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Assessing the Impact of Wage Bargaining and Worker Preferences on the Gender Pay Gap in Ireland Using the National Employment Survey 2003

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Abstract: This paper assesses the magnitude and nature of the gender pay gap in Ireland using the National Employment Survey 2003, an employer-employee matched dataset. The results suggest that while a wage bargaining system centred around social partnership was of benefit to females irrespective of their employment status, the minimum wage mechanism appears to improve the relative position of part-time females only. Trade union membership was associated with a widening gender pay gap in the full-time labour market and a narrowing differential among part-time workers. In relation to the motivations for working part-time, which help us to account for selection into part-time employment, our results indicate that when these factors are incorporated into the part-time decomposition, the previously observed wage gap is eliminated.

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1.0 Introduction

The extent to which male earnings exceed those of females, commonly referred to as the gender wage gap, is a topic of constant debate within both academic and policy circles. The potential factors underlying the gap and, more particularly, the role of individual characteristics as opposed to discrimination, have been widely debated within the economics literature since the early 1970s. It is widely accepted that the gender wage gap has declined steadily in recent decades within most developed economies[1]. However, despite a trend decline the wage differential remains substantial in many countries (see Kunze, 2000).

Within the recent literature a range of policy initiatives have been advocated to lessen the gap; some target females prior to labour market entry in order to avoid gender stereotyping, while others focus on maintaining female participation following entry to employment. In relation to post-employment, the recommended measures tend to be aimed at improving levels of labour market attachment with policies generally centred on flexible working arrangements and childcare provision. Minimum wage legislation and the use of centralised wage bargaining systems have also been commonly put forward as a means of improving the relative position of females.

The principal objective of this paper is to use Irish data to examine the impact of institutional and wage bargaining factors on the gender wage gap. Due largely to data constraints, industrial relations policies' attract relatively little attention within the literature despite the existence of some compelling arguments to support their impact. With respect to wage setting, it has been asserted that collective bargaining structures may reduce wage differentials by eliminating wage differences both within and across sectors and firms (Plasman & Sissoko, 2004). Minimum wages may also reduce the wage gap as women are more heavily located in lower segments of the wage distribution; thus, any policy, which reduces the level of wage dispersion, should also

[1] See Weichselbaumer & Winter-Ebner (2005) for an over-view of the international literature.

reduce the gender wage gap (Plasman & Sissoko, 2004). However, it has also been argued that there may be negative consequences of the minimum wage via increases in the cost of basic childcare provision and other domestic services (Arulampalam, Booth, & Bryan (2007)).

In relation to the existing evidence, while a number of studies use employer-employee linked datasets to assess the impact of firm-level characteristics on the gender wage gap, many do not consider institutional factors (Drolet, 2002; Bayard et al., 2003; Vieira et al., 2005; Gupta & Rothstein, 2005; Amuedo-Dorantes et al., 2006). Of those that do, the evidence is somewhat mixed. For instance, Gartner & Gesine (2004) and Heinze & Wolf (2006) find, for Germany, that the gender wage gap is lower in firms with formalised wage codetermination (i.e. works councils) and those covered by collective wage agreements. Mumford & Smith (2007) argue that the introduction of the minimum wage in the UK will have led to a reduction in the gender pay gap. However, in contrast, Meng (2004), using similar data, finds for Australia that the wage gap is narrower in firms that do not implement enterprise-level wage bargaining.

A number of other studies have looked at cross-country differences in the gender wage gap in order to draw some inferences on the impact of institutional arrangements. Blau & Kahn (1995) argue that the magnitude of the gender wage gap across industrialised countries is related to the general level of wage inequality. This suggests that any increase in the dominance of wage setting institutions, such as collective bargaining and the minimum wage, that reduce general wage inequality are also likely to lead to a narrowing of the gender wage gap. In contrast, Meng & Meurs (2004) argue that a narrower gender wage gap in Australia relative to France was due to the more decentralised wage bargaining system that dominates the Australian labour market. Preston (2003) also finds that the gender wage gap in Australia declined following the increased adoption of decentralised wage bargaining. Similarly, Zweimmuller *et al*. (2007) uses cross-country evidence to suggest that the

gender pay gap tends to be lower in more competitive market economies within which, presumably, centralised bargaining systems are less in evidence[2].

A second objective of this paper is to analyse the role of gender-based preferences surrounding job choice on the pay differential. The literature in this area is much more limited. While there has been some discussion surrounding the different emphasis that males and females place on the labour market over the home (Becker, 1985; Vella, 1993, 1994), there has been little direct assessment of the extent to which motivational differences impact the gender wage gap. The only existing evidence relates to a recent study by Swaffield (2007) who finds that after including attitudinal controls for females view on home-work balance, family-related labour market constraints and labour market aspirations, the gender wage gap is significantly reduced. However, while such attitudes will heavily influence an individual's job choice, they do not allow us to directly observe the role of preferences in the job selection process.

2.0 Data and Methods

The data used in this study comes from the 2003 National Employment Survey (NES), which is a matched employer-employee dataset. The NES is a workplace survey, covering both the public and private sectors, which was carried out by the Irish Central Statistics Office (CSO). The employer sample was drawn from the CSO's Central Business Register. Selected firms were then asked to extract a systematic sample of employees from their payrolls. Approximately 6,500 private sector employers and 300 public sector bodies were surveyed across the economy. Within this, a total sample of 60,000 employees were included from the private sector and 29,000 from the public sector[3]. In total 54,000 returns were received. After the elimination of employees with missing earnings information, part-time students and

[2] In relation to other evidence, Plasman & Sissoko (2004), Blau & Kahn (1996, 2000) and Elvira & Saporta (2002) present some limited evidence to support the view that collective bargaining reduces the gender wage gap.

[3] While the NES was administered to enterprises with 3 plus employees, the results were calibrated to the Quarterly National Household Survey (QNHS) employment data for employees (excluding agriculture, forestry and fishing), which covers all employees.

also restricting our data to those of working age, the final sample included in this study consisted of 44,931 employees[4].

The employer questionnaire requested data on employee earnings, hour's worked and occupation[5]. Information was also obtained on ownership type, firm size, industry, the use of pay agreements, the percentage of employees covered by the minimum wage and provision of certain employee benefits and conditions, specifically career breaks and work-sharing and/or part-time work. Employees were issued with a separate questionnaire within which they provided information on their age, gender, educational attainment, family status, employment status (part-time or full-time), length of time in paid employment, length of service with current employer and also other job-related characteristics (for example, trade union membership, shift-work, supervisory role and flexi hours).

