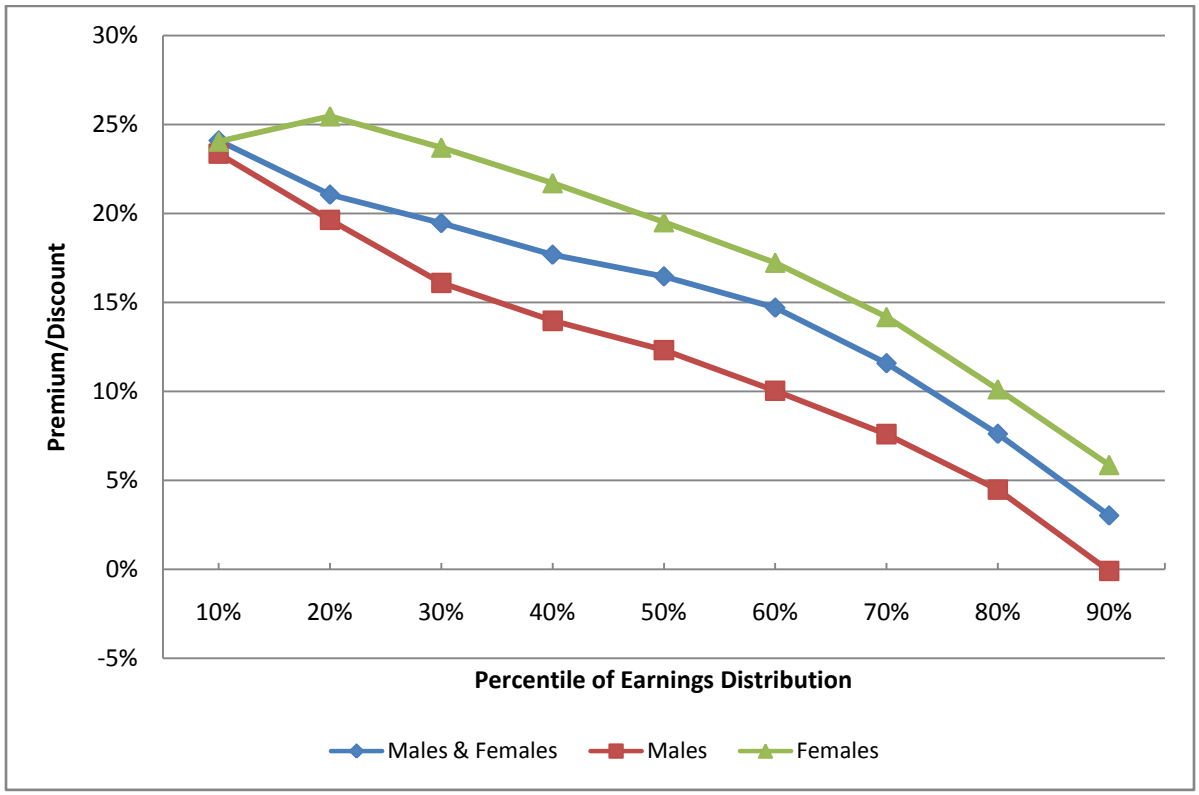
Table E8: Quantile regression model: Excluding size of enterprise as an explanatory variable

Permanent Full-Time Employees aged 25 - 59 (Unweighted Results)

Percentile	Males & Females		Males			Females	
	Estimate	t Value	Estimate	t Value		Estimate	t Value
10%	0.241	29.26	0.234	21.83		0.240	21.46
20%	0.210	29.74	0.196	25.21		0.255	25.77
30%	0.194	26.44	0.161	21.09		0.237	28.01
40%	0.177	26.38	0.140	16.96		0.217	24.11
50%	0.165	25.74	0.123	15.02		0.195	23.96
60%	0.147	22.19	0.100	12.22		0.172	18.20
70%	0.116	19.04	0.076	8.06		0.142	15.70
80%	0.076	12.39	0.045	4.55		0.101	11.32
90%	0.030	3.80	-0.001	-0.08	***	0.059	4.94

***Not Significant at 10%

Figure E8. Public service premia/discounts (%) across weekly earnings distribution for Permanent Full-Time Employees Aged 25-59 – excluding size as an explanatory variable



Appendix F – Methodology

(a) Basic weekly earnings regression

An ordinary least square (OLS) regression was used to model the natural log of weekly earnings on a set of explanatory variables. The semi-log hedonic earnings equation may be represented as follows:

$$\ln wi \;\; = \; \alpha + \; \beta_1 x_1 + \; \beta_2 x_2 + \; \ldots + \beta_p x_p + \; \varepsilon_i$$

Where w_i is the weekly earnings of individual *i*, and $x_1, x_2, \ldots \; x_p$, are a set of *p* explanatory variables, capturing individual and work-place characteristics. The intercept term is denoted by α, and the ε_i term is the random error term.

(b) The Blinder-Oaxaca Decomposition

The Blinder-Oaxaca decomposition of earnings is often represented in the literature as follows:

$$\ln \overline{w}^{pub} - \ln \overline{w}^{pri} = \Sigma_{\mathrm{p}}\left(\bar{x}_p^{pub} - \bar{x}_p^{pri}\right)\hat{\beta}_p^{pri} + \Sigma_{\mathrm{p}}\bar{x}_p^{pub}\left(\hat{\beta}_p^{pub} - \hat{\beta}_p^{pri}\right) + \left(\hat{\alpha}^{pub} - \hat{\alpha}^{pri}\right)$$

where, $\Sigma_{\mathrm{p}}\left(\bar{x}_p^{pub} - \bar{x}_p^{pri}\right)\hat{\beta}_p^{pri}$ represents the difference in the log of earnings that is explained by the explanatory variables and $\Sigma_{\mathrm{p}}\bar{x}_p^{pub}\left(\hat{\beta}_p^{pub} - \hat{\beta}_p^{pri}\right) + \left(\hat{\alpha}^{pub} - \hat{\alpha}^{pri}\right)$ estimates the unexplained earnings gap, i.e. the public–private wage differential.

In keeping with Kelly et al (2009), the reference category[25] used for the Blinder-Oaxaca decompositions was the private sector.

[25] The Blinder-Oaxaca decomposition is not unique and the choice of reference group affects the results. Results were also calculated using the public sector as the reference group but these results negates the effect that size of enterprise has as an explanatory variable. Results based on calculations that used public as the reference group are available from the CSO on request.

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