DO WOMEN ASK?

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Abstract

Females earn less than males. The reasons are not understood. This paper explores the theory that women 'don't ask' and that they fail to ask out of concern for their personal relationships at work. Such an account is hard to test with standard labor-economics data sets. The paper therefore uses matched employer-employee data in which workers are directly questioned about their asking behaviour. It is unable to reject the hypotheses that males and females ask equally often for promotions and raises, and that men and women are equally concerned about relationships. Instead, the analysis documents evidence that women 'don't get'.

Keywords: matched employer-employee data; female discrimination; wages; gender.

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Do Women Ask?

1. Introduction

This paper explores one of the famous puzzles of the modern workplace. Across the industrialized world, female workers typically earn less than their male counterparts. It is still not completely understood why this pattern -- one consistent with the existence of gender discrimination -- persists.[1] This study exploits a new, and admittedly particularly simple, form of survey evidence. It is an attempt to test two oft-heard claims, namely, that:

(i)   *Idea 1: Women intrinsically do not ask for pay raises;*

(ii)   *Idea 2: The reason that women do not ask is because they are more concerned than men about the quality of their relationships in the workplace.*

One reason why it seems important to check this theoretical account is that the theory assigns part of the responsibility for gender differentials on to females and their own actions.

The paper estimates econometric 'asking' equations. Although the above conceptual account has attracted some prominence (for example, the heavily cited books by Babcock & Laschever 2003 and Sandberg 2013[2], although the further book by Babcock and Laschever 2009 notes, on page 14, that some years later the don't-ask finding was weaker), the current study is not able to find a great deal of support for (i) and (ii). Instead, to anticipate the paper's later findings, the evidence apparently is consistent -- especially once we control for variables unavailable to prior researchers -- with the view that women do ask but do not get. [3,4] The data used in this study

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[1] For statements of the latest evidence, see Azmat and Petrongolo (2014) and Blau and Kahn (2016).
[2] Journal articles include Bowles et al. (2007).
[3] In particular, the important studies described in Babcock and Laschever (2003) could not control for the number of hours worked, and our later results suggest that it is largely this, rather than gender itself, that is associated with 'not asking' for raises.
[4] However, there is one important and potentially related conclusion in the literature. Leibbrandt and List (2015) find in a field experiment that when workers are assigned to a job where the possibility of negotiation is mentioned there is no statistically significant difference between the negotiation approach of the males and females in their sample.

are for the year 2013/14. One possibility is that negotiating behavior in the modern era has begun to change. [5]

Why are there pay gaps between males and females? As Blau and Kahn (2016) carefully word it, a distinctive hypothesis is that:

"Women's lower propensity to negotiate over salaries, raises, or promotions, could reduce their pay relative to men's. The observed gender difference could reflect social factors, including women being socialized to feel that they are being pushy or overbearing…"

In most of the survey data sets used by labor economists, it is intrinsically hard to assess Idea 1 and Idea 2. The reason is that the information gathered in conventional surveys is on people's actual earnings (rather than on whether workers are 'asking') and on other objective aspects of workplaces (rather than on underlying psychological reasons and attitudes). This may be why relatively little formal testing of these ideas has been done on real-world field data, even though there is evidence, largely from the laboratory, to suggest that women may shy away from competition (Niederle & Vesterlund 2007, 2010, 2011; Gneezy et al. 2003, 2009; Booth and Nolen 2012; Shurchkov 2012; Garrat et al. 2013; Flory et al. 2015). Exley et al. (2016) make the interesting discovery that women and men negotiate similarly when obliged to negotiate in the first place. Bongiorno et al. (2014) demonstrate, in an experiment on Australian data, that women are not penalized for being assertive.

The current study potentially has advantages denied to most, and perhaps all, previous researchers on the topic of gender differentials. First, the sampled individuals here are questioned in detail about their motives, behavior, and histories. Unlike in standard data sets, therefore, it is in principle possible -- admittedly in an imperfect way -- to inquire into 'why' women and men

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[5] Consistent with this, although not conclusive, because we cannot separate cohort and age effects, is that young women and young men in our data set appear to act in similar ways (see Appendix A).

choose to act in the ways observed[6]. Second, our data are from matched worker-employer surveys in which random samples of male and female employees can be studied. This is a valuable feature for the present inquiry. It makes it possible to control for a large number of background factors about workplaces that are not observable to the econometrician and would be impossible to allow for properly in many of the conventional data sets. The paper's econometric estimates are thus 'within-employer'.

2. Background

This study follows in the intellectual footsteps of previous researchers such as Arrow (1973), Becker (1957), Aigner and Cain (1977), Frank (1978), Barron et al. (1993), Blau and Beller (1988), Lazear and Rosen (1990), Albrecht et al. (2003), and Blackaby et al. (2005). It links to a growing modern literature on why females have less success in the labor market. Recent research continues to find evidence of apparent discrimination against women at junior and senior levels (for example, in the board room, Gregory-Smith et al. 2014). Various explanations have been proposed (here we follow sources such as Goodall and Osterloh 2016). One is that women may consciously choose a less ambitious career path than men -- with concomitantly lower salaries[7] (Eagly, 1987; Eagly and Karau, 2002). Another hypothesis is that it may be risky for females to be ambitious. Some research suggests that if women deviate from a perceived female stereotype, this can produce "identity costs" for the individuals, and if women behave "out of role" (Heilman, 2001; Heilman & Okimoto, 2007; Inzlicht 2011) they may be less popular in professional life. In one laboratory experiment, for instance, it was shown that males dislike females who negotiate (Bowles, Babcock & Lai, 2007). Moreover, women who display anti-stereotypical behaviour are

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[6] We would accept, if necessary, the more exact wording "into why women and men *say* they choose to act..."
[7] It has been argued that more than 50 percent of male candidates negotiate their salary after the first job offer following graduation, but only ten percent of females -- see Babcock et al. 2006 (and Babcock & Laschever, 2003).

sometimes accused of exhibiting poor social skills (Phelan, Moss-Racusin & Rudman, 2008). Lastly, all such beliefs can become "self-fulfilling-prophecies" (Merton, 1948: 195). The performance of individuals who belong to negatively stereotyped groups is lower (Schmader & Johns, 2003). Girls' mathematics scores decrease when their gender is made salient (Spencer et al., 1999). The same happens for performance in competitions (Guenther et al., 2010), and in risk-aversion (Booth & Nolen, 2012). Recent work by Card et al. (2016) finds that women receive only 90% of the firm-specific pay that is earned by men.