The rich nature of the data available enables us to provide some insight into the impact of centralised wage bargaining on the gender wage gap. With respect to the industrial relations context at work here, wage bargaining in Ireland has been centralized at the national level through a process known as *Social Partnership* since 1987. The negotiated outcome is known as the National Wage Agreement (NWA), which is determined by negotiations between the Government, the main employer bodies and trade unions. Each NWA tends to be tailored to medium term national economic and social needs and often builds on its predecessor. Through the social partnership process, the national minimum wage was introduced in Ireland in April 2000. A second question answerable from the data relates to the impact of individuals' motives for working part-time on the wage gap. In addition to addressing these two questions, the dataset employed also allows us to assess the impact of various family-friendly policies on the wage gap. Where possible, the analysis is conducted independently for full-time (FT) and part-time (PT) workers[6]. The

[4] When analysing the employee sample, cross-sectional weights were applied to ensure that the data was representative of the population of employees in employment.
[5] The earnings information collected in the 2003 NES represents the gross monthly amount payable by the organisation to its employees, and relates to the month of March in 2003. This includes normal wages, salaries and overtime; taxable allowances, regular bonuses and commissions; and holiday or sick pay for the period in question. It does not include employer's PRSI, redundancy payments and back pay.
[6] Motivational data is only available for PT workers.

rationale for separating out FT and PT workers lies in the fact that the nature of jobs available to PT and FT workers, and the characteristics of such workers, tend to be very different. This is evidenced by the fact that even after controlling for observable differences, studies have consistently shown that PT females earn substantially less that their FT counterparts (Harkness, 1996; Jepsen, O'Dorchai, Plasman & Rycx, 2005; Manning & Petrongolo, 2006; Mumford & Smith, 2009). The reasons put forward by such studies for this pay gap relate to largely unobservable factors including: (a) differing preferences that effect job choice, (b) productivity differences related to lower hours of work, and (c) co-ordination difficulties that make it difficult for employers to place PT workers in certain positions. Given the evidence suggesting substantial differences in both the personal characteristics and job opportunities facing FT and PT workers, it is worthwhile to examine these two groups separately.

In terms of methodology, the Oaxaca-Blinder decomposition (Oaxaca, 1973; Blinder, 1973) has become the standard approach adopted in studies such as this. However, this methodology has been the subject of some criticism; specifically it is associated with an index number problem whereby the choice of the reference group will influence the results produced by the decomposition. Neumark (1988) developed an alternative decomposition that overcomes this issue in which the outputs of a pooled model are taken as the reference. However, the Neumark (1988) methodology is unsuitable here given that the dominance of females in the PT distribution would effectively amount to us taking PT females as a non-discriminatory reference group, which clearly makes little sense[7].

Apart from the choice of decomposition, there are a number of estimation problems that could potentially bias our estimates and need to be given some consideration. The principal areas of concern relate to: i) unobserved heterogeneity; ii) the use of potential as opposed to actual experience; iii) the truncated nature of the female sample; iv) the use of variables that are potentially the product of discrimination and gender stereotyping (such as occupation); and finally, v) the choice of wage variable used. In an attempt to assess the importance of these factors, Weichselbaumer & Winter-Ebner (2005), in an extensive analysis on 1,535 estimates of the unexplained

[7] For the FT model, we estimated both Neumark (1988) and Oaxaca-Blinder decompositions and the results differed little.

gender pay gap taken from 788 studies published in 263 articles covering 63 countries, find that the choice of data has a much larger impact than the methodology employed. They also show that using estimated, as opposed to actual, experience and a failure to use hourly wages results in over-estimates of the unexplained gap. There was little or no evidence from their research to support the view that the choice of decomposition method or absence of sample selection controls significantly impacted on outcomes. While, in an ideal world, all unobserved heterogeneity and selection bias would be eliminated in a study of this kind, and only information on actual experience and hourly wage rates used, data constraints ensure that this is never possible. Nevertheless, the Weichselbaumer & Winter-Ebner (2005) paper suggests that, provided estimates are based on actual labour market experience and hourly wage rate data, as is the case in this paper, the impact of the remaining potential sources of bias are likely to be non-existent or trivial.

The decomposition to be estimated in this study can be written as follows:

$$\overline{W_m} - \overline{W_f} = (\overline{X_m} - \overline{X_f})\hat{\beta}_m + (\hat{\beta}_m - \hat{\beta}_f)\overline{X}_f + (\overline{Z_m} - \overline{Z_f})\hat{j}_m + (\hat{j}_m - \hat{j}_f)\overline{Z_f} + (\hat{\alpha_m} - \hat{\alpha_f}) \qquad (1)$$

where W represents log hourly earnings that excludes overtime, X human capital characteristics, Z family responsibility controls, J job and firm-level characteristics, and α the intercept terms. In the analysis, we adopt an approach where we identify and discuss the impact of each of these components separately.

One draw back of the 2003 NES dataset is that we cannot directly account for the effect of female labour market absences due to family commitments[8], often referred to in the literature as "time-out". However, our data does contain a number of family responsibility controls which will, to some extent, proxy for time-out influences.

Given that an objective of this study is to separate out the impact of individual characteristics on the gender pay gap, we must be conscious of an identification

[8] In theory we can derive "time-out" by subtracting actual experience from potential experience, however, respondents appear not to distinguish between pre and post 16 years of age experience, or that accrued on a FT or PT basis. Thus, the data does not lend itself to this approach, as in many cases estimated "time-out" is actually negative.

problem associated with the use of dummy variables in decompositions where the number of categorical dummies exceed one (Oaxaca & Ransom, 1999). Specifically, it is not possible to estimate the relative effects of any particular dummy variable, as the impacts will change depending on the reference category used. Examples of groups of variables affected by the identification problem include education, sector, occupation, pay bargaining mechanism, etc. To overcome this problem, we follow Gardeazabal & Ugidos (2004) and estimate the decompositions imposing a normalising restriction on each set of dummy variables[9].

3.0 Results

The decomposition, as outlined above, indicates that the magnitude of any adjusted gender pay gap depends on both differences in the endowments of wage determining characteristics held by males and females and differences in the average return to such attributes. In this section we shall consider both, firstly dealing briefly with differences in attribute endowments (Table A2) and then discussing differences in the returns in more detail. The variables included in the study are described in Table A1 in the Appendix.

3.1 Differences in Attribute Endowments

In relation to the human capital levels of FT employees, relative to their male counterparts, females were, on the whole, better qualified. However, as we would expect, males' levels of experience were almost 25 per cent higher than those of females. There were few apparent differences in the educational profiles or experience levels of male and female PT employees.

Turning to family characteristics, relative to males, females with children of school attending age and those cohabiting were much less likely to be active in the FT labour market. Regarding job characteristics, FT males were more likely to belong to a trade union, supervise staff, work fixed hours and have, an average, employment tenure

[9] The normalisation of the restriction on the coefficients can be written as follows: $\sum_{j=1}^{J} \beta_{jg} = 0$. The implementation of this restriction leaves the other coefficients unaffected.

almost a third higher than that of FT females. Compared to PT males, PT females had slightly longer average employment tenure and were much more likely to work fixed hours.

On firm-level characteristics, FT males and females differ in a number of respects. Females were more heavily concentrated in firms that offered family-friendly policies, such as career breaks, and where a high proportion of managers were female. Regarding pay determination, 52 per cent of FT females were employed in firms where the NWA was the primary pay determining mechanism compared to 49 per cent of FT males. Regarding the national minimum wage, the average firm-level coverage rate was approximately 8 per cent. However, this was somewhat higher for females (both FT and PT), indicating that they were marginally more likely to be employed in low-waged firms. Within the PT distribution, females were again more heavily concentrated in firms offering family-friendly policies and employing a higher proportion of female managers.

