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The upside of pessimism - Biased beliefs and the paradox of the contented female worker

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Highlights

- *Both sexes display inaccuracies in estimating their labour market prospects, but in different directions.*
- *Overestimation of labour market prospects prior to employment is associated with lower subsequent employment satisfaction.*
- *Female underestimation and male overestimation of labour market prospects explains a significant proportion of the paradox of the contented female worker.*

Abstract

Both sexes display inaccuracies in estimating their labour market prospects, but in different directions. Consistent with the literature on sex differences in psychological bias, females are less optimistic than men and on average tend to be overly pessimistic. Optimism, measured as an upwardly biased perception of the labour market returns distribution, increases the likelihood of disappointment with realized performance. A substantial proportion of the female job satisfaction advantage appears to be associated with both overly pessimistic female expectations and overly optimistic male expectations. The implications of female pessimism on both job-search and gender earnings differentials is also discussed.

JEL Classification Codes: D84, J28, J64
Keywords: Optimism, wage expectations, job satisfaction

1. Introduction

One of the most robust findings within economics and related disciplines is the existence of the pay gap between men and women (Blau and Kahn, 2000). Despite being paid less, especially at the top end of the wage distribution (Arulampalam et al., 2007) women are more

satisfied with their work and with their pay (Clark, 1997; Bender et al., 2005), with this anomaly being termed “the paradox of the contented female worker” (Crosby, 1982). The most prominent explanation of this paradox is not that women have jobs which are unobservedly better than men, but that, women have lower reward expectations than men and as such, are more easily satisfied with any given employment outcome (Clark, 1997).

Lower female labour market expectations may be the result of two possible mechanisms. Firstly lower female expectations may in themselves be justified, in that; they accurately reflect gender heterogeneity in the distribution of market wages offered, owing to factors such as labour market discrimination (Altonji and Black, 1999; Bertrand, 2011). Alternatively, lower female expectations may stem from underlying gender differences in psychological systematic bias (Kahneman et al., 1982). The focus of this paper is on optimism, or more specifically, female pessimism. While under rational expectations, agents’ predictions are a mirror reflection of the distribution of market wages offered, this requires that workers possess accurate information concerning their attributes. This is problematic, as practically everyone overestimates their own ability (Weinstein, 1980). Camerer and Lovallo (1999) note two interesting exceptions to this general rule. First, the clinically depressed do not have optimistic expectations concerning their own competence (Alloy and Ahrens, 1987). Second, women are less optimistic than men and for certain traits are found to be overly pessimistic (Maccoby and Jacklin, 1974). As Arabsheibani et al. (2000) note, higher male optimism is consistent with theories from evolutionary psychology. For women, men’s commitment and earning capacity is a key sorting variable in mating competition, while men attach a greater weight to physical attractiveness (Buss, 1989; Fisman et al., 2006). To increase their chances of success, men are motivated to increase their earnings or to signal their opportunities for future prosperity (Cole et al., 1992). The best way to convince others

of your future prosperity is to really believe it yourself (Trivers, 2000), suggesting that self-deception may have evolutionary advantages for men.

Using data from a major UK longitudinal survey, the British Household Panel Survey (BHPS), the principal aim of this paper is to investigate the extent to which lower female earnings expectations amongst the unemployed and economically inactive can be explained by either systematic female underestimation/male overestimation or heterogeneous labour market prospects. Within this study, optimism is measured for individuals prior to entry into the employee labour market and is defined empirically as the miscalibration between an individual's actual recorded wage expectation and their predicted market wage. This measure conforms to the formal definition of optimism used in economics whereby there is a systematic biased belief in the probability of favourable outcomes (Hey, 1984). This view of optimism is closely related to the psychology literature concerning unrealistic optimism (Weinstein, 1980)—where individuals overestimate the probability that a favourable outcome will occur, or underestimate the probability that a negative outcome will occur—and to the form of overconfidence which Moore and Healy (2008) categorize as overestimation—where there are miscalibrated beliefs in one's ability or performance. These measures of optimism are though distinct from the dispositional optimism perspective. Optimism is not viewed here as a biased perception about the probability of a future event occurring, but as a generalized outcome expectancy that good things will happen (Scheier et al., 1994).

Secondly, the empirical analysis seeks to determine the effect of optimism on subsequent employee job satisfaction and importantly whether gender differences in optimism can help to explain the paradox of the contented female worker. The economics literature has tended to focus on the negative aspects of optimism, in that, optimism, like any form of judgemental

bias, must lead to sub-optimal decision making and consequently lower utility (Puri and Robinson, 2007). One noticeable exception to this is Brunnermeier and Parker (2005), who argue that optimistic thinking allows individuals to take instantaneous gratification in their future success. Forward looking agents will therefore choose to be optimistic as the anticipatory utility from holding optimistic beliefs will tend to outweigh the costs of distorted decision making. Still, optimists have a tendency to overestimate the likelihood of positive outcomes, and in the context of this study, to overestimate their prospects in paid-employment. A consequence, is that on average, actual realized returns will tend to fall short of expectations, negatively influencing satisfaction through what psychologists have referred to as self-discrepancy (Higgins, 1987) and disappointment (Bell, 1985).

Whilst previous studies have already analysed the link between expectations and the female job satisfaction advantage (e.g. Clark, 1997), owing to the lack of data collected on wage expectations these studies have been constrained to using statistically derived measures, usually computed as the fitted values from a Mincer equation. Wage expectations are therefore assumed to be fully rational, in that, individuals construct their expectations by observing the labour market rewards of other people like themselves. Actual recorded earnings expectations and the psychological bias in these forecasts are the focus of this paper, rational expectations are not. This is important, if lower female expectations can be explained solely by heterogeneous labour market prospects, a narrowing gender pay gap will help eliminate the gender expectation gap. However, if lower female expectations also result from underlying gender differences in systematic psychological bias, then even in labour markets with no discrimination, lower female expectations are likely to persist. In short, if females are more predisposed to underestimating their prospects than men, they will continue to be satisfied with lower compensation which is of serious concern for policy measures attempting

to uncover ways to reduce the gender wage gap. The implications of female pessimism/male optimism on the gender pay gap are discussed in detail within the conclusion.

2. Background and theory

Extant empirical research has sought to determine the underlying influences on individual job satisfaction, as job satisfaction is an important factor in the determination of various key aspects of employee behaviour. Most noticeably for the economics discourse are the array of studies that have shown the significance of job satisfaction in determining quitting behaviour, productivity and absenteeism (Akerlof et al., 1988; Clark, 2001; Judge et al., 2001; Clark et al., 2012). These studies generally rely on Likert type responses to the individual's subjective perception about job satisfaction. Job satisfaction measures can be quite informative in this respect as they capture the workers' reaction towards the array of characteristics associated with employment (Hamermesh, 2001).