Similar ideas have been suggested in modern work by Mazei et al. (2015), Leibbrandt and List (2015), and Croson and Gneezy (2009). This emerging literature has documented various kinds of differences, under controlled laboratory conditions, between the actions of males and females.

Finally, special mention should be made of a study in Great Britain. After the working-paper version of our study was released, we were made aware of the approach taken in Chapter 4 of the book McGovern et al. (2007), which is an analysis of the Working in Britain survey, and does not find evidence in favour of the women-don't-ask theory. The WiB survey asks workers whether since joining the employer they have ever subsequently asked for a pay rise. In a logistic regression the coefficient on female is negative, and fairly large, but the authors report that it is not statistically significantly different from zero. The authors control for union membership, social class, education, and a small number of other covariates. They are not able to control for employer fixed-effects, but can allow for a variable for establishment size.

3. Data

The data source used in the analysis is a representative sample of Australian employees and workplaces. The recently available Australian Workplace Relations Survey (AWRS) covers

2013-2014. It has the distinctive feature that it asks individuals a set of questions about whether their pay is set by negotiation with the company, whether they have successfully obtained a wage raise or promotion since joining the employer, whether they preferred not to attempt to negotiate a pay raise because they were concerned about their relationships, why they decided that, and about their levels of satisfaction. Like other nations, Australia also has a gender pay gap (see Appendix C in this paper, for example).

Using these new AWRS data, Tables 1a and 1b give descriptive information about the sample. The data set offers information on approximately 4600 randomly sampled workers across 840 workplaces. For the later analysis, we will be especially interested in answers to questions asking for information such as whether:

"I have not attempted to attain a better wage/salary for myself since I commenced employment with this employer"

"Why have you not attempted to attain a better wage/promotion for yourself since you commenced your employment? ... I'm concerned about negative effects on my relationship with my manager/employer"

"I have successfully attained a better wage/salary for myself through negotiating with my manager/employer (i.e. without changing roles)"

We will, for example, set a dummy to equal zero if respondents agreed with "I have not attempted to attain a better wage/salary for myself since I commenced employment with this employer", and equal to one if they did not agree with the statement. This can then be treated as a dependent variable in a regression equation, and standard demographic and workplace variables then included as independent variables.

In the data set, a little over half of workers are female, and the mean age of the sample is slightly under 41 years old. For 20% of the workforce, the highest educational qualification is a bachelor's degree. A further 16% of workers have further degrees. These proportions on

educational attainment do not vary greatly across males and females. Just over half the sample are married, and for 86% of employees their language used at home is English. Fulltime workers make up 64% of the sample. At the mean, the number of hours worked is 37 per week.

The paper's focus is upon what happens during pay-setting. Approximately 39% of employees say, as shown in Table 1a, that they are in a job where they negotiate their salary with the company. This proportion is broadly comparable to the U.S. figure of 33% reported in Hall and Krueger (2012)[8]. In the raw data of Table 1b, women are noticeably less likely than men to say they are in a job where they negotiate wages. The figure for males is approximately 48%; the figure for females is approximately 33%. Although the authors do not focus upon the issue of gender, Hall and Krueger report a figure of 25% for U.S. females.

In AWRS, information is also available on whether employees say they have attempted to attain a better salary since they commenced employment with the organization. Here, in Table 1b, it can be seen that 75% of males say they have asked for a raise in pay, while 66% of women have asked. Hence, in terms of Idea 1 above, it is true as a descriptive statement that women ask less (both when joining and when already employed by the employer). Later tables explore whether that remains true when other characteristics are held constant. Table 1b also reveals that 14.6% of males say they have not attempted to obtain a raise because of concern for their relationships in the workplace. A smaller number, 12.9%, of females say this. Hence, in the raw data, there is no support for Idea 2, above, that women are disproportionately wary of requesting a raise in salary.

4. Regression Results

There are at least two ways to 'ask' in a workplace. One method is to seek to be promoted at work. The other is to seek greater pay in the existing job.

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[8] As in Table 3 of Hall and Krueger (2012).

Table 2 begins with the issue of whether, after adjusting for other factors, there is evidence in this data set that females request promotion either more or less often than do males. The null hypothesis is taken to be that the two genders behave similarly. Table 2 thus estimates a regression equation in which there are 4582 observations on individuals who work across 840 different employers.[9] The dependent variable in the regression equations of Table 2 is a one or zero when respondents in the survey answer that, with this employer, 'I have asked for promotion'. In each of the three columns of Table 2, the coefficient on a female dummy variable is close to zero (and in two of the three columns has the wrong sign for a women-don't-ask view). In the fullest specification, the coefficient is 0.013 with a t-statistic of 0.971. Hence it is not possible to reject the null hypothesis that women and men ask equally often for promotion. This conclusion holds in each of the three columns, where the first column includes as covariates only gender, age and age squared, whether English is the language spoken in the person's home, and a set of employer fixed-effect dummies, and the third column includes a larger set of covariates that include the number of working hours and occupational and educational dummies. These estimates are effectively within-employer.