3.2 Differences in Attribute Returns

Table 1 gives the results from OLS models for both male and female FT employees. Occupation controls were omitted due to concerns of colinearity, particularly in relation to the educational variables. The models also include one-digit industry controls that are not reported here[10]. In addition to the gender specific models, a third model was estimated using an interaction term to test for statistically significant gender-based differences in the returns to individual attributes. The results from this model are also presented in Table 1.

< Table 1 Here >

Dealing firstly with human capital variables, while the returns to a degree were broadly comparable, males earned a higher return to post-secondary qualifications and certificates/diplomas[11]. Somewhat surprisingly within this specification, FT males and

[10] Results are available from the authors.

[11] The qualification equivalencies for Ireland are as follows: Junior Certificate represents the end of compulsory schooling (aged 16); Leaving Certificate is equivalent to high-school diploma;

females earned an identical return of 2.7 per cent per year of labour market experience.

In relation to family background characteristics, cohabiting females and those with children below the age of 6 and above the age of 18 earned substantially less. Given that it is not likely that such characteristics will in themselves result in substantial wage returns, it is probable that they are capturing, to some extent, the negative impact of time-out. A somewhat unexpected result was a slightly higher return observed for females with children aged 6 to 17. However, we may be observing a selection effect here whereby only more highly paid females with children in this age bracket can afford to remain active in the FT labour market.

With regards to job and firm-level variables, unlike males, there was no wage gain to FT females belonging to a trade union. However, within the Irish social partnership context, the trade union impact on wages is likely to be more heavily felt through the NWA. Therefore, given that the wage determination process is fully incorporated within our model, the trade union variable may be picking up additional benefits accruing to workers over and above those negotiated under the various forms of collective regimes. On the issue of pay determination itself, the bargaining variables indicate the proportion of workers covered by each form of agreement within each firm. The dummy variables are constructed on the basis of firm level coverage exceeding 50 per cent[12]. However, the data indicates that in practice the coverage rates in these firms generally range will above 70 per cent, and if indeed we set the results at this level our data and results remain largely unchanged. Turning to the actual results, FT males employed in firms where the NWA was the dominant pay strategy incurred a 7 per cent pay penalty. This was in contrast to the situation for FT females where both the NWA and individual-level agreements were associated with premiums of 3 and 6 per cent respectively. The results from the OLS models demonstrate that females do relatively better under collective bargaining arrangements, NWA and industry-level agreements, and individual-level agreements. Given that a relatively high proportion of FT females are employed in firms where the

Certificate/Diplomas are sub-degree qualifications, generally of a vocational nature, and third-level represents graduate-level attainment.

[12] The base case here relates to a situation where no bargaining strategy is dominant within the firm at the 50 per cent threshold.

NWA is the principal wage bargaining mechanism, it is likely that it will have a reducing impact on the gender pay gap.

The minimum wage variable relates to the proportion of the workforce earning the national minimum wage and, as such represents the relative penalty to being employed in a low-waged firm. While both FT males and females employed in firms with a higher proportion of minimum wage workers earned less, the differences between the two was relatively small and not statistically significant. Thus, with respect to FT workers, there was nothing to suggest that the minimum wage was improving the relative position of females.

Some other results relating to job and firm-level characteristics are worthy of discussion. While supervisory responsibilities were found to increase the earnings of both males and females, the earnings advantage to FT males was somewhat larger. With respect to family-friendly policies, FT females earned a larger premium when employed in firms offering career breaks. However, no advantage was apparent where firms offered the option of work sharing or going part-time. In terms of management structure, while females gained some wage benefit from being employed in a female-led firm, the impact was found to be extremely small in magnitude. There was also a higher relative return to females employed in multinationals but a lower pay-off within exporting firms.

Table 2 reports the OLS results for PT workers. While the sample size for males is somewhat low at just 624, the results appear plausible and we have no reason to suspect that they are anything other than robust. Nevertheless, it is likely that the sample size may influence the significance of the interaction model, leaving open the possibility that some variables that are insignificant within these OLS models will ultimately prove to be important within the decomposition.

< Table 2 Here >

As was the case in the FT labour market, PT males again earned a higher return to further and higher education. While the return to labour market experience was lower for females, the difference was not significant.

The family responsibility variables emerged to be unimportant confirming the expectation that, in contrast to the situation for FT workers, time-out effects were less heavily penalised in this labour market.

Relative to males, PT females earned an 8.5 per cent premium to trade union membership, which was the reverse of what was found in the full-time labour market. In terms of pay bargaining, PT females benefited significantly from business-level agreements. In addition, PT females' employed in firms implementing the NWA also enjoyed a relative wage advantage, and, while this difference was not statistically significant, it is likely that the 10 per cent coefficient advantage will prove to have some impact in the decomposition.

With regards to the minimum wage, the results suggest that the wage disadvantage to females employed in low paying firms is significantly and substantially lower than that for PT males. Therefore, in contrast to the results for the FT labour market, there is evidence that the minimum wage does improve the relative position of PT females.

Finally, in relation to the other firm and job-level characteristics, there was little evidence that PT females benefited from being employed in firms that offered career breaks[13] or were led by a female manager.

3.3 Decompositions

Table 3 gives details of the Oaxaca-Blinder decomposition for FT workers. The approach adopted here can be generally described as one of variance decomposition. The first column in Table 3 gives the total decomposition (ALL), while subsequent columns demonstrate the relative contributions to various attribute sets: human capital (HC), family structure (FS), job and firm-level characteristics (JF), industry (IND) and occupation (OCC)[14].

[13] The variable indicating that a firm offered either the option of work sharing or PT work to its employees was omitted from the PT wage equation as its obvious correlation with PT work made it highly collinear with the constant term and therefore extremely difficult to interpret.

[14] Following convention, despite being omitted from the OLS models, this potentially endogenous set of controls were included within the specification used for the decompositions.

< Table 3 Here >

The raw wage gap for FT workers was calculated at 17.6 per cent falling to 7.3 per cent when account was taken for endowment differences between males and females[15]. Thus, endowment differences accounted for almost 60 per cent of the total raw gap. Of this, human capital effects explained approximately one-third, family structure one quarter, job and firm characteristics just over a fifth, and industry and occupation controls the residual. The relatively small occupational and industry endowment effects suggest that gender based occupational and industrial segregation is not a major issue within the Irish labour market. The coefficient effects suggest that while females, on balance, earn lower returns to human capital, family and job characteristics these effects are, to a large degree, counterbalanced by higher occupational returns.

We next examine the impact of individual variables using the more detailed decomposition breakdown given in Table A3 (Appendix). With regard to human capital, the principal impact relates to higher endowments of and returns to experience among males[16]. Greater levels of educational attainment among females reduced the gap somewhat. Higher average levels of tenure among males also contributed to a widening of the pay gap.