Despite women on average being paid significantly less than men (Blau and Kahn, 2000) and having by many yardsticks objectively worse jobs (Heywood, 1989) there is wide evidence that women are more satisfied with their work and wages (Clark and Oswald, 1996; Clark, 1997; Sloane and Williams, 2000; Sousa-Poza and Sousa-Poza, 2000; Bender et al., 2005). One of the most prominent explanations of the gender/job-satisfaction paradox is that women have lower reward expectations than men, and as such, are more easily satisfied (Clark, 1997). This theoretical viewpoint is closely related to the models of pay satisfaction developed using self-discrepancy theory from social psychology. Here, individuals are consumed by a number of negative emotions, such as dissatisfaction and disappointment, when their realized state is lower than their expected state (Katzell, 1964; Porter and Lawler,

1968; Locke, 1969; Lawler, 1971; Bell, 1985; Higgins, 1987). The satisfaction we derive from outcomes is therefore based to some extent on counterfactual thinking—favourable outcomes are more attractive when they are unexpected, and unfavourable outcomes feel less disappointing when they are expected (Mellers et al., 1997). Thus, receiving £10 when expecting £5 feels pleasing; receiving £10 when expecting £100 feels disappointing. Wage expectations are likely to be formed from a mix of social comparisons, prior labour market experiences, by what the individual thinks they deserve or by what is considered equitable. Owing to heterogeneous expectations, individuals who receive the same amount of remuneration from employment can therefore differ substantially in their pay satisfaction levels. In the spirit of Clark (1997), consider an individual's job satisfaction (JS) from paid-employment for those moving from unemployment, U, into paid-employment, E, in period t:

$$JS_{it}^{E} = f(y_{it}^{E}, E_{it-1}^{U}, i_{it}^{E}, j_{it}^{E}) \qquad (1)$$

where y_{it}^{E} is the employees obtained income, i_{it}^{E} and j_{it}^{E} are the employees individual and job-specific characteristics and E_{it-1}^{U} represents an individual's actual recorded performance expectation prior to becoming an employee. In Equation (1), E_{it-1}^{U} and y_{it}^{E} are assumed to be positively correlated, in the sense that higher expectations are in some respects rational and will lead to higher performance outcomes. However, the higher these expectations are the more likely it is that they go unfulfilled (Adams, 1965; Proto and Rustichini, 2015).

While earnings expectations have been shown to be in the main qualitatively rational and an accurate estimate of realised earnings (Major et al., 1984; Betts, 1996; Dominitz and Manski, 1996; Webbink and Hartog, 2004), under rational expectations $E_{it-1}^{U} = y_{it}^{E}$ and any inconsistencies must reflect bad 'luck' or a bad 'match' in a job with less preferable pay than available elsewhere, which may impart a sense of regret (Bell, 1982). Alternatively forecasting errors may result from systematic bias as a large body of psychological research suggests. De Bondt and Thaler (1995) suggest that optimism is one of the most pervasive human traits, in that, almost everyone overestimates their ability. Prior research has found substantial gender heterogeneity across a range of personality traits, including risk taking (Byrnes et al., 1999; Eckel and Grossman, 2008; Croson and Gneezy, 2009), locus of control (Semykina and Linz, 2007) and components of the Big 5 personality scale (Mueller and Plug, 2006). In the context of optimism, whilst studies have shown that the majority of individuals overestimate their own abilities and are unrealistically optimistic about their future (e.g., Weinstein, 1980; Taylor and Brown, 1988; Waldman, 1994), evidence also suggests that under many conditions men are more unrealistically optimistic than women (Maccoby and Jacklin, 1974); including in their expectations about a happy marriage (Lin and Raghubir, 2005) and traffic accident risk perception **(**DeJoy, 1992). Frieze et al. (1978) and Waldman (1994) discuss the systematic overestimation of abilities by men but also importantly the underestimation of females, suggesting that both sexes are inaccurate in estimating their abilities but in different directions. In order to pinpoint the extent to which forecast errors reflect systematic psychological bias, Equation (1) can be modified as follows:

$$JS_{it}^{E} = f(y_{it}^{E}, E_{it-1}^{U} - \hat{y}_{it-1}^{U}, i_{it}^{E}, j_{it}^{E}) \quad (2)$$

where $\hat{y}_{it-1}^{U}$ is a predicted market wage, which represents the realistic probability of an individual's labour market performance or a "going rate" based upon the average income of people with the same individual characteristics as the respondent. Importantly, the predicted market wages are derived within sex, under the assumption that expectations are narrowly drawn (Major and Forcey, 1985; Sloane and Williams, 2000). Optimism is therefore defined as $E_{it-1}^{U} - \hat{y}_{it-1}^{U}$, which is the difference between the realistic probabilities of an individual's labour market prospects given his/her various characteristics and the individuals wage expectations. Optimistic thinking widens the scope for disappointment by increasing ones vulnerability to self-discrepancies between expected and experienced outcomes.

Based on the theoretical framework outlined above, this paper proposes the following hypothesis, tested in the following empirical analysis.

Hypothesis 1. Females have on average less optimistic wage expectations than men. This hypothesis is tested on the basis of a smaller or more negative $E_{it-1}^{U} - \hat{y}_{it-1}^{U}$ for the female group.

Hypothesis 2. Overly optimistic wage expectations are associated with lower levels of subsequent paid-employment job satisfaction. This is tested on the basis of a negative coefficient between $E_{it-1}^{U} - \hat{y}_{it-1}^{U}$ and JS_{it}^{E}, conditional on y_{it}^{E}, i_{it}^{E} and j_{it}^{E}.

Hypothesis 3. Lower female optimism contributes to explaining the paradox of the contented female worker, $\overline{JS}^{F} > \overline{JS}^{M}$.

3. Data source and descriptive analysis

The data used for the empirical analysis are drawn from the British Household Panel Survey (BHPS). This is a nationally representative general purpose household survey of 5,000 households (comprising approximately 12,000 individuals). Households are re-interviewed annually and the present analysis uses the 18 annual waves available between 1991 and 2008. The sample used for the subsequent analysis is restricted to the original BHPS sample covering Great Britain and to employees; the unemployed and the economically inactive who are below the state pension age (16-59 for women, 16-64 for men).

Within the BHPS if the respondent '*is not currently working but has looked for work or has not looked for work in last four weeks but would like a j*ob', he/she is asked: '*About how many hours in a week do you think you would be able to work*?' Individuals are then asked about expected wages: '*What weekly take-home pay would you expect to get (for that*)?' From these responses, an hourly expected wage (£'s) is constructed, E_{it}^{U}, for individuals who are currently classified as unemployed or economically inactive, U, but who subsequently become employees later in the panel.[1] Given the reference to '*take home pay'* and following Brown and Taylor (2011, 2013) it is assumed that responses refer to the net expected wage. Consequently, all further analysis focuses on net hourly pay (£'s). The economically inactive are included in the sample if they report an expected wage as this is interpreted as a signal of labour market attachment. In order to determine whether these wage expectations are biased—in that they do not adequately reflect the distribution of market wages offered—a predicted market wage is constructed, $\hat{y}_{it}^{U}$, for the sample of unemployed and economically

[1] Approximately 39% of the sample are unemployed with the remainder being classified as economically inactive. Major inactive groups are those in family care, those that are full-time students and those classified as long-term sick/disabled. To deal with multiple transitions out of inactivity/unemployment and into employment per individual, the analysis focuses only on the first observable transition to ensure that expectations are constructed for individuals prior to entry into paid-employment.

inactive individuals, U. The predicted market wage or "going rate" is constructed following Prasad (2003), Hogan (2004) and Brown and Taylor (2011; 2013) by estimating a pooled OLS log of net hourly earnings equation on all employees in the dataset who have one or less than one year of current job tenure. Net hourly wages are assumed to be determined by the following vector of characteristics: age in quadratic form, education, ethnicity, marital status, physical and mental health, region of residence and year.[2] The wage equation is formally shown in Equation (3), where y_{it}^{E} is the net hourly wages of employees, E. X_{it}^{E} is a vector of employee characteristics and v_{it} is the usual random error term.