A second way to obtain greater pay is to get a raise in the current job. Table 3 therefore turns to the question of whether, while in their existing role, women and men say they behave differently in their asking behavior. In this table, three dependent variables are used. These are dichotomous answers to questions on 'My pay is negotiated', 'I have successfully obtained a pay raise while with the employer', and 'I have attempted to obtain a pay raise'. In each of these, there are three columns in the tables, and the regression equations build up to longer specifications in

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[9] Here, and in later tables, linear probability models are used (probit-equation versions give the same results and are available from the authors upon request).

right-hand columns as more variables are added. The survey does not provide information on how many times people have asked; hence we treat the data as 0-1.

In each equation of Table 3, a set of employer dummies has been included. This again has the statistical advantage that a variety of background influences -- that are specific to each company but not observable to the statistical investigator -- are held constant.

Columns 3 and 6 of Table 3 show some differences between men and women. With a large number of other covariates included, females are less likely to say that pay is negotiated (with a coefficient of -0.060 in column 3) in the workplace, and less likely to say they have been successful in obtaining a salary raise while working for the current employer (with a coefficient of -0.04 in column 6). Given the mean success rate of 0.16 in the data, this implies that women are one quarter less likely to obtain a raise. A number of the other independent variables enter significantly in columns 3 and 6. Age, for example, follows a concave shape. There is evidence that individuals with higher levels of education are both more likely to be in a job with negotiation and to have been successful in negotiating a pay raise after they joined the employer. Job tenure enters, respectively, negatively in the Negotiated column and positively in the Successful column. Those employees with longer hours of work are more likely to say their pay is set by negotiation, and also more likely to say they have been successful in obtaining a salary increase.

5. Not Asking or Not Getting?

Is it true that women fail to ask for pay raises? Column 9 of Table 3 sheds some doubt on that. It demonstrates that the null hypothesis of zero, on the Female dummy variable, cannot be rejected. The analysis uncovers no statistically significant difference between men and women in the probability of having asked. Nevertheless, unlike the earlier result on the equal rate of asking for promotion, this inference rests, importantly, upon the statistical investigator having information

about the number of hours worked by each employee. Once the equation includes a variable for the number of hours worked, then the column 8 coefficient in Table 3 of -0.048 on Female, with a t-statistic of 2.566, becomes in column 9 a coefficient of -0.026, with a t-statistic of 1.420.

There is an important potential concern here with Type II errors. Nevertheless, -0.026 is a small coefficient, and not merely a large one for which the null of zero cannot be rejected, so the dominant effect, in the last three columns of Table 3, is apparently coming not from being a woman per se. Instead, on closer scrutiny, the appearance of a lack of 'asking' is being driven statistically by working a shorter number of hours. Males who work shorter hours also 'do not ask'.

To check more fully on whether the insignificance of gender for 'asking' is being caused erroneously, Table 4 explores a further permutation. Here the sample is divided into Part-timers and Full-timers, where the cut-off is defined as fewer than 38 hours[10].

However, Table 3's substantive conclusions continue to hold. Once again, it is not possible to reject the null hypothesis of no difference, in the 'I Have Asked' columns, between male workers and female workers. Column 6 of Table 4 seems of interest, because this provides a test for full-time males compared to full-time females. In column 6 of Table 4, the coefficient on the female dummy is -0.015, with a small t-statistic of 0.619. Thus again there seems no compelling evidence here that males and females behave differently. It is impossible, we stress, to be sure that Type II errors have been avoided.   However, even were the point estimate to be taken at face value, the difference in the asking rate between men and women would be just one and a half percentage points. We return to this general issue at the end of the paper.

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[10] The AWRS survey itself defines the cutoff between part-time and full-time work in Australia to be 38 hours per week. This leads to the potentially anomalous feature that workers doing, say, 36 hours or 37 hours are counted as part-timers. As a robustness check, however, we tried alternate cutoffs of 35 hours and 40 hours, and found no qualitative differences in the results. These estimations are available from the authors upon request.

In Table 1a, nearly one third of workers said they had not attempted to get a higher wage. Among workers who never requested a pay raise, what do they give as reasons for their lack of asking? Tables 5 and 6 provide regression-equation evidence. These tables test among a variety of verbatim potential explanations that were offered to the interviewees as part of the AWRS survey. Column 3 of Table 5 documents weak evidence[11] for the fact that women may be being influenced by the fact they are more satisfied -- than equivalently qualified men -- with their wage (consistent with results in Clark and Oswald, 1996). However, column 6 of Table 5 implies that it is not because women are relatively satisfied -- in comparison with the males answering the same question -- with their actual role in the organization.

Table 6 explores additional possibilities. It gives regression equations where, in the three columns, the dependent variables are respectively dichotomous variables for 'I have not asked for a salary raise because there is no process here for doing so'; 'I have not asked for a salary raise because I am concerned about negative effects on my relationship with my manager/employer'; 'I have not asked for a salary raise because my role would not be seen as worthy of a higher wage'. The female dummy is insignificantly different from zero in each of the columns of Table 6. Moreover, as before, the key coefficient here (of -0.012) is small, and not merely insignificantly different from zero. Women are apparently not being influenced by a disproportionate concern for their relationships.

6. Checks

A large variety of checks were done.

First, although the inclusion of a full set of employer dummies has a number of advantages, it might be thought that too much statistical power is thereby lost (because some workplaces have

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[11] We describe this as 'weak' because in column 3 of Table 5 the t-statistic on 0.072 is 1.844.

only one or two sampled employees). However, we checked that the omission of the 840 dummies does not alter the paper's substantive results. As would be expected, it does increase some of the other variables' coefficient sizes (these specifications, without the set of employer dummies, are available from the authors upon request).

