Job Satisfaction and the Gender Composition of Jobs[*]

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Abstract

Regarding predominantly male jobs (using the National Longitudinal Survey of Youth): While both sexes prefer male jobs, women like the pay and not the job-amenities; men appreciate both. Most of the women's pay premium in male jobs suggests compensating differentials.

Keywords: Compensating differentials; Wage and job-amenities; Job satisfaction.

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1 Introduction

Many studies report that the proportion of men in an occupation has a significant, positive relation with wages (e.g., Johnson and Solon, 1987; England et al., 1988; Sorensen, 1990; Groshen, 1991; Macpherson and Hirsch, 1995),[1] and researchers offer a variety of explanations for the pay disparity between female- and male-dominated occupations, such as discrimination, job-specific differences in productivity, and compensating differentials.[2] Research indicates that the positive relation between the proportion male in an occupation and wages is reduced, but still persists, when the wage equation controls for the job-characteristics. Such studies conclude that uncompensated pay differences remain for the pay disparity. However, researchers in these studies are unable to control for all of the job-characteristics that influence wages (Brown, 1980). Furthermore, the literature is not very informative regarding whether the estimated relation between the proportion male and wages reflects compensating differentials or uncompensated differences in pay, i.e., whether the wage premium associated with male jobs under-, just-, or over-compensates for the negative characteristics of such jobs. To fill this gap in understanding compensating differentials using wage data, this paper directly examines workers' reported satisfaction rates on jobs' pecuniary and non-pecuniary aspects.

I use the National Longitudinal Survey of Youth (NLSY), which includes information on individuals' overall job satisfaction rate and their satisfaction rates from wages and job-amenities. A simple model of job satisfaction is established for individuals who change jobs to examine the relation between their change in the proportion male in an occupation and the change in their reported job satisfaction rates. Estimates from the ordered probit models indicate that men report greater satisfaction from both the pay and the job-amenities in predominantly male jobs. In contrast, women report higher satisfaction from the pay received, but lower satisfaction from the job-amenities. Specifically, men and women hold opposite views about pleasantness of physical surroundings, whether they can do the things they do best, and friendliness of co-workers. Both report dissatisfaction regarding on-the-job dangers and the extent of exposure to unhealthy conditions. Overall, both sexes report that predominantly male jobs are more satisfying. This effect is insignificant for women, however. These

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[1]These studies estimate the effect of proportion *female* in occupation on wages. In this paper it is expositionally convenient to estimate the effect of proportion *male* on wages (the wage premium).

[2]See Altonji and Blank (1999) for explanations. One possibility is that societal and labor market discrimination "crowd" women into traditionally female jobs, lowering wages for these jobs. A second possibility is that skill premium is paid in male jobs. A third possibility is that male jobs pay compensating differentials for the negative job-characteristics (e.g., longer working hours and less-desirable conditions).

results suggest that women sacrifice working conditions for higher pay, and that part (but not all) of the wage premium compensates for negative job-characteristics in male jobs.

2 Data

The NLSY, the source of data in this paper, is based on a nationally representative sample of individuals between age 14 and 22 when first interviewed in 1979. Survey members were asked to rate pecuniary and non-pecuniary aspects of their jobs in 1979-82: "We would like to know how well or poorly each of the following statements describes your job."

The pay is good.

You are given a chance to do the things you do best.

The physical surroundings are pleasant.

Your co-workers are friendly.

The job is dangerous.

You are exposed to unhealthy conditions.

The job security is good.

The skills you are learning would be valuable in getting a better job.

The response categories were: (1) not at all true, (2) not too true, (3) somewhat true, and (4) very true.

The respondents also were questioned about overall job satisfaction: "How do you feel about the job you have now?" The response categories were: (1) dislike it very much, (2) dislike it somewhat, (3) like it fairly well, and (4) like it very much.

The gender composition of an occupation is measured by the proportion of men in the worker's three-digit occupational category ($PMALE$). It is calculated from the 1980 U.S. Census Public Use Microdata 5-percent Sample.