$$\log(y)_{it}^{E} = \rho' X_{it}^{E} + v_{it} \qquad (3)$$

$$\log(\hat{y})_{it}^{U} = \log(\hat{y})_{it} = \hat{\rho}' X_{it}^{U}$$

The estimated coefficients $\hat{\rho}$ are then used to predict the market wage for our group of unemployed or economically inactive individuals, U, based upon their vector of characteristics, X_{it}^{U}, such that $X_{it}^{U} = X_{it}^{E}$. Importantly, the predicted market wage is computed from separate gender earnings equations as social comparisons tend to be same-sex (Major and Forcey, 1985; Sloane and Williams, 2000) and hence to allow for the fact that men and women may be rewarded differently for their individual specific characteristics. This in turn eliminates the possibility that lower female expectations result from contemporary female disadvantages experienced in the labour market or additionally issues surrounding men and women selecting different career paths. This gives a total of 7,298 observations (3,742 female

[2] Sample selection into employment is controlled for by including an inverse mills ratio in the wage equations where the over-identifying instruments are whether the respondent has any dependent children and whether the respondent's partner is employed. The presence of dependent children may force some individuals to retreat from the labour market to care for their children whereas others might find the costs of rearing children increases the likelihood of finding employment. In the same view, partner's employment status is also likely to influence the likelihood of employment due to gains from specialization between housework and paid work.

and 3,556 male observations) from 4,077 individuals from whom information on both the expected wages and predicted market wages are available.

Figure 1 illustrates the kernel probability density function of the log expected wage and log predicted market wage for the male and female samples.

The first panel in Figure 1 displays the log net expected wages for the male and female samples. Males tend to have higher wage expectations than females. A Kolmogorov-Smirnov test is conducted to test for the equality of the log expected wage distributions between genders, confirming the difference at the 1% level of statistical significance. To begin to uncover the extent to which sex differences in wage expectations represent psychological systematic bias, the second panel in Figure 1 displays the log predicted market wage for the male and female samples. Males have higher wage expectations but also have higher predicted market wages, suggesting that higher male wage expectations are to some extent justified. The difference in the predicted market wage distributions between genders is statistically significant at the 1% level. To formally test Hypothesis 1, and to analyse the extent to which females and males underestimate/overestimate their labour market prospects, Figure 2 displays the distribution of male and female optimism, $log(E)_{it}^{U} - log(\hat{y})_{it}^{U}$. A Kolmogorov-Smirnov test is conducted to test for the equality of the distributions between genders, confirming the difference at the 1% level of statistical significance. The mean of the male optimism distribution suggests that on average males overestimate their labour market prospect by approximately 3.7%, whilst females on average tend to underestimate their labour market prospects by approximately 1.3%. It is also possible to look at the degree of optimism for males and females at different quintiles of the predicted market wage distribution. Briefly, females are the most pessimistic at the higher end of the predicted market wage distribution which is consistent with the well documented glass ceiling. Here

females on average tend to underestimate their prospects by approximately 6.1%. Importantly in all quintiles of the predicted market wage distribution males are more optimistic than females. For instance in the 3rd quintile of the predicted market wage distribution, males on average overestimate their prospects by approximately 4.8% and females underestimate their prospects by approximately 5.2%. Whilst the size of miscalibration suggests that on average both groups are qualitatively rational, the real interest is in the relative differences in optimism between females and males. These findings overall are consistent with theories from evolutionary psychology and provide support for Hypothesis 1, in that females have on average less optimistic wage expectations than men. Importantly, both sexes display inaccuracies in estimating their earnings power, but in different directions. Lower female expectations therefore appear to be an amalgam of heterogeneous labour market prospects and psychological systematic bias. Lastly, it is important to note that this approach is likely to underestimate the gender difference in optimism if wage expectations are derived more broadly across sex rather than within sex.[3]

4. Econometric strategy

For completeness the econometric strategy that follows is concerned with estimating both Equations (1) and (2) from Section 2. Equation (1) is estimated as previous studies in constructing earning expectations have tended to use the predicted values from a Mincer equation, as reliable information on actual recorded expectations is rarely collected (Clark,

[3] The current sample comprises of both the economically inactive and the unemployed which are two groups fundamentally different in terms of their labour market experiences. From separate analysis of these two groups, both male overestimation and female underestimation is observable. This general finding is also consistent across those individuals with and without a university degree. The only exception is with gender differences in optimism for those individuals who are in full-time education. For this group both males and females tend to overestimate their prospects, but consistently men overestimate theirs by more than women. It is important to note that those in full-time education tend to be younger and have little prior labour market experience. This group has also aged out of period which has seen an improved position for females in the labour force relative to earlier cohorts. This, coupled with the lack of labour market experience may explain these higher female expectations; after all, optimism is greatest when the chances of success are the most uncertain (Kahneman et al., 1982).

1997). In this view, wage expectations are therefore assumed to be fully rational, in that, individuals compute their expectations by observing the labour market rewards of other people like themselves. To reiterate, rational expectations are not the focus of this paper.

4.1 Constructing optimism

To test Equations (1) and (2), the first-stage of the empirical investigation is to construct the formal measures of wage expectations and optimism to be used in the second-stage job satisfaction equations. We construct these measures for our sample of unemployed and economically inactive individuals, U, net of the environmental influences that cannot be directly controlled for in the subsequent second-stage employee job satisfaction equations. Table 1 provides summary statistics of the key variables used to construct the formal measures of wage expectations and optimism for the second-stage models, and the sources of heterogeneity that exists within the sample. From Table 1, approximately 39% of the sample is classified as unemployed, major inactive groups include those in full-time education (20.7%) and those in family care (26.6%). Approximately 6.3% of the sample has a university degree, with 25.7% having no formal qualifications.

1. To construct our measure of wage expectations the panel feature of the data is exploited. Specifically, a linear fixed-effects regression is estimated of the form presented in Equation (4), where E_{it}^{U} is the wage expectation of individual i at time t. X_{it} is a vector of time-varying control variables which determine E_{it}^{U}, u_i^1 is the individual fixed-effect and ε_{it} is the usual random error term.[4] The formal measure of wage expectations are the individual standardised fixed-effect coefficients extracted from Equation (4), $\hat{u}_i^1$, which provides an individually-varying measure of

[4] *X* includes all the variables listed in Column (1) of Table 2, and a set of regional and year controls.

wage expectations, averaged over a number of periods and excluding the marginal impact of time-varying environmental influences. Column (1) of Table 2 reports the results from this procedure.

$$\log(E)_{it}^{U} = \beta' X_{it} + u_i^1 + \varepsilon_{it} \qquad (4)$$

2. Optimists have a generalised tendency to overestimate the likelihood of positive outcomes, which implies a tendency for optimists to have an upwardly biased perception of the labour market returns distribution when evaluating their labour market prospects. Following Puri and Robinson (2007) and Dawson et al. (2014), optimism is measured as the difference between the individual's wage expectation, E_{it}^{U}, and the predicted market wage, $\hat{y}_{it}^{U}$, estimated via a linear fixed-effects regression. The procedure is formally presented in Equation (5). To recap, the predicted market wage is the fitted values from separate gender earnings equations, and is therefore based upon the average income of people with the same individual characteristics as the respondent. Computing the predicted market wage from separate gender earnings equations controls for the issue of same-sex social comparisons and hence that men and women may be rewarded differently in the labour market for their individual specific characteristics. X_{it} as in Equation (4) is a vector of time-varying control variables that influence E_{it}^{U}, u_i^2 is the individual fixed-effect and ε_{it} is a random error term.

$$\log(E)_{it}^{U} = \delta \log(\hat{y})_{it}^{U} + \beta' X_{it} + u_i^2 + \varepsilon_{it} \qquad (5)^{5}$$

[5] For Equations (4) and (5) the Hausman test rejects random-effects in favour of fixed-effects, the random-effects estimates are therefore inconsistent whilst the fixed-effects estimates are consistent but inefficient.