Second, a possible cause for concern is the lack of a measure of frequency-of-times that workers have asked for a raise at their employer, or a variable for when workers began asking for raises. It might be that men ask for raises earlier and more frequently than women and that this is why men are more successful than women at eventually securing a raise. While the AWRS data do not provide full information on this issue, a suitable variable may lie in workers' tenure. If men request raises earlier and more often than women, we should find a statistically significant difference between newer (lower tenure) male and female employees in their requests for raises. A check for this was done. Appendix B presents results among workers with less than 1 year, 3 years, and 5 years of tenure – and finds no significant differences between men and women.

Third, it is relevant to inquire into potential differences across age categories.   One possibility is that there might be some form of cohort effect. It could be that younger generations of employees have different attitudes to the topic of gender than did their parents. In our data set, it is not possible to distinguish a true cohort-effect from a true age-effect. However, as in Appendix A, it is feasible to split the sample into age sub-categories. Interestingly, for workers under the age of 41, in the table of Appendix A, there appears to be no difference, in a regression-adjusted sense, between males and females in: whether they are in a job where pay is negotiated; whether they have been successful in obtaining a raise in pay if they asked for one; whether they did request such a raise. Overall, in this sample there are differences across age-groups. The younger women in the labor market appear statistically indistinguishable from the younger men. Hence it could be

that negotiating behavior through the years has begun to change. Future research may be able to decide whether true cohort-effects can be detected.

Fourth, it might be thought that the women-don't-ask argument could apply to some groups rather than others. Perhaps elite men (like those in MBA classes of the sort examined in the seminal work by Babcock and Laschever) ask more than elite women, for example. Hence we checked Table 3 kinds of specifications for sub-samples. When we split the sample by education at the median, we found no difference in the female coefficient by education of the worker.

Fifth, a further potential concern is the possible role of trade unions (as union members may feel that the union negotiates for them rather than they negotiate personally). However, because we control for employer fixed-effects, it might be hoped that that would adjust for much of that possible influence. We also adjust for 'awards', which in Australia are legal documents that outline the minimum pay and conditions of employment; there are 122 industry or occupation awards in Australia.

Sixth, it would be interesting to check the paper's findings for workers at large numbers of different points in employers' hierarchies. Here we have only limited information. However, when we divided the sample into workers who can be classified as managers (there are 819) or not managers (there are 3763), in a Has Asked for a Pay Raise equation, the coefficients on the female dummy were small at, respectively, 0.005 and -0.026, with large standard errors in both cases.

7. Conclusion

This study has been unable to find evidence for the women-don't-ask account of gender pay differences. The paper has the unusual feature that it is able to exploit information of a kind not usually recorded in nationally representative data sets. The new survey material makes it possible to create within-employer estimates to test the hypotheses that, first, *women are reluctant*

to ask for higher pay (*Idea 1* in the Introduction) and, second, *this occurs because they fear for the quality of their workplace relationships* (*Idea 2* in the Introduction). One important reason to do such a test is that the theory places part of the responsibility for the existence of gender differentials upon female workers themselves.

The analysis estimates two kinds of 'asking' equations: *asking for promotion* and *asking for pay raises* while in the current job. We find that it is not possible to reject the null hypothesis that males and females behave identically. The paper is able to control for hours of work -- something that was not possible for previous researchers -- so that the comparison being made is between full-time males and full-time females, and between part-time males and part-time females. Once that is done, regression equations for the likelihood of 'asking' do not show a statistically significant difference between men and women. In terms of 'getting', by contrast, column 6 of Table 3 reveals that females are less successful. [12]

This study cautiously also tries to probe human motives. It estimates equations to test whether, in considering to ask or not, females are more concerned than males about possible deleterious effects on their relationships. No evidence is found for that, either, in these data.

Certain caveats should be remembered. First, in this study we have had to rely on what people tell us in surveys. If, say, men have a disproportionately greater propensity to conceal the truth, then our results might, in principle, be biased in some way. It is possible that, perhaps as part of a desire to appear assertive, male workers are more likely than females to claim to have asked when they have not [13] done so; it is also possible, as has been suggested to us by some

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[12] In the case of probability of promotion success, however, we found no statistically significant difference. Results available on request.

[13] The authors of the paper would like to record that they are not persuaded about this; it is listed here only as a conceptual possibility. Moreover, this kind of bias would lead to an under-estimate, not over-estimate, of women's rate of asking.

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readers, that females behave in a subconsciously more emollient way. Second, this data set is for modern Australia. If that country is unusual, the findings from our study might not apply elsewhere. Appendix C, however, checks that Australia has the typical kind of gender pay gap of approximately 15%. Third, our results have concentrated on the case where hours of work are held constant. This is arguably natural, because we wish here to do a *ceteris paribus* comparison between males and females, but we have not attempted to explain the observed difference in the mean number of working hours between men and women. [14] Fourth, the analysis has not uncovered exactly why women are paid less than men.

Finally, we would caution the reader on one issue. We are particularly cognizant of the possibility that this study's results might be subject to Type II errors. As is often the case in statistical science, it is hard decisively to rule that out. Nevertheless, such a possibility should perhaps be seen in perspective. In the case of Table 3, the key estimated Female coefficient (of -0.026) is small and not merely insignificantly different from zero. In column 6 of Table 4, in fact, it is just -0.015. Moreover, for tables such as Table 2 and Table 6, the Female coefficients (of 0.013 and -0.012, respectively) have the wrong sign to be consistent with *Idea 1* or *Idea 2*.

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[14] These differences in working hours presumably stem in part from historical and sociological differences in the gender roles. See also the ideas in Gregory and Connolly (2008).