I focus on the trade-off in terms of pay and job-amenities individuals experience when they move to occupations with different proportions of men in the event of a job separation.[3] Since some job changes may be associated with school-to-work transitions, the individual sample is limited to those not enrolled in school for at least one year prior to the interview. Appendix Table 1 presents selected sample characteristics. Since the early waves of the NLSY are used,

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[3]People who stay with current employers are excluded, because they cannot easily change job-characteristics while remaining with the same employer (Altonji and Paxson, 1988). Nearly fifty percent of job stayers do not change their occupations over time, and the variation in $PMALE$ is fairly small among stayers with occupation changes.

the labor market experience (years worked since leaving school) is 3.8 years; fifty-six percent of the sample are high school graduates, and there are only a few college graduates. This paper examines the reasons for the early labor market career transitions of non-college workers, whose preferences are less affected by past labor market opportunities.

3 Econometric Model of Job Satisfaction

Let the utility of individual i whose gender is g (m for men and f for women) working in a job j at time t be,

$$U_{ijt} = w_{ijt} + C_j \Omega_g, \tag{1}$$

where w_{ijt} is the logarithm of wages of individual i in job j at time t, C_j is a vector of amenities in job j, and Ω_g measures the preference for the vector of amenities relative to wages for type-g workers. Men and women may value job-amenities differently, and Ω_g may vary between them. Consider a linear projection of the index of amenities ($C_j \Omega_g$) on the proportion male in an occupation, and define ϕ_g to be the coefficient of the projection. Then,

$$C_j \Omega_g = \phi_g PMALE_j + \xi_j, \tag{2}$$

where $PMALE_j$ is the proportion male in the individual's occupation, and ξ_j is the error term uncorrelated with $PMALE_j$ by definition of ϕ_g, but may be correlated with w_{ijt}. I plug Eq.(2) into utility function (1) and obtain a reduced-form utility function,

$$U_{ijt} = w_{ijt} + \phi_g PMALE_j + \xi_j, \tag{3}$$

where ϕ_g measures preference for working in male jobs relative to preference for higher wages.

Previous studies estimate the effect of $PMALE$ on wages using the following regression,

$$w_{ijt} = \theta PMALE_j + Z_{it} \Pi + \varepsilon_i + v_{ijt}, \tag{4}$$

where θ is the coefficient of $PMALE_j$, Z_{it} is a vector of an intercept and other observed wage determinants with Π the corresponding coefficient vector, ε_i is a fixed individual-specific error component, and v_{ijt} is an error term. These studies first-difference Eq.(4) to eliminate ε_i which is correlated with $PMALE_j$. I also take this first-difference approach to eliminate unobserved individual heterogeneity.

When workers move from a job $j\,(t-1)$ to a new job $j\,(t)$, the change in utility is,

$$U_{ij(t)t} - U_{ij(t-1)t} = \left(w_{ij(t)t} - w_{ij(t-1)t} \right) + \left(C_{j(t)} \Omega_g - C_{j(t-1)} \Omega_g \right). \tag{5}$$

The change in utility is the sum of the changes in value of wages and value of job-amenities. Workers can change jobs to acquire higher wages while sacrificing job-amenities, and vice versa.

Let S_{ijg}^O denote the overall job satisfaction rate for individual i whose gender is g in job j; S_{ijg}^W the satisfaction rate of wages; and S_{ijg}^A the satisfaction rate of job-amenities. I approximate the changes in utility, value of wages and value of job-amenities as,

$$S_{ij(t)g}^O - S_{ij(t-1)g}^O = b_0 \left(U_{ij(t)t} - U_{ij(t-1)t} \right)$$

$$S_{ij(t)g}^W - S_{ij(t-1)g}^W = b_1 \left(w_{ij(t)t} - w_{ij(t-1)t} \right) \tag{6}$$

$$S_{ij(t)g}^A - S_{ij(t-1)g}^A = b_2 \left(C_{j(t)}\Omega_g - C_{j(t-1)}\Omega_g \right),$$

where $b_0, b_1, b_2 > 0$.[4] First, using wage regression (4), I rewrite the change in value of wages as,

$$\triangle S_{ij(t)g}^W = b_1 \left(\theta \triangle PMALE_{j(t)} + \triangle Z_{it}\Pi + \triangle v_{ij(t)t} \right). \tag{7}$$

I estimate the wage premium θ up to scale using Eq.(7).