Optimists have higher wage expectations than they should; therefore, conditional on the predicted market wage control, optimists will have a correspondingly higher fixed-effect. The individual fixed-effect extracted from Equation (5), $\hat{u}_i^2$, therefore provides estimates of optimism, averaged over a number of periods and net of any environmental influences.[6] Column (2) of Table 2 reports the results from Equation (5). Briefly, expectations are qualitatively rational in the sense that those with the highest rational expectations are more likely to expect higher wages. Also, age is inversely related to optimism as is education.

[6] One possible argument is that the predicted market wage may give biased estimates of the likely distribution of wages facing the sample of unemployed or economically inactive individuals. For instance, the sample of individuals who have one or less than one year of current job tenure will include people who were never unemployed and have simply moved from one job to another. In this instance the predicted wage will be upwardly biased. However the real interest is in relative optimism and a general bias in the predicted market wage does not affect this property.

4.2 Optimism and job satisfaction

In the second-stage of this empirical investigation, job satisfaction equations are estimated separately for males and females who are currently in paid-employment and who were previously unemployed or economically inactive when their wage expectations and optimism were constructed. Responses for job satisfaction questions within the BHPS are given on a 7-point Likert scale ranging from 'not satisfied at all' to 'completely satisfied'. The BHPS contains detailed information on job satisfaction, where respondents are asked to rate their job satisfaction on 5 items: (1) overall job satisfaction, (2) satisfaction with pay, (3) satisfaction with job security, (4) satisfaction with hours worked and lastly, (5) satisfaction with the work itself. The primary interest is the effect of optimism on the dimension of job satisfaction associated with pay. Also of interest is the extent to which wage expectations and optimism affect more general worker well-being; overall job satisfaction is therefore also included alongside satisfaction with pay as an outcome variable of interest. Formal tests of the relationship between wage expectations, optimism and job satisfaction presented in Equations (1) and (2) of Section 2, are described in the second-stage regression presented in Equation (6):

$$JS_{it}^{j} = \varphi \hat{u}_i^n + \sigma \log(y)_{it} + \beta' X_{it} + \varepsilon_{it} \qquad (6)$$

where JS_{it}^{j} is job satisfaction for individual i at time t for job satisfaction measure j. X_{it} is a vector of time-varying and time-invariant individual and job-specific characteristics and y_{it} is the individuals achieved net hourly wage in log form.[7] $\hat{u}_i^n$ are the standardised fixed-effect coefficients extracted from either Equation (4) or (5) which provides individual varying measures of earnings expectations and optimism, and ε_{it} is a random error term. It could be

[7] See Table 3 for the complete set of controls in the models.

argued that under rational expectations, $\hat{u}_i^2$ is simply capturing unobserved private information about earnings power. Prior optimism will therefore be positively correlated with subsequent employment earnings in Equation (6). Given rational expectations it follows that conditional on current earnings in paid-employment, φ is zero.

5. Results

This section reports formal multivariate regression analysis of the relationship between job satisfaction, prior wage expectations and prior optimism for the male, female and pooled samples of employees. The ordered dependent variables are treated as cardinal and Equation (6) is estimated as a linear regression estimated by OLS, with the standard errors bootstrapped and clustered to account for intra-group correlations.[8] This modelling strategy was chosen in order to perform the detailed linear decomposition in the next section. It should be noted though that all results are qualitatively similar to those obtained from non-linear ordered response models. Column (1) of Table 3 summarizes the means of the key variables of interest used in Equation (6) for the female and male sub-samples. Consistent with other studies (e.g. Clark, 1997) females have higher overall job satisfaction and satisfaction with pay despite having lower net wages. In particular, female employees have approximately a 6% and 4% higher mean level of overall job satisfaction and pay satisfaction than male employees, respectively. Lending further support to Hypothesis 1, net of any environmental influences females have both lower expected wages ($\hat{u}_i^1$) and lower optimism ($\hat{u}_i^2$) than men. T-tests are performed in both instances for the difference in means between genders, confirming the differences at the 1% level of statistical significance.

[8] For robustness, Equation (6) is also estimated using a linear correlated random effects model in order to account for other sources of time invariant individual heterogeneity. The results are wholly consistent with those presented in Table 3.

Columns (2) and (3) of Table 3 report the empirical results from the multivariate regression analysis for the male, female and pooled samples that lends support to Hypothesis 2. In the pooled models the female coefficient is positive and statistically significant at the 5% level or better. For pay satisfaction, the wage expectation and optimism coefficients are negative and statistically significant at the 1% level for the pooled, female and male samples. These effects are not small. A one standard deviation increase in optimism from the mean reduces female satisfaction with pay, all other things equal, from 4.82 to 4.67. The size of this effect is equivalent to increasing females usual working hour's week, all other things constant, from 25 to 35 hours. At the extremes, the most optimistic of female employees (+2.5 standard deviations from the mean) have a satisfaction with pay score some 14% less than the least optimistic (-2.5 standard deviations from the mean). For males the corresponding effect is smaller at approximately 10%. Higher expected wages and optimism also reduce overall job satisfaction for men and for women. However, the coefficients in the female models are much smaller than those in the male models and are not statistically significant at the conventional levels. Current earnings increase overall job satisfaction but the relationship for females is not statistically significant, providing further support to the idea that women put less emphasis on the importance of earnings, and instead, value other non-pecuniary aspects of employment (Jackson et al., 1992; Hundley, 2001). As with other studies, education (Clark and Oswald, 1996) and being a member of a trade union (Clark, 1997; Bender and Sloane, 1998) reduces job satisfaction. In the case of education, Clark and Oswald (1996) suggest the relationship is due to education raising ambition targets.

5.1 Decomposing the gender job satisfaction gap

In order to test Hypothesis 3 and to provide further understanding of the job satisfaction differences between male and female employees and investigate the relative contributions of

the key regression model covariates, this section undertakes a linear decomposition analysis. When outcomes of interest are continuous and modelled using linear regression (e.g. wages) the Blinder-Oaxaca (Blinder, 1973; Oaxaca, 1973) decomposition technique has been widely used. The Blinder-Oaxaca decomposition for the female/male gap in the average value of job satisfaction, JS, can be expressed as:

$$\bar{JS}^F - \bar{JS}^M = (\bar{X}^F - \bar{X}^M)\hat{\beta}^* + \bar{X}^F(\hat{\beta}^F - \hat{\beta}^*) + \bar{X}^M(\hat{\beta}^* - \hat{\beta}^M) \qquad (7)$$

where $\bar{JS}^F - \bar{JS}^M$ is the difference between the average outcome of the female and the male sample. $\bar{X}^g$ is a row vector of average values of the independent variables and $\hat{\beta}^g$ is a vector of coefficient estimates for gender $g = (F, M)$. The asterisk refers to the coefficients estimated from a model where the samples are pooled together. The difference in the outcome due to characteristics/endowments (the "explained" part) is captured by the first term on the right-hand side of Equation (7), while the second and third terms shows the differential that is due to differences in the estimated coefficients (the "unexplained" part). The specific formulation of the decomposition analysis used in this analysis uses the coefficients from a pooled model for the estimation of the explained part. However, Equation (7) can be formulated accordingly based on the specific model coefficients (pooled, female or male) that are used for calculating the explained part of the gap.[9]

Table 4 provides the results of this decomposition analysis for both the explained and unexplained components of the job satisfaction gap between female and male employees.