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Table 1A: Descriptive statistics (AWRS data 2013-2014)

Number of observations: 4582 employees across 840 employers

		Whole sample	
Variable	Description	Mean	SD
Female	= 1 if worker is female and 0 if male	0.576	0.494
Age	Age of worker in years	40.374	12.506
Age squared	Age of worker squared	1,786.403	1,049.501
English	= 1 if English is primary language; 0 otherwise	0.860	0.347
Married	= 1 if married and 0 if not	0.519	0.500
Dependents	= 1 if worker has children 15 or younger; 0 if not	0.327	0.469
Secondary	= 1 if completed secondary education; 0 if not	0.241	0.428
Certificate	= 1 if completed certificate education; 0 if not	0.254	0.435
Diploma	= 1 if completed diploma education; 0 if not	0.147	0.354
Bachelor degree	= 1 if completed bachelor education; 0 if not	0.201	0.401
Graduate	= 1 if completed graduate education; 0 if not	0.064	0.244
Post-graduate	= 1 if completed postgraduate education; 0 if not	0.093	0.291
Employer tenure	Length of time spent with employer in years	5.808	6.039
Weekly hours worked	Usual weekly hours worked	37.154	10.882
Part time job	= 1 if weekly hours worked is less than 38; 0 if not	0.359	0.480
Pay is negotiated	= 1 if salary is a "negotiated amount with employer" and 0 otherwise	0.389	0.488
Successful	= 1 if "successfully attained a better wage/salary through negotiating with the manager/employer (without changing roles) and 0 if not	0.160	0.367
Has asked for raise	= 1 if "attempted to attain a better wage/salary since commencing employment with this employer" and 0 otherwise	0.696	0.460
Has asked for promotion	= 1 if "attempted to get a promotion" and 0 otherwise	0.891	0.312
Satisfied with wage	= 1 if "satisfied with wage/salary" and 0 otherwise	0.338	0.473
No process	= 1 if "there is no process/procedure to be able to access a better wage to perform role" and 0 otherwise	0.213	0.410
Concerned about relationships	= 1 if "concerned about negative effects on relationship with manager/employer" and 0 otherwise	0.136	0.342
Role not worthy	= 1 if "role wouldn't be seen by manager/employer as worthy of a higher wage" and 0 otherwise	0.150	0.357
Satisfied in role	= 1 if "satisfied in role" and 0 otherwise	0.235	0.424

Table 1B: Gender sub-sample statistics (AWRS 2013-2014)

Variable	*Males*		*Females*	
	Mean	SD	Mean	SD
Age	41.124	12.393	39.820	12.561
Age squared	1,844.738	1,061.886	1,743.376	1,038.375
English	0.852	0.355	0.866	0.341
Married	0.579	0.494	0.475	0.499
Dependents	0.369	0.483	0.297	0.457
Secondary	0.245	0.430	0.238	0.426
Certificate	0.270	0.444	0.242	0.429
Diploma	0.136	0.343	0.155	0.362
Bachelor degree	0.192	0.394	0.208	0.406
Graduate	0.059	0.236	0.067	0.250
Post-graduate	0.098	0.298	0.089	0.286
Employer tenure	6.107	6.335	5.588	5.802
Part time job	0.174	0.379	0.496	0.500
Weekly hours worked	41.602	9.862	33.873	10.426
'Pay is negotiated'	0.477	0.500	0.325	0.468
'Successful since joining'	0.200	0.400	0.131	0.337
'I have asked for pay raise'	0.745	0.436	0.660	0.474
'I have asked for promotion'	0.902	0.298	0.883	0.322
'Satisfied with wage'	0.361	0.481	0.324	0.468
'No process'	0.182	0.387	0.231	0.422
'Concerned about relationships'	0.146	0.354	0.129	0.336
'Role not worthy'	0.160	0.367	0.144	0.352
'Satisfied in role'	0.251	0.434	0.225	0.418

The variable *'pay is negotiated'* is a dummy for whether the employee says that pay levels are fixed by negotiation with the employer. *'Successful since joining'* is a dummy for having attained a higher salary during this job tenure with the current employer. *'I have asked for pay raise'* is a dummy for having requested a greater salary during this job tenure with the current employer. *'I have asked for promotion'* is a dummy for having requested a promotion with the current employer. *'Satisfied with wage'* is a dummy for reporting that I am satisfied with my income in the job with the current employer. *'No process'* is a dummy for reporting that there is no process in this job for obtaining a higher salary. *'Concerned about relationships'* is a dummy for answering yes to "Why have you not attempted to attain a higher salary… I'm concerned about negative effects on my relationship with my manager/employer." *'Role not worthy'* is a dummy for answering yes to "Why have you not attempted to attain a higher salary… My role wouldn't be seen by my manager/employer as worthy of a higher wage." *'Satisfied in role'* is a dummy for answering yes to "Why have you not attempted to attain a higher salary… I am satisfied in my role."

Table 2: Regression Equations for I Have Asked for a Promotion (AWRS 2013-2014). Includes a Full Set of 840 Employer-Dummy Variables.

	I have asked for a promotion		
	(1)	**(2)**	**(3)**
Female	-0.008	0.003	0.013
	(-0.717)	(0.199)	(0.971)
Age	0.015***	0.011***	0.010***
	(4.698)	(3.341)	(3.019)
Age squared	-1.6×10^{-4}***	-1.3×10^{-4}***	-1.2×10^{-4}***
	(-4.259)	(-3.263)	(-2.896)
English	-0.003	-0.014	-0.017
	(-0.206)	(-0.877)	(-1.067)
Married		1.8×10^{-4}	0.001
		(0.014)	(0.108)
Dependents		-0.004	0.002
		(-0.297)	(0.167)
Certificate		0.022	0.019
		(1.581)	(1.389)
Diploma		0.016	0.016
		(0.912)	(0.937)
Bachelor degree		-0.008	-0.007
		(-0.449)	(-0.374)
Graduate		0.000	-0.002
		(0.007)	(-0.068)
Post-graduate		-0.023	-0.024
		(-0.981)	(-1.035)
Employer tenure		0.004***	0.004***
		(4.932)	(4.741)
Weekly hours worked			0.002***
			(3.803)
Occupational dummies	No	Yes	Yes
Constant	0.573***	0.737***	0.652***
	(8.623)	(9.970)	(8.480)
R^2	0.014	0.040	0.047

T-statistics are in parentheses. ***, ** and * represent statistical significance at the 1%, 5% and 10% levels. All estimations consist of 4582 observations. Standard errors are clustered by employer.