In terms of family background, the most significant influence derives from a combination of higher returns to cohabitation among males and a higher incidence of male cohabitation. At least to some extent, we suspect the spousal influence to be a proxy for the higher levels of time-out typically observed among married females.

On the job and firm-level characteristics front, some substantial influences are evident. Most importantly, and consistent with the OLS results, the higher returns to females employed in firms implementing the NWA reduced the pay gap by a

[15] This is slightly higher than the 5.8 per cent reported for Ireland in 1997 by Barrett *et al.* (2000); however, it must be borne in mind that, unlike this earlier study, we had no direct control for the substantial influence of time-out. Barrett *et al.* (2000) estimated that time-out alone accounted for just under 20 per cent of the gender wage gap. The result derived in this paper for 2003, however, is almost identical to that found by Callan & Russell (2003) who, using data for 2000, report a gap 7.1 per cent.

[16] While no coefficient advantage to experience was apparent within Table 1, a difference did occur when controls for occupation were added to the model.

relatively substantial 1.7 per cent. The relative advantage to females employed under individual-level agreements was also observed to bring the gap down by a further 0.7 per cent. Therefore, with respect to the impact of pay bargaining, the results are clearly mixed as the gender pay gap is lowered as a result of both collective and individual bargaining regimes. While the NWA clearly had the largest impact on the gender pay gap, individual-level bargaining was found to be more favourable to females relative to some other forms of collective bargaining, specifically industry-level and business-level agreements. A potential implication of this result is that a failure to properly distinguish between different forms of collective bargaining can lead to misleading results. Finally, in relation to industrial relations' type variables, it was found that firm-level minimum wage coverage exerted little influence, while individual trade union effects favoured males to the extent of widening the pay gap by 2.2 per cent. Exactly why FT males incur such an advantage, unrelated to pay bargaining, from trade union membership over their female counterparts is unclear. However, the effect is to more negate any benefits accrued through collective bargaining[17].

With respect to the remaining job and firm-level characteristics, there was some evidence to support the notion that family-friendly policies can be effective. In particular, the existence of career breaks at the firm-level led to a 1.6 per cent reduction in the differential. Again consistent with the OLS regression model results, there was no evidence to support the Becker (1971) Discrimination Tastes Model, which predicts that the wage gap will be substantially lower in female-led firms.

In relation to the PT labour market, the decomposition results for which are presented in Table 4, the raw wage gap was estimated to be 5.9 per cent, increasing to 9.7 per cent when differences in endowments between males and females were taken into consideration. In this labour market, coefficient differences were found to close the gender pay gap by 1.6 per cent, which was mostly a result of higher returns to occupation. In contrast to the FT labour market, PT females were found to have more superior human capital levels than their male counterparts.

[17] Due to concerns of colinearity between the wage bargaining and trade union membership variables, we estimated the regressions and decompositions omitting each variable consecutively and found that the results reported in Tables 1 and A3 to be robust.

< Table 4 Here >

The more detailed results presented in Table A3 (Appendix) indicate that despite PT females having higher levels of human capital, they were found to earn lower returns to schooling, particularly at the upper-secondary level, and with respect to experience and tenure. As a result, total human capital impacts led to a 2.1 per cent widening in the PT gender pay gap. With regards to family background effects, these were, on the whole, neutral with the cohabitation effect countered to some extent by influences relating to partner employment status.

Again, the effects of most interest relate to job and firm-level characteristics. In particular, the gender pay gap was reduced as a result of the NWA (1.0 per cent), business-level agreements (0.9 per cent), minimum wage cover (2.6 per cent) and individual union membership (2.6 per cent). These results suggest that institutional factors associated with trade unions and collective bargaining, play a much more important and consistent role in improving equality levels within the PT labour market.

Finally, unlike the FT decomposition, the evidence suggests that PT females in firms offering career breaks earned less resulting in a significant 3.8 per cent widening of the pay gap. This result is in someway consistent with the findings of McCrate (2005), Golden (2001) and Glass & Camarigg (1992) who report that males may actually have greater access to family-friendly fringe benefits. Coefficient advantages relating to both industry and occupational effects were found to heavily favour females and were largely responsible for reducing the gap by 2.2 and 8.0 per cent respectively.

3.4 What Can Motivations Tell Us?

One of the novel aspects of the dataset used in this study is that PT workers were asked to indicate their reasons for working PT[18]. The different motivational factors specified were: i) have another job, ii) illness, iii) disability, iv) cannot find FT job, v) family commitments, vi) financially secure, vii) earn enough working PT, and viii)

[18] The same question was not asked of FT workers.

other reason. Figure 1 illustrates that there are marked differences between males and females regarding their motivations for undertaking PT work. In the sense that such variables incorporate the very unique factors that attract individuals into part-time work, they will also act as selection controls within the model. Over two-thirds of females are concentrated in one category, specifically family commitments, whereas approximately 75 per cent of males are dispersed across four categories - cannot find a FT job, have another job, family commitments and other.

< Figure 1 Here >

While these differences in motivations are insightful, the question that remains is to what extent do they contain information that is informative with regards to the gender wage gap? Cleary, individuals' motivations for working PT will not directly affect their wages. However, they will influence the type of jobs that people choose to undertake. On this basis, we believe that these motivational factors are likely to capture unobserved job characteristics that may directly influence wages[19]. For instance, persons working for family reasons may seek a job that is more permanent in nature but at the same time is sufficiently flexible to enable a work-life balance. In contrast, an individual who is working PT because they cannot find a FT job may seek work that is more temporary in nature and place less of an emphasis on the terms and conditions of employment. Thus, on the grounds that motivational factors may be acting as proxies for previously unobserved job characteristics, we incorporate them into the PT decompositional analysis.

Results from OLS models[20] that include the PT motivational variables indicated that such influences have a neutral effect on PT female earnings. However, this was not the case for males. Relative to males working PT because they have another job, those working for family reasons or because they cannot find FT employment, or those in the other category, incur large pay penalties[21]. When these factors are incorporated into the decomposition (Table 5) the estimated wage gap changes dramatically.

[19] This is in contrast to attitudinal variables included in Swaffield (2007), which, while potentially highly correlated with job choice decisions, do not represent a direct measure of job choice motives.
[20] Results are available from the authors.
[21] Results from previous specifications remain stable and robust to the inclusion of the motivational variables (results available from authors).

Specifically, the adjusted pay gap goes from 9.7 to -3.2 per cent. Thus, the results suggest that males experience large penalties depending on their motivations for working PT, which are likely to reflect job characteristics, and when such factors are incorporated into the decomposition analysis the previously observed wage gap is eradicated. Accordingly, this interesting outcome raises the question of the extent to which the FT adjusted pay gap estimated here, and elsewhere, is likely to be upwardly biased given the absence of motivational factors in the modelling framework.