[9] See Jann (2008) for the different formulas in each case and the details on the Stata routine used to estimate the decomposition. While the appropriate method for decomposing ordered response outcomes would be to use non-linear decomposition techniques (Bauer and Sinning, 2008) the detailed decomposition (which estimates the separate contribution of each independent variable) is only available in the case of binary responses (Fairlie, 2005).

Standard errors are bootstrapped and clustered to account for intra-group correlations. Model (1) provides estimate's when expected wages are included as a covariate and alternatively Model (2) when optimism is included. For brevity, only contributions of the key variables of interest are included. The upper panel of Table 4 shows the mean job satisfaction scores for the male and female samples. The differences in these average scores are then produced; this is further broken down into a contribution explained by differences in characteristics and the contribution to differences in estimated coefficients. For example, from Model (1) the gender gap in overall job satisfaction is 0.287; of this gap 57% can be explained by differences in the characteristics distribution, with the remaining difference of 43% being due to the differences between the coefficients. Panel A of Table 4 shows the breakdown of characteristics whereas Panel B shows the breakdown for the estimated coefficients.

In Panel A, a positive (negative) coefficient reflects a more favourable average endowment of females (males) and as such contributes to an increasing (decreasing) job satisfaction gap. For ease of interpretation the coefficients are expressed as contributions of the overall gender difference in job satisfaction in percentage terms. Starting with Model (1) and overall job satisfaction, 43% of the differential remains unexplained. Lower average female wage expectations explain approximately 9.82% of the overall gender difference in overall job satisfaction. For Model (1) and pay satisfaction the raw gender gap is 0.173, of this differential 86% remains unexplained. Of the explained component, lower average female wage expectations are again an important contributing factor, explaining 27.30% of the overall difference in job satisfaction associated with pay. The results from Model (2) are largely consistent with Model (1). Of the explained components, lower female average optimism has a relatively large contributing factor to gender differentials in both overall job satisfaction and pay satisfaction, explaining 6.75% and 18.58% of the differentials, respectively. The difference in the contributions from wage expectations and optimism within Models (1) and (2) may be that bad job market matches are not randomly distributed across gender or that wage expectations are derived more broadly by individuals across sex, which implies that $\hat{u}_i^2$ is likely to underestimate the gender differences in optimism. These results provide strong support for Hypothesis 2 and Hypothesis 3, such that, job satisfaction from paid employment depends upon our prior expectations. Importantly, lower and ultimately more pessimistic female wage expectations contribute significantly in explaining the paradox of the contented female worker.

Briefly Panel B of Table 4 reports the unexplained components of the job satisfaction differentials, as with Panel A a positive (negative) coefficient reflects a stronger, positive association of the estimated coefficient for females (males) and as such contributes to an

increasing (decreasing) job satisfaction gap. For satisfaction with pay 86% and 95% of the raw gender differential remains unexplained for Models (1) and (2), respectively. There exists no significant difference between gender in the strength of the association between the key covariates and the job satisfaction measures.[10]

5.2 Sensitivity Analysis

Optimism measured as $\hat{u}_i^2$ from Equation (5) allows us to capture an individual's underlying tendency to overestimate their labour market prospects net of any time-varying environmental influences. A possible objection to this construction of optimism is that by removing the sources of time-varying observable individual heterogeneity, important information on optimism is lost. For instance, optimists may spend longer in unemployment as optimism may increase the threshold for acceptable employment or optimism may lower job-search intensity (Spinnewijn, 2015). In controlling for unemployment duration in Equation (5), this potentially useful information is excluded. For this reason, the above analyses are repeated, where wage expectations are simply the raw measure of wage expectations, $log(E)_{it}^{U}$, and optimism is the raw difference between the individuals expected wage and the predicted market wage, $log(E)_{it}^{U} - log(\hat{y})_{it}^{U}$**.** No substantial differences from this procedure were identified. The correlations between the raw measures and the fixed-effects measures of wage expectations and optimism are high, with a correlation of 0.849 and 0.794, respectively.

[10] Of the unexplained components the two most important contributing factors to the female job satisfaction advantage are home ownership and the number of dependent children. Both of these factors attract a sizeable positive coefficient, illustrating that for females these factors have a more positive effect on job satisfaction than for men. Importantly though, the female job satisfaction advantage would be even larger if females reacted to wages and working hours like men. Current earnings attract a large negative coefficient, illustrative of the lower valuation females place on earnings. Hours of work attracts a negative and statistically significant coefficient, illustrating that for female's hours of work has a stronger negative effect on job satisfaction than for males. Estimates of the separate contribution of variables to the unexplained component of the decomposition are though subject to the identification problem identified by Jones (1983). The real interest here though is in the contribution of gender differences in the endowment of characteristics.

A further area of interest is the extent to which the results are consistent across our economically inactive and unemployed samples, two groups fundamentally different in terms of their labour market attachment and experiences. To test this proposition, the analyses are repeated separately for three mutually exclusive groups; 1) the unemployed, 2) the economically inactive and, 3) those in full-time education. For the unemployed sample, the results are wholly consistent with the main results presented above. Specifically, males have a tendency to overestimate their labour market prospects and women have a tendency to underestimate theirs. Gender differences in wage expectations and optimism explains approximately 41.8% and 22.1% of the female job satisfaction with pay advantage, respectively. For the economically inactive group (excluding those in full-time education), female pessimism and male optimism is present. Whilst females in this sample have a sizeable job satisfaction advantage when employed, this gap is not explained by gender differences in optimism or wage expectations. The majority of the economically inactive are engaged in family care, 76% are female, 4% have a university degree and have on average been economically inactive for approximately 6 years. This group are therefore relatively detached from the labour market and are likely to have heterogeneous preferences on the rank and importance placed upon an array of job-specific outcomes. Given the demographic of this sample, this group may tend to put a smaller emphasis on the importance of earnings and instead value other aspects such as flexibility and working hours. For those in full-time education, who tend to be younger and have little labour market experience, both males and female tend to overestimate their labour market prospects, but consistently men are more optimistic than women. For this group there is also no discernable female job satisfaction advantage. This is consistent with Clark (1997) who first argued that the paradox of the contented female worker resulted from a lag in adjustment between female expectations and improved female labour market prospects. However, for younger and more educated workers,

Clark (1997) found no evidence of a satisfaction gap, which he proposed was due to expectations being closer to reality for this group. Furthermore, Green et al. (2016) provide evidence of a declining female job satisfaction advantage in the UK which can be explained by the increasingly harsh evaluation of job characteristics by women.