Table 3: Regression Equations for My Pay is Negotiated, I Have Been Successful in Negotiating Since Joining, and I Have Asked for a Pay Raise (AWRS 2013-2014). Includes a Full Set of 840 Employer-Dummy Variables.

	Pay is negotiated			Successful since joining			I have asked		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Female	-0.092***	-0.072***	-0.060***	-0.056***	-0.049***	-0.040***	-0.068***	-0.048***	-0.026
	(-5.502)	(-4.328)	(-3.471)	(-3.988)	(-3.198)	(-2.598)	(-3.776)	(-2.566)	(-1.420)
Age	0.028***	0.016***	0.015***	0.011***	0.006**	0.005*	0.021***	0.013***	0.011***
	(7.301)	(3.798)	(3.504)	(3.526)	(1.572)	(1.318)	(5.173)	(2.727)	(2.302)
Age squared	-2.9×10^{-4}***	-1.4×10^{-4}***	-1.2×10^{-4}***	-1.1×10^{-4}***	-6.5×10^{-5}**	-5.3×10^{-5}	-2.4×10^{-4}***	-1.9×10^{-4}***	-1.6×10^{-4}***
	(-6.480)	(-2.957)	(-2.618)	(-2.821)	(-1.472)	(-1.196)	(-5.028)	(-3.455)	(-2.994)
English	0.031	0.043**	0.040**	-0.011	-0.006	-0.009	0.018	-0.003	-0.009
	(1.506)	(2.080)	(1.899)	(-0.605)	(-0.330)	(-0.468)	(0.726)	(-0.126)	(-0.369)
Married		0.016	0.017		0.033	0.034		0.003	0.005
		(0.983)	(1.072)		(2.452)	(2.529)		(0.157)	(0.299)
Dependents		0.034	0.041**		-0.014	-0.009		-0.027	-0.015
		(1.951)	(2.350)		(-0.935)	(-0.578)		(-1.415)	(-0.778)
Certificate		-0.015	-0.018*		-0.001	-0.003		0.048***	0.043**
		(-0.713)	(-0.864)		(-0.057)	(-0.188)		(2.258)	(2.022)
Diploma		0.011	0.011		0.026	0.026		0.032*	0.033**
		(0.447)	(0.465)		(1.238)	(1.256)		(1.306)	(1.347)
Bachelor degree		0.078***	0.080***		0.054*	0.055*		0.038	0.040
		(3.221)	(3.300)		(2.558)	(2.610)		(1.457)	(1.556)
Graduate		0.075	0.072		0.049*	0.047*		0.023	0.020
		(2.350)	(2.297)		(1.745)	(1.687)		(0.718)	(0.609)
Post-graduate		0.053*	0.052*		0.062*	0.061		0.025	0.022
		(1.798)	(1.755)		(2.339)	(2.297)		(0.778)	(0.699)
Employer tenure		-0.004***	-0.004***		0.008***	0.008***		0.022***	0.021***
		(-2.723)	(-2.876)		(6.049)	(5.914)		(15.284)	(15.103)
Weekly hours worked			0.003***			0.002***			0.004***
			(5.510)			(3.412)			(7.050)

Occupational dummies	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Constant	-0.205**	0.224***	0.123***	-0.061	$-2.6\text{x}10^{-4}$	-0.073	0.696***	0.498***	0.664***
	(-2.468)	(2.209)	(1.149)	(-0.921)	(-0.003)	(-0.819)	(8.140)	(5.215)	(6.498)
R^2	0.032	0.128	0.137	0.014	0.043	0.046	0.020	0.103	0.114

T-statistics are in parentheses. ***, ** and * represent statistical significance at the 1%, 5% and 10% levels. All estimations consist of 4582 observations. Standard errors are clustered by employer.

Table 4: Part-time and Full-time Subsamples: Regression Equations for My Pay is Negotiated, I Have Been Successful in Negotiating Since Joining, and I Have Asked for a Pay Raise (AWRS 2013-2014). Includes a Full Set of 840 Employer-Dummy Variables.

	Pay is negotiated		Successful since joining		I have asked	
	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Female	-0.023	-0.051**	0.039	-0.053**	-0.026	-0.015
	(-0.624)	(-2.387)	(1.374)	(-2.396)	(-0.608)	(-0.619)
Demographic controls	Yes	Yes	Yes	Yes	Yes	Yes
Job controls	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.058	0.172	0.340	-0.198*	-0.181	-0.625***
	(0.242)	(1.259)	(1.430)	(-1.748)	(-0.926)	(-4.817)
R^2	0.090	0.111	0.046	0.033	0.073	0.101
Observations	1646	2936	1646	2936	1646	2936

T-statistics are in parentheses. ***, ** and * represent statistical significance at the 1%, 5% and 10% levels. Standard errors are clustered by employer.

Demographic and job controls are as listed in Table 3.

Part-time here is defined as < 38 hours per week.

Table 5: Regression Equations for the Reasons that I Did Not Ask for a Pay Raise: (i) I Am Satisfied with My Wage and (ii) I Am Satisfied with My Role (AWRS 2013-2014). Includes a Full Set of 641 Employer-Dummy Variables.