< Table 5 Here >

4.0 Summary and Conclusions

This paper examines the gender wage gap in Ireland using a relatively unique employer-employee matched dataset that enables us to assess the importance of a number of institutional and motivational factors. With respect to pay bargaining, within the FT labour market, we find that the pay gap was lower in firms implementing both the NWA and individual-level bargaining. Thus, while collective bargaining at the national level clearly benefited females, individual-level agreements were found to outperform other types of collective arrangements, specifically industry and business-level agreements. The analysis clearly demonstrates the importance of distinguishing between different forms of collective bargaining in studies such as this. There was no evidence to support the view that the introduction of the minimum wage substantially improved the relatively position of FT females. Furthermore, trade union membership put FT females at a relative disadvantage, suggesting that they accrue much fewer advantages, over and above those deriving from national collective bargaining, than their FT male counterparts. The situation in the PT labour market was markedly different with the NWA, business-level agreements, the minimum wage and trade union membership all improving the relative position of females, leading to a consistent reduction in the gender pay gap. The results, therefore, illustrate that the impact of institutional factors differ substantially between the FT and PT labour markets, with the beneficial impacts for females much more consistent and pronounced among PT workers.

Another feature of the data is that it enabled us, for the PT labour market, to investigate the importance of motives, and specifically the extent to which the need to achieve work-life balance, existing financial security and so on influenced the pay gap. It is reasonable to assume that the nature of the job selected will vary depending on the motives for labour market participation and that these previously unobserved job factors will have wage consequences. Our results indicate that males sustain large penalties depending on their motivations for working PT and when these factors are incorporated into the PT decomposition, the previously observed wage gap is eliminated. This result raises questions regarding the extent to which existing methodologies can effectively estimate the gender pay gap without incorporating individuals' motivations for selecting particular forms of employment, given that such decisions will have wage consequences.

Tables

Table 1: Full-Time OLS Models, Ireland, 2003

	Male	Female	Difference
Lower secondary	0.069*** (-0.012)	0.087*** (-0.019)	0.018 (-0.023)
Upper secondary	0.151*** (-0.012)	0.156*** (-0.017)	0.005 (-0.022)
Post secondary	0.219*** (-0.012)	0.157*** (-0.019)	-0.063*** (-0.024)
Cert/Diploma	0.354*** (-0.015)	0.287*** (-0.019)	-0.067*** (-0.025)
Degree	0.595*** (-0.016)	0.557*** (-0.02)	-0.038 (-0.027)
Experience	0.027*** (-0.001)	0.027*** (-0.001)	-0.001 (-0.002)
Experience squared	-0.000*** (0.000)	-0.000*** (0.000)	0 (0.000)
Professional body	0.144*** (-0.01)	0.169*** (-0.01)	0.025* (-0.014)
Child less than 6	0.043*** (-0.008)	0.007 (-0.011)	-0.037*** (-0.014)
Child 6 to 17	-0.004 (-0.008)	0.024*** (-0.009)	0.028** (-0.012)
Child over 18	0.029*** (-0.01)	-0.030*** (-0.011)	-0.060*** (-0.015)
Cohabit	0.127*** (-0.009)	0.051*** (-0.012)	-0.077*** (-0.016)
Partner works Full-time (FT)	-0.033*** (-0.008)	-0.005 (-0.012)	0.029* (-0.015)
Partner works Part-time (PT)	-0.002 (-0.009)	-0.048** (-0.023)	-0.046* (-0.026)
School run	-0.01 (-0.011)	-0.001 (-0.011)	0.009 (-0.015)
Tenure	0.006*** (0.000)	0.007*** (-0.001)	0.001 (-0.001)
Union membership	0.041*** (-0.007)	-0.012 (-0.009)	-0.053*** (-0.012)
Supervise staff	0.213*** (-0.006)	0.181*** (-0.007)	-0.031*** (-0.01)
Flexiwork	0.039*** (-0.007)	0.018** (-0.008)	-0.020* (-0.011)
Individual-level wage agreement	-0.013 (-0.012)	0.061*** (-0.012)	0.074*** (-0.017)
Business-level wage agreement	-0.041*** (-0.015)	-0.008 (-0.015)	0.033 (-0.022)
Industry-level wage agreement	-0.054*** (-0.013)	0.022 (-0.018)	0.076*** (-0.023)
National-level wage agreement	-0.068*** (-0.011)	0.028** (-0.011)	0.096*** (-0.016)
Other wage type agreement	-0.077*** (-0.023)	-0.004 (-0.023)	0.073** (-0.033)
Export intensity	0.000*** (0.000)	0.000 (0.000)	-0.000*** (0.000)
Foreign-owned firm	0.076*** (-0.008)	0.124*** (-0.009)	0.048*** (-0.013)
Minimum wage cover	-0.049*** (-0.012)	-0.076*** (-0.013)	-0.027 (-0.018)
Offers career breaks	0.049*** (-0.01)	0.091*** (-0.011)	0.042*** (-0.015)
Offers work sharing and/or PT work	-0.032*** (-0.007)	-0.035*** (-0.008)	-0.002 (-0.011)
Females % of management	0 (0.000)	0.001*** (0.000)	0.001*** (0.000)
Firm size	0.035*** (-0.002)	0.031*** (-0.002)	-0.004 (-0.003)
Over-educated	-0.093*** (-0.011)	-0.083*** (-0.010)	0.01 (-0.015))
Constant	1.912*** (-0.030)	1.805*** (0.058)	-0.090** (-0.035)
Observations	19,127	14,057	33,184
R-squared	0.467	0.488	

Standard errors in parentheses.
* significant at 10%; ** significant at 5%; *** significant at 1%.
Sector controls included.