6. Conclusion

Prior research suggests that whilst pay can motivate workers in itself, perceptions and expectations of pay are also likely to impact many important aspects of labour market behaviour. This paper tests the hypothesis that job satisfaction from paid-employment depends on labour market performance relative to performance expectations, and more specifically, whether gender heterogeneity in optimism helps to explain the paradox of the contented female worker. Previous studies (e.g. Clark, 1997) have analysed the relationship between expectations and job satisfaction before within labour market frameworks, but owing to the lack of data collected on wage expectations, empirical analysis has tended to be constrained to computing predictions of individual expectations based upon the ideas of labour market rationality. This paper uses data on actual recorded wage expectations from a large UK panel, for individuals prior to entry into the labour market. Three key findings are produced. First, wage expectations tend to be a good predictor of the distribution of market wages offered. Whilst females have lower earnings expectations than men, these lower expectations are in part justified, reflecting heterogeneous labour market prospects. Second, consistent with evolutionary psychology, the results strongly suggest that men are more optimistic than women in assessing their labour market prospects. Both sexes display some inaccuracies in estimating their earnings power, but in different directions. Lower female expectations therefore appear to be an amalgam of heterogeneous labour market prospects and psychological systematic bias. Third, evidence is provided in support of theories of self-

discrepancy from social psychology, in that, conditional on actual performance, optimism is negatively related to subsequent employment satisfaction through a disappointment effect. In this respect, male optimism and female pessimism appears to explain a significant proportion of the paradox of the contented female worker, especially in terms of the satisfaction derived from pay. Prior research has highlighted the implications of job satisfaction on important aspects of labour market behaviours, such as quitting intentions, absenteeism and productivity. Consequently, policies designed at dampening expectations may lead to happier, more productive employees. In particular, the fair wage-effort hypothesis (Akerlof and Yellen, 1990) states workers withdraw effort as their actual labour market earnings fall short of what is deemed fair, optimism is likely to influence perceptions of fairness, and is therefore likely to exaggerate these adverse effects.

Whilst this paper points to the advantages of pessimism in the labour market, there is a downside. Specifically, the finding that pessimistic female expectations (optimistic male expectations) contribute significantly to the paradox of the contended female worker is of concern for researchers attempting to uncover ways to reduce the gender pay gap. Workers will change jobs or negotiate better conditions when they feel that some aspects of their current job can be improved upon (Delfgaauw, 2007). If women remain satisfied with such pay inequality, they are less likely to negotiate or to search for positions with higher salaries. Consider a further related application of optimism to job search theory, where individuals exit unemployment once a sufficiently good prospect has been offered. It follows that optimism increases the threshold for acceptable employment, raising unemployment duration and starting salaries. Consistent with this view, Brown and Taylor (2011) report that individuals with a reservation wage which is below the corresponding wages prevailing in the labour market, increases the probability of future employment. Pessimism is therefore associated

with higher disutility from unemployment and lower marginal utility from extra income. Once a sufficiently good employment prospect has been identified and secured, optimism may have further effects. For instance Babcock et al. (2003) find that 57% of men attempted to negotiate their initial compensation offer compared to only 7% of females, which may be because women feel relatively less deserving (Major, 1987). Niederle and Vesterlund (2007) find that top performing women are significantly less likely to choose tournament compensation than low performing men, with the difference being primarily attributable to male overconfidence. When information about productivity is noisy and employers are less informed, optimism may increase earnings. As Trivers (2000) points out, optimism may have evolved to sway others. To convince others of your competence you really need to believe it yourself. Furthermore, whilst it is generally recognised by economists that overly optimistic beliefs lead to distorted decision making, there is now considerable evidence that such beliefs can increase performance (see Compte and Postlewaite, 2004). Optimism can have such advantages as increasing motivation and strengthening one's ability to cope with negative feedback and stressful events (see Taylor and Brown, 1988). In short, this suggests that the gender-earnings differential may reflect supply-side issues based on personality. Future research should apply these findings to gender differences in contract choice, occupational choice and more broadly the gender pay gap.

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Figure 1: Kernel density estimation of log expected wage ($log(E)_{it}^{U}$) and log predicted market wage ($log(\hat{y})_{it}^{U}$).

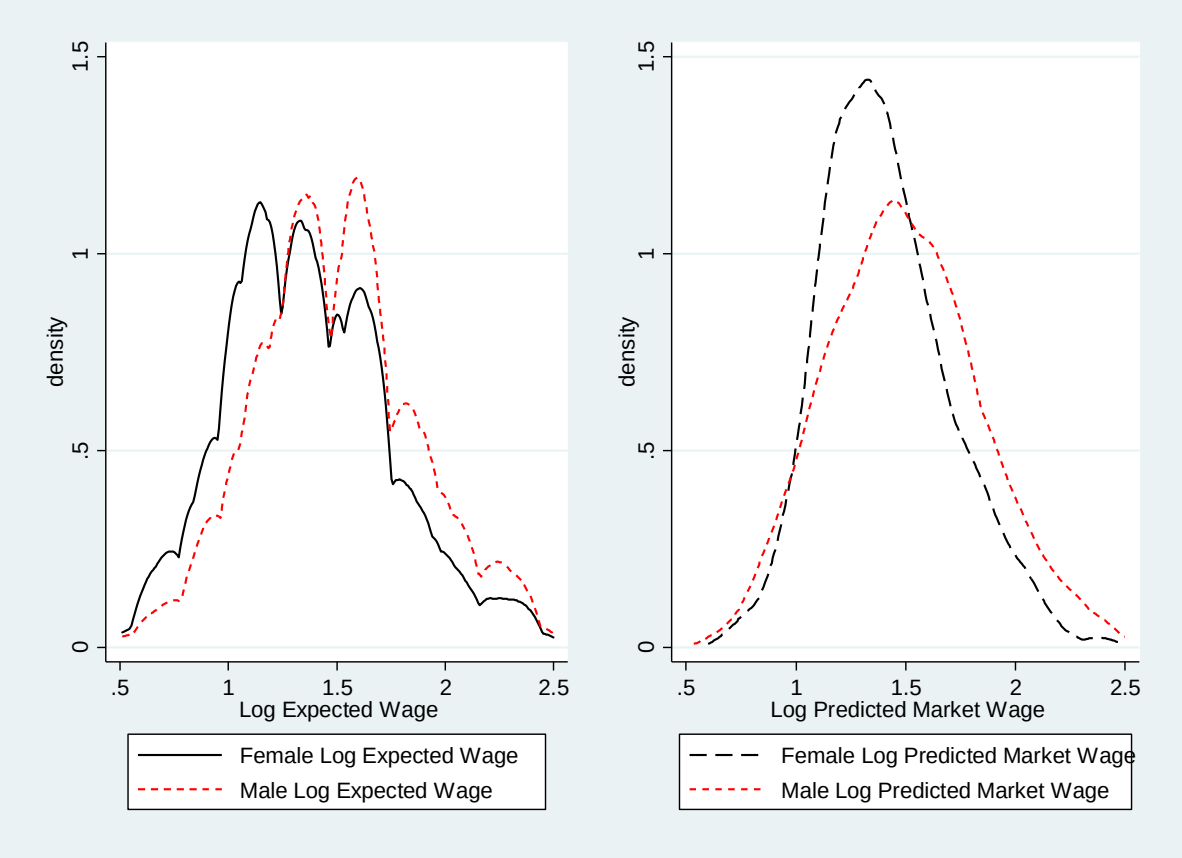

Figure 2: Kernel density estimation of the miscalibration between the log expected wage and the log predicted market wage, $log(E)_{it}^{U} - log(\hat{y})_{it}^{U}$.