	Satisfied with wage			Satisfied in role		
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Female	0.070**	0.095**	0.072*	-0.024	-0.070**	-0.093***
	(2.116)	(2.502)	(1.844)	(-1.073)	(-2.059)	(-2.665)
Age	-0.010	-0.009	-0.007	-0.012**	-0.009	-0.008
	(-1.174)	(-0.913)	(-0.759)	(-2.411)	(-1.043)	(-0.878)
Age squared	1.5×10^{-4}	1.5×10^{-4}	1.3×10^{-4}	1.7×10^{-4}***	1.4×10^{-4}	1.1×10^{-4}
	(1.545)	(1.316)	(1.123)	(2.945)	(1.310)	(1.099)
English	0.085*	0.074	0.075	0.049	0.075*	0.075*
	(1.951)	(1.612)	(1.636)	(1.619)	(1.766)	(1.812)
Married		-0.025	-0.022		0.050	0.052*
		(-0.720)	(-0.635)		(1.543)	(1.651)
Dependents		-0.003	-0.025		-0.008	-0.031
		(-0.067)	(-0.620)		(-0.213)	(-0.809)
Certificate		-0.009	-0.006		-0.008	-0.004
		(-0.216)	(-0.132)		(-0.188)	(-0.104)
Diploma		-0.025	-0.031		0.029	0.023
		(-0.437)	(-0.546)		(0.585)	(0.460)
Bachelor degree		0.013	0.013		0.023	0.023
		(0.259)	(0.259)		(0.489)	(0.497)
Graduate		-0.117*	-0.111		0.078	0.084
		(-1.685)	(-1.583)		(1.102)	(1.185)
Post-graduate		-0.028	-0.025		-0.059	-0.055
		(-0.427)	(-0.375)		(-1.018)	(-0.956)
Employer tenure		-0.001	-0.001		0.002	0.002
		(-0.231)	(-0.148)		(0.581)	(0.675)
Weekly hours worked			-0.005***			-0.005***
			(-2.858)			(-3.095)
Occupational dummies	No	Yes	Yes	No	Yes	Yes
Constant	0.336**	0.650***	0.862***	0.374***	0.114	0.327
	(2.049)	(2.691)	(3.447)	(3.732)	(0.549)	(1.485)
R2	0.010	0.021	0.026	0.015	0.027	0.037

T-statistics are in parentheses. ***, ** and * represent statistical significance at the 1%, 5% and 10% levels. All estimations consist of 1593 observations. Standard errors are clustered by employer.

Table 6: Regression Equations for the Reasons that I Did Not Ask for a Pay Raise: (iii) There is No Process Here, (iv) I Am Concerned about My Relationships, (v) My Role is not Worthy of Higher Pay (AWRS 2013-2014). Includes a Full Set of 641 Employer-Dummy Variables.

	No process	Concerned about relationships	Role not worthy
	(1)	**(2)**	**(3)**
Female	-0.053	-0.012	-0.015
	(-1.546)	(-0.397)	(-0.429)
Demographic controls	Yes	Yes	Yes
Job Controls	Yes	Yes	Yes
Constant	0.158	0.090	-0.042
	(0.883)	(0.573)	(-0.248)
R^2	0.030	0.024	0.030

T-statistics are in parentheses. ***, ** and * represent statistical significance at the 1%, 5% and 10% levels. All estimations consist of 1593 observations. Standard errors are clustered by employer.

Appendix A: Estimations by Age Sub-Samples (AWRS 2013-2014). Full Set of 840 Employer-Dummies Included.

	Pay is negotiated		Successful since joining		I have asked	
	Age<41	**Age>40**	**Age<41**	**Age>40**	**Age<41**	**Age>40**
Female	-0.008	-0.123***	-0.019	-0.077***	-0.041	0.009
	(-0.329)	(-4.100)	(-0.875)	(-2.912)	(-1.445)	(0.335)
English	0.033	0.033	0.024	-0.078**	-0.003	0.008
	(1.000)	(1.022)	(0.907)	(-2.343)	(-0.093)	(0.190)
Married	0.032	0.011	0.031	0.033	0.058**	-0.043*
	(1.187)	(0.504)	(1.314)	(1.606)	(2.145)	(-1.815)
Dependents	0.068**	0.029	-0.004	-0.015	-0.060**	0.011
	(2.427)	(1.255)	(-0.170)	(-0.691)	(-2.115)	(0.434)
Certificate	0.021	-0.042	0.006	-0.036	0.049	0.040
	(0.695)	(-1.446)	(0.228)	(-1.320)	(1.481)	(1.217)
Diploma	0.039	-0.019	0.009	0.039	-0.016	0.080**
	(1.029)	(-0.568)	(0.265)	(1.167)	(-0.402)	(2.089)
Bachelor degree	0.081**	0.086**	0.055*	0.045	0.038	0.085**
	(2.325)	(2.557)	(1.761)	(1.309)	(1.039)	(2.074)
Graduate	0.040	0.094**	0.027	0.056	0.041	0.040
	(0.743)	(1.960)	(0.673)	(1.224)	(0.787)	(0.862)
Post-graduate	0.020	0.088*	0.066	0.065	0.052	0.046
	(0.463)	(1.916)	(1.600)	(1.541)	(1.034)	(0.928)
Employer tenure	-0.003	-0.002	0.016***	0.005***	0.041***	0.015***
	(-0.940)	(-1.544)	(5.646)	(3.408)	(11.411)	(8.872)
Weekly hours worked	0.004***	0.001	0.002*	0.002**	0.004***	0.007***
	(2.787)	(1.041)	(1.681)	(2.065)	(3.321)	(4.873)
Occupational dummies	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.442***	0.592***	0.012	0.105	0.428***	0.354***
	(3.974)	(6.362)	(0.125)	(1.328)	(4.006)	(3.971)
R^2	0.112	0.160	0.048	0.043	0.130	0.107
Observations	2370	2212	2370	2212	2370	2212

T-statistics are in parentheses. ***, ** and * represent statistical significance at the 1%, 5% and 10% levels. Standard errors are clustered by employer.