Table 2: Part-Time OLS Models, Ireland, 2003

	Male	Female	Difference
Lower secondary	0.058 (-0.06)	0.098*** (-0.019)	0.04 (-0.057)
Upper secondary	0.153*** (-0.059)	0.163*** (-0.019)	0.01 (-0.056)
Post secondary	0.023 (-0.069)	0.130*** (-0.024)	0.107 (-0.066)
Cert/Diploma	0.185** (-0.089)	0.372*** (-0.026)	0.186** (-0.083)
Degree	0.495*** (-0.095)	0.644*** (-0.033)	0.150* (-0.091)
Experience	0.009 (-0.006)	0.005*** (-0.001)	-0.004 (-0.005)
Experience squared	-0.000* (0.000)	-0.000*** (0.000)	0.000** (0.000)
Professional body	0.141** (-0.072)	0.085*** (-0.025)	-0.056 (-0.068)
Child less than 6	0.008 (-0.066)	0.051*** (-0.015)	0.043 (-0.06)
Child 6 to 17	0.034 (-0.05)	0.001 (-0.012)	-0.033 (-0.046)
Child over 18	-0.022 (-0.055)	-0.007 (-0.014)	0.015 (-0.050)
Cohabit	0.132** (-0.058)	0.040** (-0.020)	-0.093* (-0.055)
Partner works Full-time (FT)	-0.042 (-0.059)	0.038** (-0.019)	0.08 (-0.056)
Partner works Part-time (PT)	-0.107* (-0.055)	0.023 (-0.031)	0.130** (-0.059)
School run	0.006 (-0.088)	-0.012 (-0.014)	-0.018 (-0.079)
Tenure	0.009*** (-0.003)	0.006*** (-0.001)	-0.004 (0.003)
Union membership	-0.001 (-0.048)	0.084*** (-0.015)	0.085* (-0.045)
Supervise staff	0.128** (-0.064)	0.127*** (-0.018)	-0.001 (-0.059)
Flexiwork	0.011 (-0.039)	0.036*** (-0.013)	0.025 (-0.037)
Individual-level wage agreement	-0.013 (-0.077)	0.013 (-0.025)	0.026 (-0.072)
Business-level wage agreement	-0.290*** (-0.101)	-0.035 (-0.035)	0.256*** (-0.096)
Industry-level wage agreement	-0.034 (-0.103)	-0.03 (-0.032)	0.004 (-0.097)
National-level wage agreement	-0.098 (-0.068)	0.002 (-0.024)	0.101 (-0.065)
Other wage type agreement	-0.133 (-0.154)	-0.002 (-0.05)	0.131 (0.146)
Export intensity	0 (-0.001)	-0.000** (0.000)	-0 (0.001)
Foreign-owned firm	0.084 (-0.085)	0.028 (-0.023)	-0.056 (-0.079)
Minimum wage cover	-0.302*** (-0.071)	-0.085*** (-0.02)	0.217*** (-0.066)
Offers career breaks	0.223*** (-0.08)	0.101*** (-0.021)	-0.121 (-0.074)
Firm size	0.006 (-0.013)	0.002 (-0.004)	-0.005 (-0.012)
Females % of management	0 (-0.001)	-0.001*** (0.000)	-0.001 (0.001)
Over-educated	-0.198** (-0.077)	-0.218*** (-0.026)	-0.020 (-0.073)
Constant	2.397*** (-0.242)	2.001*** (-0.118)	-0.350*** (-0.114)
Observations	624	4,874	5,498
R-squared	0.443	0.292	

Standard errors in parentheses.
* significant at 10%; ** significant at 5%; *** significant at 1%.
Sector controls included.

Table 3: Decompositions of the Full-Time Male\Female Wage Gap

	ALL	HC	FS	JF	IND	OCC
Amount attributable:	11.6					
- due to endowments (E):	10.3	3.4	2.7	2.3	1.0	0.9
- due to coefficients (C):	1.3	1.0	2.7	1.2	0.6	-3.0
Shift coefficient (U):	6.0					
Raw differential (R) {E+C+U}:	17.6					
Adjusted differential (D) {C+U}:	7.3					
Endowments as % total (E/R):	58.5	19.3	15.3	13.1	5.7	5.1
Discrimination as % total (D/R):	41.5					

Table 4: Decompositions of the Part-Time Male\Female Wage Gap

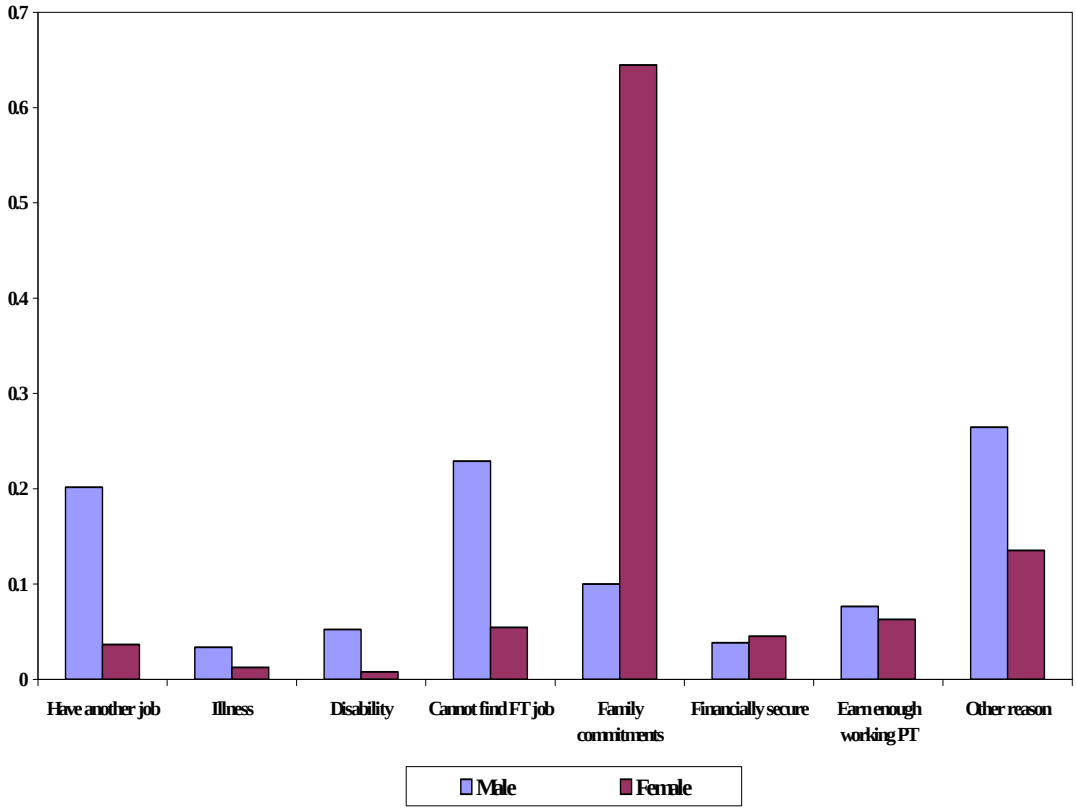
	ALL	HC	FS	JF	IND	OCC
Amount attributable:	-5.4					
- due to endowments (E):	-3.8	-1.9	-1.5	-0.5	0.5	-0.4
- due to coefficients (C):	-1.6	4.0	2.3	2.4	2.7	-7.6
Shift coefficient (U):	11.3					
Raw differential (R) {E+C+U}:	5.9					
Adjusted differential (D) {C+U}:	9.7					
Endowments as % total (E/R):	-64.4	-32.3	-25.4	-8.5	8.5	-6.7
Discrimination as % total (D/R):	164.4					

Table 5: Decompositions of the Part-Time Male\Female Wage Gap Incorporating Part-Time Work Motives

	ALL	ALL+PT MOTIVES
Amount attributable:	-5.4	-36.2
- due to endowments (E):	-3.8	7.2
- due to coefficients (C):	-1.6	-43.4
Shift coefficient (U):	11.3	40.2
Raw differential (R) {E+C+U}:	5.9	4.0
Adjusted differential (D) {C+U}:	9.7	-3.2
Endowments as % total (E/R):	-64.4	181.8
Discrimination as % total (D/R):	164.4	-81.8