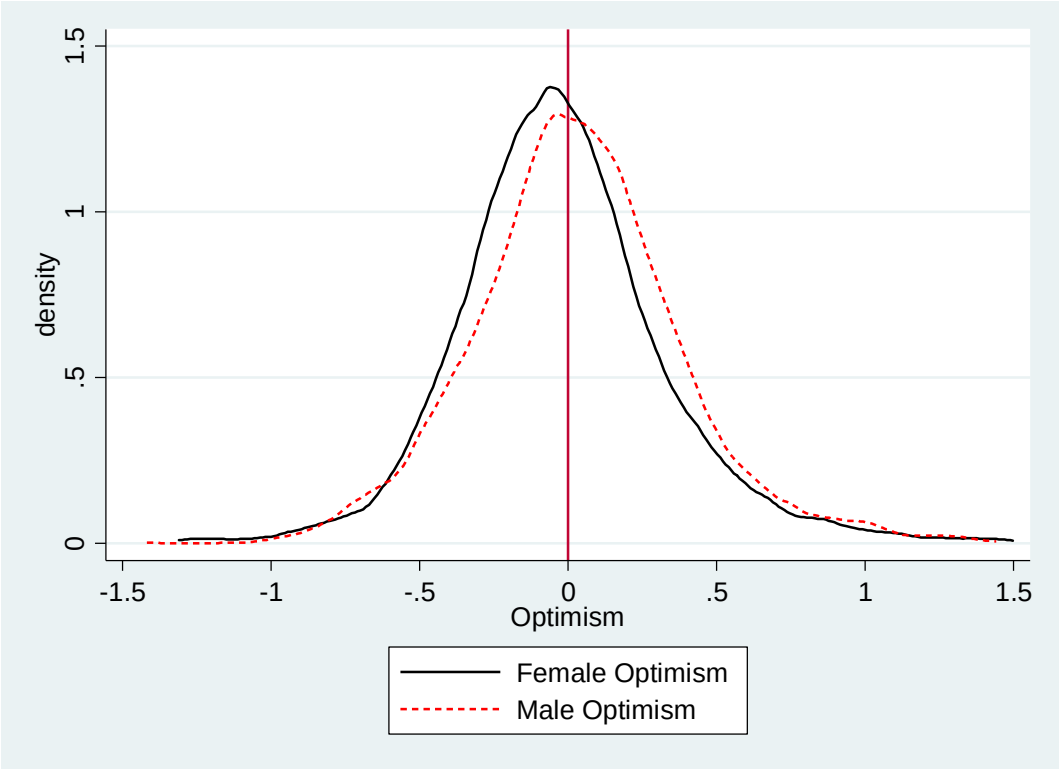

TABLE 1: Summary Statistics

	Mean	*Std. Dev.*	*Min*	*Max*
Log Net Expected Wage, $\log(E)_{it}^{U}$	1.459	0.464	-2.539	6.109
Log Net Predicted Market Wage, $\log(\hat{y})_{it}^{U}$	1.448	0.324	0.535	2.652
Demographic Factors (reference: age 16-24):				
Age 25-34	0.222		0	1
Age 35-44	0.157		0	1
Age 45-54	0.137		0	1
Age 55-64	0.098		0	1
Highest educational attainment (reference: no qualifications):				
University (Degree)	0.063		0	1
Further education	0.148		0	1
A-level	0.153		0	1
O-levels/GCSEs	0.249		0	1
Other qualifications	0.130		0	1
Household Structure (reference: not married)				
Married	0.506		0	1
Number of children in household	0.718	1.093	0	9
Household size	3.433	1.526	1	16
Health:				
Mental health problem	0.091		0	1
Physical health problem	0.510		0	1
Inactivity category (reference: unemployed):				
Family care	0.266		0	1
Full-time students	0.207		0	1
Long-term sick/disabled	0.078		0	1
Other category (retired, maternity leave and government training scheme)	0.056		0	1
Years in current labour market status	4.369	5.815	0	39
Years in current labour market status squared	52.906	123.965	0	1521
Log household labour income	1.817	6.725	-6.908	10.087
Log household investment income	-1.859	5.193	-6.908	7.994
Log household benefit income	3.652	4.724	-6.908	8.509
Log monthly rent or mortgage cost repayment	1.283	5.471	-6.908	8.613
Observations	7,298 (4,077 individuals)			

Notes: Individuals who recorded zero household labour income; zero household investment income; zero household benefit income or zero monthly rent or mortgage cost repayment were inputted values of 0.001 prior to the conversion of these variables into log form.

TABLE 2: Linear Fixed Effects Regression Coefficients from Wage Expectation Equations

	(1) Equation 4	*(2) Equation 5*
	Log Net Expected Wage, $\log(E)_{it}^{U}$	Log Net Expected Wage, $\log(E)_{it}^{U}$
	Coef.	*Coef.*

Log Net Predicted Market Wage, $\log(\hat{y})_{it}^{U}$	-	0.548***
Demographic Factors (reference: age 16-24):		
Age 25-34	-0.014	-0.059*
Age 35-44	-0.078	-0.143***
Age 45-54	-0.211***	-0.246***
Age 55-64	-0.291***	-0.256***
Highest educational attainment (reference: no qualifications):		
University (Degree)	0.231***	-0.112
Further education	0.091	-0.084
A-level	0.058	-0.114
O-levels/GCSEs	0.032	-0.060
Other qualifications	0.106	0.064
Household Structure (reference: not married)		
Married	-0.004	-0.040
Number of children in household	0.039***	0.025*
Household size	-0.008	-0.006
Health:		
Mental health problem	0.016	0.054**
Physical health problem	0.010	0.025
Inactivity category (reference: unemployed):		
Family care	-0.020	-0.018
Full-time students	-0.064*	-0.052
Long-term sick/disabled	0.054	0.051
Other category (retired, maternity leave and government training scheme)	-0.030	-0.018
Years in current labour market status	0.001	0.002
Years in current labour market status squared	0.000	0.000
Log household labour income	-0.002	-0.002
Log household investment income	-0.002	-0.002
Log household benefit income	0.002	0.002
Log monthly rent or mortgage cost repayment	0.000	0.000
Observations	7,298 (4,077 individuals)	7,298 (4,077 individuals)
F-test	11.44***	12.19***

Notes: All models are bootstrapped and clustered by individual and also include controls for region and survey year. * Coefficient significant at 0.10, ** at 0.05, *** at 0.01.