Appendix B: Estimations for I Have Asked for a Pay Raise by Tenure Sub-Samples (AWRS 2013-2014). Includes a Full Set of 840 Employer-Dummy Variables.

	I have asked for a pay raise		
	Tenure<1 year	Tenure<3 years	Tenure<5 years
Female	-0.047	-0.017	-0.010
	(-0.419)	(-0.466)	(-0.326)
Age	0.015	0.009	0.015**
	(0.510)	(0.931)	(2.052)
Age squared	-2.7×10^{-4}	-1.4×10^{-4}	-2.2×10^{-4}**
	(-0.718)	(-1.198)	(-2.328)
English	0.088	-0.050	-0.027
	(0.607)	(-1.241)	(-0.813)
Married	0.107	0.017	0.015
	(1.081)	(0.500)	(0.575)
Dependents	-0.120	-0.063*	-0.055*
	(-1.401)	(-1.680)	(-1.867)
Certificate	-0.007	0.057	0.053
	(-0.067)	(1.328)	(1.564)
Diploma	-0.105	0.029	0.048
	(-0.675)	(0.566)	(1.178)
Bachelor degree	0.270***	-0.021	0.033
	(3.066)	(-0.437)	(0.837)
Graduate	0.252**	0.020	0.040
	(2.066)	(0.334)	(0.780)
Post-graduate	0.489**	0.014	0.037
	(2.482)	(0.246)	(0.739)
Weekly hours worked	0.001	0.003*	0.003**
	(0.183)	(1.779)	(2.209)
Occupational dummies	Yes	Yes	Yes
Constant	1.171*	0.422*	0.365**
	(1.822)	(1.945)	(2.184)
R^2	0.032	0.049	0.054
Observations	413	1976	2687

T-statistics are in parentheses. ***, ** and * represent statistical significance at the 1%, 5% and 10% levels. Standard errors are clustered by employer.

Appendix C: Log-Wage Estimations (AWRS 2013-2014). Includes a full set of Employer-Dummy Variables.

	(1)	(2)	(3)
Female	-0.385***	-0.289***	-0.147***
	(-10.878)	(-6.976)	(-3.708)
Age	0.062***	0.051***	0.038***
	(7.912)	(5.942)	(4.700)
Age squared	-6.9×10^{-4}***	-5.8×10^{-4}***	-4.1×10^{-4}***
	(-7.464)	(-5.818)	(-4.381)
English	-0.015	-0.016	-0.056
	(-0.253)	(-0.280)	(-0.976)
Married		-0.029	-0.014
		(-0.865)	(-0.419)
Dependents		-0.070*	0.010
		(-1.933)	(0.302)
Certificate		0.068	0.037
		(1.587)	(0.914)
Diploma		0.014	0.017
		(0.263)	(0.332)
Bachelor degree		0.156***	0.173***
		(2.989)	(3.497)
Graduate		0.115	0.091
		(1.427)	(1.192)
Post-graduate		0.274***	0.261***
		(3.677)	(3.742)
Employer Tenure		0.009***	0.007**
		(3.287)	(2.575)
Weekly hours worked			0.030***
			(15.134)
Occupational dummies	No	Yes	Yes
Constant	4.322***	4.888***	3.755***
	(25.563)	(24.036)	(18.259)
R^2	0.075	0.175	0.272
Observations	4467	4467	4467

T-statistics are in parentheses. ***, ** and * represent statistical significance at the 1%, 5% and 10% levels. Standard errors are clustered by employer.

Appendix D: Extracts from the Questionnaire Wording in the AWRS Survey

Method of Setting Pay
C1 How is your wage/salary determined?
Please select one response only

CODE FRAMES	MOSP
Negotiated amount with my employer	1
By an enterprise agreement (EBA)	2
By an award (i.e. the relevant pay rate contained in the award, and no more)	3
My employer offered me an amount that was more than the award/standard rate, and I accepted	4
Other *(Please specify)*	990
Don't know	997

Salary Negotiations (After Commencement)
C2 Which of the following best describes the actions you have taken in relation to your wage/salary since you commenced your employment with your employer?
Please select all that apply
[PROGRAMMER: A RESPONDENT CAN'T BE CODE 7 IF THEY ARE CODE 4, AND CAN'T BE CODE 6 IF THEY ARE CODES 2, 3 OR 5]

CODE FRAMES	SALNEG1
I **received** a better wage/salary without pursuing it	1
I have **successfully** attained a better wage/salary for myself **through a promotion**	2
I have **successfully** attained a better wage/salary for myself **through negotiating** with my manager/employer (i.e. without changing roles)	3
I have **attempted** to attain a better wage/salary for myself though applying for a **promotion**, but have been **unsuccessful**	4
I have **attempted** to attain a better wage/salary for myself in my role, but was **unsuccessful** (e.g. request refused or ignored)	5
I have **not attempted** to attain a better wage/salary for myself since I commenced employment with this employer	6
I have **not attempted** to get a promotion	7
Prefer not to say	998

Why No Salary Negotiations
[ASK IF C2 (SALNEG) = CODE 6 OR CODE 7]
C2a Why **have you not** attempted to attain a better wage/promotion for yourself since you commenced your employment?
Please select all that apply

CODE FRAMES	SALNEG2
I'm satisfied with my wage/salary	1
There is no process/procedure to be able to access a better wage to perform my role	2
I'm concerned about negative effects on my relationship with my manager/employer	3
My role wouldn't be seen by my manager/employer as worthy of a higher wage	4
I am satisfied in my role	5
Other *(Please specify)*	990
Prefer not to say	998