Figures

Figure 1: Motivations for Working Part-Time



Appendix

Table A1: Variable Labels and Definitions

Label	Definition
Human Capital	
lowsec	Lower secondary (1,0 dummy variable)
upsec	Upper secondary (1,0 dummy variable)
postsec	Post secondary (1,0 dummy variable)
nodeg	Cert/diploma (1,0 dummy variable)
degree	Third-level (1,0 dummy variable)
profbod	Professional body (1,0 dummy variable)
Exp	Experience (yrs)
Expsr	Experience squared (yrs)
tenure	Length of time with current employer (yrs)
Family Structure	
childless6	Child less than 6 (1,0 dummy variable)
child617	Child 6 to 17 (1,0 dummy variable)
child18	Child over 18 (1,0 dummy variable)
cohabit	Cohabits (1,0 dummy variable)
partnerft	Partner works full-time (FT) (1,0 dummy variable)
partnerpt	Partner works part-time (PT) (1,0 dummy variable)
schoolrun	School run (1,0 dummy variable)
Job and Firm Characteristics	
union	Union membership (1,0 dummy variable)
supvise	Supervise staff (1,0 dummy variable)
flexiw	Flexi-work (1,0 dummy variable)
eeag2	Individual wage agreement (1,0 dummy variable)
busag2	Business level agreement (1,0 dummy variable)
indag2	Industry level agreement (1,0 dummy variable)
othag2	Other agreement (1,0 dummy variable)
export	Percentage of turnover that is generated by exports
fdi	Foreign owned (1,0 dummy variable)
mincov	Minimum wage cover (%)
careerbk	Offers career breaks (1,0 dummy variable)
worksh	Work sharing and/or PT work offered (1,0 dummy variable)
fsize	Firm size (continuous)
femlead3	Females % of management
Occupation	
occup1	Managers & administrators (1,0 dummy variable)
occup2	Professional (1,0 dummy variable)
occup3	Associate professional & technical (1,0 dummy variable)
occup4	Clerical & secretarial (1,0 dummy variable)
occup5	Craft & related (1,0 dummy variable)
occup6	Personal & protective service (1,0 dummy variable)
occup7	Sales (1,0 dummy variable)
occup8	Plant & machine operatives (1,0 dummy variable)
occup9	Other (1,0 dummy variable)

Table A1 continued:

Label	Definition
Sector	
sector1	Mining, quarrying & manufacturing (1,0 dummy variable)
sector2	Electricity, gas & water (1,0 dummy variable)
sector3	Construction (1,0 dummy variable)
sector4	Wholesale & retail (1,0 dummy variable)
sector5	Hotels & restaurants (1,0 dummy variable)
sector6	Transport, storage & communication (1,0 dummy variable)
sector7	Financial intermediation (1,0 dummy variable)
sector8	Business services (1,0 dummy variable)
sector9	Public administration & defence (1,0 dummy variable)
sector10	Education (1,0 dummy variable)
sector11	Health & social work (1,0 dummy variable)
sector12	Other services (1,0 dummy variable)

Table A2: Summary Statistics of Available Data*

Variable	Male FT		Female FT		Male PT		Female PT	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Primary	0.09	0.29	0.04	0.18	0.17	0.38	0.15	0.36
Lower secondary	0.19	0.39	0.12	0.32	0.20	0.40	0.22	0.42
Upper secondary	0.28	0.45	0.33	0.47	0.28	0.45	0.31	0.46
Post secondary	0.17	0.38	0.11	0.31	0.12	0.33	0.09	0.29
Cert/Diploma	0.10	0.30	0.19	0.39	0.07	0.26	0.12	0.32
Degree	0.17	0.38	0.23	0.42	0.14	0.35	0.10	0.30
Experience	17.38	11.82	13.18	9.36	18.69	14.10	15.33	11.04
Experience squared	441.90	513.92	261.32	347.96	547.81	635.76	356.84	1917.16
Tenure	9.68	9.40	7.29	7.53	6.66	7.50	7.48	6.95
Private sector	0.85	0.35	0.80	0.40	0.77	0.42	0.72	0.45
Professional body	0.12	0.33	0.13	0.34	0.09	0.29	0.07	0.26
Child less than 6	0.18	0.39	0.11	0.32	0.10	0.30	0.25	0.44
Child 6 to 17	0.27	0.44	0.18	0.38	0.25	0.43	0.49	0.50
Child over 18	0.12	0.33	0.10	0.30	0.17	0.37	0.24	0.43
Cohabit	0.61	0.49	0.50	0.50	0.56	0.50	0.73	0.44
Partner works full-time (FT)	0.27	0.44	0.46	0.50	0.15	0.36	0.62	0.49
Partner works part-time (PT)	0.16	0.37	0.02	0.15	0.17	0.38	0.04	0.20
School run	0.08	0.27	0.13	0.33	0.05	0.21	0.24	0.42
Union membership	0.40	0.49	0.30	0.46	0.29	0.45	0.29	0.45
Supervise staff	0.37	0.48	0.34	0.47	0.11	0.31	0.14	0.34
Flexiwork	0.21	0.41	0.23	0.42	0.43	0.50	0.32	0.47
National-level wage agreement	0.49	0.50	0.52	0.50	0.56	0.50	0.59	0.49
Individual-level wage agreement	0.23	0.42	0.25	0.44	0.21	0.41	0.23	0.42
Business-level wage agreement	0.06	0.23	0.07	0.26	0.05	0.22	0.04	0.20
Industry-level wage agreement	0.13	0.33	0.04	0.21	0.05	0.22	0.06	0.23
Other wage type agreement	0.02	0.13	0.02	0.15	0.02	0.14	0.02	0.13
Export intensity	29.87	41.57	43.26	46.09	33.34	44.42	42.15	47.46
Foreign-owned firm	0.20	0.40	0.20	0.40	0.05	0.23	0.08	0.27
Minimum wage cover	0.06	0.23	0.08	0.25	0.10	0.28	0.11	0.30
Offers career breaks	0.23	0.42	0.32	0.47	0.25	0.43	0.36	0.48
Offers work sharing and/or PT work	0.65	0.48	0.80	0.40	0.77	0.42	0.90	0.30
Firm size	4.88	2.11	5.16	2.29	4.73	2.43	5.18	2.72
Females % of management	6.82	20.57	22.11	37.46	6.51	22.02	17.12	33.98
Managers and administrators	0.13	0.34	0.14	0.35	0.01	0.12	0.03	0.18
Professional	0.09	0.28	0.09	0.28	0.10	0.31	0.06	0.24
Associate profession & technical	0.08	0.28	0.13	0.34	0.05	0.21	0.14	0.35
Clerical and secretarial	0.07	0.25	0.28	0.45	0.07	0.25	0.22	0.42
Craft and related	0.25	0.43	0.02	0.15	0.10	0.30	0.01	0.10
Personal and protective service	0.06	0.24	0.12	0.32	0.20	0.40	0.19	0.39
Sales	0.05	0.22	0.10	0.30	0.10	0.30	0.17	0.38
Plant and machine operatives	0.17	0.37	0.07	0.26	0.18	0.39	0.03	0.16
Other	0.10	0.30	0.04	0.20	0.18	0.38	0.15	0.35
Mining, quarrying & manufacturing	0.28	0.45	0.17	0.38	0.13	0.34	0.06	0.24
Electricity, gas & water**	-	-	-	-	-	-	-	-
Construction	0.19	0.39	0.01	0.12	0.05	0.21	0.01	0.10