TABLE 3: Means and OLS Regression Coefficients from Job Satisfaction/Pay Satisfaction Equations

		Overall Job Satisfaction			*Pay Satisfaction*		
Means		*Pooled Coef.*	*Male Coef.*	*Female Coef.*	*Pooled Coef.*	*Male Coef.*	*Female Coef.*
Male	Female						
Dependent Variables:							

Overall job satisfaction	5.196	5.484***						
Pay satisfaction	4.657	4.830***						
Model 1								
Female			0.123**			0.149**		
			(0.051)			(0.064)		
Standardised Expected Wage, $\hat{u}_i^1$	0.213	-0.142***	-0.079***	-0.131***	-0.036	-0.133***	-0.112***	-0.171***
			(0.025)	(0.033)	(0.038)	(0.032)	(0.038)	(0.051)
Full control variables			*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Observations			10239	4762	5477	10239	4762	5477
F-Test			7.38***	5.20***	4.92***	8.75***	5.96***	5.86***
R^2			0.1006	0.1222	0.1051	0.1210	0.1626	0.1260
Model 2								
Female			0.132***			0.165***		
			(0.051)			(0.064)		
Standardised Optimism, $\hat{u}_i^2$	0.191	-0.090***	-0.069***	-0.121***	-0.027	-0.115***	-0.103***	-0.148***
			(0.022)	(0.029)	(0.034)	(0.028)	(0.034)	(0.045)
Age	35.265	36.869	0.007***	0.009***	0.005*	0.003	0.004	0.003
White	0.951	0.953	0.043	-0.042	0.144	0.256**	0.206	0.330**
Number of cigarettes per day	5.887	4.886	-0.002	0.002	-0.009**	-0.006**	-0.001	-0.012***
Household structure (reference: single, never married)								
Married or cohabiting	0.638	0.674	0.077	0.099	-0.034	-0.049	-0.145	0.013
Widowed, divorced or separated	0.057	0.134	-0.026	0.058	-0.114	-0.173	-0.121	-0.174
Spouse/partner employed	0.477	0.614	-0.075	-0.131*	-0.007	0.085	0.030	0.108
Household size	3.039	3.301	0.036**	0.050**	0.032	0.020	0.020	0.026
Number of children	0.577	0.907	-0.006	-0.076**	0.009	-0.034	-0.090*	-0.023
Mental health problem	0.026	0.080	-0.259***	-0.403**	-0.167**	-0.033	-0.005	0.007
Physical health problem	0.437	0.517	-0.076**	-0.088	-0.059	-0.008	0.067	-0.061
Highest education attainment (reference: no qualifications)								
University (Degree)	0.220	0.185	-0.555**	-0.422**	-0.643**	-0.539**	-0.523**	-0.541**

			*	*	*	*	*	*
Further education	0.317	0.319	-0.401***	-0.432***	-0.353***	-0.388***	-0.502***	-0.276*
A-Levels	0.156	0.115	-0.329***	-0.231***	-0.375***	-0.348***	-0.274***	-0.375***
O-Levels/GCSE's	0.138	0.202	-0.129	-0.024	-0.185*	-0.157	-0.038	-0.211
Other qualifications	0.073	0.088	-0.204**	-0.222*	-0.214*	-0.163	-0.252	-0.103
Labour market characteristics:								
Weekly usual hours	38.566	27.242	-0.011***	-0.004	-0.012***	-0.010***	0.000	-0.014***
Paid overtime hours	2.788	1.397	0.002	0.009**	-0.006	0.019***	0.027***	0.011
Unpaid overtime hours	1.695	1.277	-0.001	0.006	-0.014**	-0.016***	-0.002	-0.032***
Manager/foreman/supervisor	0.324	0.241	0.028	0.017	0.04	0.088*	0.039	0.137*
Holding second job	0.075	0.090	-0.101*	-0.054	-0.114*	-0.076	-0.206*	0.034
Tenure in years	2.139	2.308	-0.016**	-0.013	-0.023**	-0.012	-0.025**	-0.006
Shift work	0.081	0.049	-0.135*	-0.12	-0.163	-0.009	0.07	-0.074
Fixed-term contract	0.043	0.033	0.029	0.087	-0.014	0.087	0.204	-0.043
Casual/seasonal/agency worker	0.039	0.046	-0.224***	-0.292***	-0.135	0.147*	0.108	0.191*
Promotion opportunities	0.506	0.443	0.391***	0.460***	0.327***	0.241***	0.264***	0.195***
Pay includes bonus or profit share	0.352	0.220	0.048	0.057	0.031	0.084*	0.088	0.063
Member of employer pension scheme	0.361	0.381	0.061	0.106	0.018	0.040	0.140*	-0.06
Pay includes annual increments	0.393	0.462	0.177***	0.133***	0.209***	0.183***	0.097*	0.267***
Trade union status (reference: not covered)								
Covered non-member	0.182	0.235	-0.124***	-0.148***	-0.083	0.086	0.002	0.167*
Covered member	0.159	0.215	-0.206***	-0.118	-0.188**	-0.130*	-0.101	-0.066
Log hourly net wage	1.751	1.646	0.185***	0.363***	0.034	1.115***	1.317***	0.953***
Observations	4,762	5,477	10,239	4,762	5,477	10,239	4,762	5,477
F-Test			7.38***	5.21***	4.92***	8.73***	5.96***	5.84***

R^2	0.1005	0.1224	0.1050	0.1206	0.1626	0.1256

Notes: Bootstrapped and clustered standard errors in parenthesis for key coefficients. All models include controls for: age, ethnicity, highest educational attainment, marital status, whether spouse/partner employed, number of children in household, household size, housing tenure, physical and mental health condition, number of cigarettes smoked per day, workplace covered by a trade union, member of a trade union, normal and overtime hours, managerial status, holding a second job, job tenure in years, fixed-term or permanent contract, promotion opportunities in main job, pay includes a bonus or profit share incentive, member of employer's pension scheme, pay includes annual yearly increments, work location, past wage in previous employment (which is set to zero if there is no previous job), shift work, occupation category, sector of employment, industry, workplace size, and a set of regional and year controls. * Coefficient significant at 0.10, ** at 0.05, *** at 0.01.

TABLE 4: Oaxaca Decomposition of Mean Differences in Overall Job Satisfaction/Pay Satisfaction between Female and Males Employees

	Model (1)		*Model (2)*	
	Overall Job Satisfaction	*Pay Satisfaction*	*Overall Job Satisfaction*	*Pay Satisfaction*
Mean score – *Females*	5.484	4.830	5.484	4.830
Mean score – *Males*	5.196	4.657	5.196	4.657
Difference	0.287	0.173	0.287	0.173
Total explained – *endowments*	0.165 (57%)	0.025 (14%)	0.155 (54%)	0.008 (5%)
Total unexplained – *coefficients*	0.122 (43%)	0.148 (86%)	0.132 (46%)	0.165 (95%)
PANEL A - Contribution from mean differences in selected characteristics:				
Standardized Expected Wage, $\hat{u}_i^1$	0.028***	0.047***	-	-
(Standard error)	(0.009)	(0.014)	-	-
% of difference explained	9.82%	27.30%	-	-
Standardized Optimism, $\hat{u}_i^2$	-	-	0.019***	0.032***
(Standard error)	-	-	(0.009)	(0.010)
% of difference explained	-	-	6.75%	18.58%
PANEL B - Contribution from mean differences in selected coefficients:				
Standardized Expected Wage, $\hat{u}_i^1$	0.005	0.001	-	-
(Standard error)	(0.004)	(0.004)	-	-
% of difference explained	1.71%	0.53%	-	-
Standardized Optimism, $\hat{u}_i^2$	-	-	(0.006)	(0.001)
(Standard error)	-	-	(0.004)	(0.004)
% of difference explained	-	-	2.12%	0.36%

Observations	10,239

Note: All models are bootstrapped and clustered by individual and include the complete set of controls listed in Table 3.* Coefficient significant at 0.10, ** at 0.05, *** at 0.01.