Table A2 continued:

Variable	Male FT		Female FT		Male PT		Female PT	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Wholesale & retail	0.12	0.33	0.15	0.36	0.16	0.37	0.20	0.40
Hotels & restaurants	0.04	0.20	0.08	0.27	0.11	0.31	0.09	0.28
Transport, storage & communication	0.10	0.29	0.05	0.21	0.10	0.30	0.03	0.16
Financial intermediation	0.04	0.20	0.09	0.28	0.01	0.09	0.04	0.19
Business services	0.09	0.29	0.11	0.32	0.08	0.26	0.08	0.27
Public administration & defence	0.03	0.18	0.05	0.23	0.04	0.20	0.04	0.20
Education	0.02	0.14	0.06	0.24	0.09	0.29	0.09	0.28
Health & social work	0.04	0.19	0.17	0.38	0.13	0.34	0.31	0.46
Other services	0.03	0.18	0.05	0.22	0.09	0.29	0.05	0.23

Note: [*]Std. Dev. is abbreviation for standard deviation.
[**] Cannot be reported for confidentiality reasons.

Table A3: Breakdown of Decomposition Results by Variable*

	Full-time			Part-time		
Variable	**Attrib**	**Endow**	**Coeff**	**Attrib**	**Endow**	**Coeff**
Human Capital:						
Primary	-1.0	-1.0	0.0	0.2	-0.5	0.7
Lower secondary	-0.9	-0.7	-0.2	0.4	0.0	0.4
Upper secondary	-0.2	0.2	-0.4	2.3	-0.5	2.8
Post secondary	0.6	0.1	0.5	-0.2	-0.2	0.0
Cert/Diploma	-0.2	-0.6	0.4	-1.7	0.2	-1.9
Degree	-0.9	-0.7	-0.2	0.5	1.2	-0.7
Experience	18.1	15.3	2.8	12.7	3.6	9.1
Experience squared	-11.8	-11.0	-0.8	-14.5	-5.6	-8.9
Tenure	1.0	1.7	-0.7	1.7	-0.3	2.0
Professional body	-0.3	0.1	-0.4	0.7	0.2	0.5
	4.4	**3.4**	**1.0**	**2.1**	**-1.9**	**4.0**
Family Background:						
Child less than 6	0.6	0.2	0.4	-1.3	0.2	-1.5
Child 6 to 17	-0.6	-0.1	-0.5	0.1	-0.2	0.3
Child over 18	0.6	0.1	0.5	-0.4	0.1	-0.5
Cohabit	5.3	1.9	3.4	6.1	-2.4	8.5
Partner works Full-time (FT)	-0.4	0.6	-1.0	-2.9	2.1	-5.0
Partner works Part-time (PT)	0.0	-0.1	0.1	-1.5	-1.0	-0.5
School run	-0.1	0.1	-0.2	0.7	-0.3	1.0
	5.4	**2.7**	**2.7**	**0.8**	**-1.5**	**2.3**
Job and Firm:						
Union membership	2.2	0.7	1.5	-2.6	0.0	-2.6
Supervise staff	1.4	1.2	0.2	-0.7	-0.4	-0.3
Flexiwork	0.7	0.0	0.7	-0.5	0.0	-0.5
Individual-level wage agreement	-0.7	-0.1	-0.6	1.8	-0.2	2.0
Business-level wage agreement	0.2	0.0	0.2	-0.9	0.0	-0.9
Industry-level wage agreement	-0.1	0.0	-0.1	0.3	0.0	0.3
National-level wage agreement	-1.7	0.0	-1.7	-1.0	0.0	-1.0
Other wage type agreement	0.0	0.0	0.0	0.0	0.0	0.0
No majority wage agreement	0.4	0.0	0.4	0.4	-0.1	0.5
Export intensity	0.8	-0.3	1.1	-0.2	0.1	-0.3
Foreign-owned firm	-0.9	0.1	-1.0	0.2	-0.1	0.3
Minimum wage cover	0.2	0.0	0.2	-2.6	0.0	-2.6
Offers career breaks	-1.6	-0.1	-1.5	3.8	-0.2	4.0
Offers work sharing and/or PT work	0.0	0.4	-0.3	-	-	-
Firm size	1.9	0.1	1.8	2.3	-0.1	2.4
Females % of management	0.3	0.1	0.1	1.5	0.4	1.1
Over-educated	0.4	0.2	0.2	0.1	0.1	0.0
	3.5	**2.3**	**1.2**	**1.9**	**-0.5**	**2.4**
Industry:						
Mining, quarrying & manufacturing	-0.1	-0.1	0.0	-0.4	-0.2	-0.2
Electricity, gas & water**	-	-	-	-	-	-
Construction	1.1	1.1	0.1	0.8	0.2	0.6
Wholesale & retail	0.8	0.0	0.8	-0.6	0.0	-0.6
Hotels & restaurants	0.1	0.1	0.0	-1.3	-0.7	-0.6
Transport, storage & communication	0.3	0.1	0.2	-1.4	-0.7	-0.7

Table A3 continued:

	Full-time			Part-time		
Variable	**Attrib**	**Endow**	**Coeff**	**Attrib**	**Endow**	**Coeff**
Industry:						
Financial intermediation	-0.5	-1.0	0.5	0.0	-0.5	0.5
Business services	-0.3	-0.1	-0.3	-1.7	0.2	-1.9
Public administration & defence	-0.4	0.1	-0.5	0.9	0.0	0.9
Education	-0.2	-0.4	0.2	1.8	0.9	0.9
Health & social work	-0.4	1.1	-1.4	-0.9	1.1	-2.0
Other Services	-0.1	0.0	-0.2	0.6	0.2	0.4
	0.4	**1.0**	**-0.6**	**-2.2**	**0.5**	**-2.7**
Occupation:						
Managers and administrators	1.4	1.7	-0.3	0.0	-0.1	0.1
Professional	0.0	-0.1	0.1	0.1	0.2	-0.1
Associate profession & technical	0.1	-0.2	0.3	-0.4	-1.1	0.7
Clerical and secretarial	-1.4	2.0	-3.4	-3.9	2.2	-6.1
Craft and related	-0.5	-0.5	0.0	-0.2	-0.2	0.0
Personal and protective service	-0.1	0.2	-0.3	-0.9	-0.5	-0.4
Sales	0.3	0.1	0.2	-1.0	0.9	-1.9
Plant and machine operatives	-0.8	-1.3	0.5	0.2	-0.2	0.4
Other	-1.1	-1.0	-0.1	-1.9	-1.6	-0.3
	-2.1	**0.9**	**-3.0**	**-8.0**	**-0.4**	**-7.6**
Subtotal	**11.6**	**10.3**	**1.3**	**-5.4**	**-3.8**	**-1.6**

Note: [*]Attrib, Endow and Coeff are abbreviations for attribute, endowment and coefficient respectively.
[**] Cannot be reported for confidentiality reasons.

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