Next, using the reduced-form expression of job-amenities in Eq.(2), I rewrite the change in value of job-amenities as,[5]

$$\triangle S_{ij(t)g}^A = b_2 \left(\phi_g \triangle PMALE_{j(t)} + \triangle \xi_{j(t)} \right). \tag{8}$$

Substituting Eq.(8) into the equation for the change in overall job satisfaction,

$$\begin{aligned} \triangle S_{ij(t)g}^O &= \frac{b_0}{b_1} \triangle S_{ij(t)g}^W + \frac{b_0}{b_2} \triangle S_{ij(t)}^A \\ &= \frac{b_0}{b_1} \triangle S_{ij(t)g}^W + b_0\phi_g \triangle PMALE_{j(t)} + b_0 \triangle \xi_{j(t)}. \end{aligned} \tag{9}$$

Using Eqs.(8) or (9), the preference parameter ϕ_g is estimated up to scale.

Lastly, substituting out $\triangle S_{ij(t)g}^W$ from Eq.(9) by plugging in Eq.(7),

$$\triangle S_{ij(t)g}^O = b_0 \left(\theta + \phi_g \right) \triangle PMALE_{j(t)} + b_0 \triangle Z_{it}\Pi + b_0 \triangle \xi_{j(t)} + b_0 \triangle v_{ij(t)t}. \tag{10}$$

I estimate $\theta + \phi_g$ up to scale using Eq.(10). When the sign of $\theta + \phi_g$ is positive (negative), the wage premium θ overcompensates (does not compensate) for the negative job-characteristics. When $\theta + \phi_g = 0$, the wage premium perfectly compensates for the negative job-characteristics.

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[4]Men and women may differ in the ratings of the importance of pay and job-amenities. See Konrad et al. (2000) for a summary of these studies in psychology. This difference implies that the satisfaction metric, b_0, b_1 and b_2, may vary by gender.

[5]Job attributes other than wages and on-the-job amenities also may affect job satisfaction. Commuting time is an example. Such job attributes can be treated as an error term.

4 Results

Job satisfaction rates are indexed from 1 to 4, and ordered probit models are used for estimation. Table 1 presents the effects of the change in the proportion male on various changes in job satisfaction rates. Women who move to more predominantly male jobs report that: physical surroundings depreciate, co-workers are less friendly, and they are less likely to be given a chance to do the things they do best. Men, however, report opposite views. Both men and women are satisfied with the pay they receive when moving into predominantly male jobs. They also agree that: work becomes more dangerous; and they are exposed to unhealthier conditions. In general, the estimates on the effects of the proportion male on job satisfaction are greater for men than women; and the estimates often have opposite signs for the two groups. Several male-female coefficient differences are significant. This suggests that men and women have different preferences for job-amenities or that job-characteristics conditional on the proportion male in an occupation differ between sexes.[6]

The overall job satisfaction rate increases for men and women as they move to more predominantly male jobs. However, this coefficient is significant for men but not for women, suggesting that most of the wage premium paid in male jobs compensates for the negative job-characteristics for women. Men and women are less satisfied when they move to more female jobs, implying that their decisions are based on factors other than higher occupational utility (which is determined by wage and on-the-job-amenities).[7] There are at least two possible reasons why they would change jobs. Gladden (2001) argues that if a husband chooses to leave his job to move to a new one, the wife may leave also to accompany her husband (viewed as a quit for the wife). In this case, the wife may accept a less-satisfying, female job. Another possibility is that workers may move take less-satisfying jobs located in more convenient locations.

The preference parameter ϕ_g is estimated up to scale using Eq.(9). Using ordered probit models, I estimate the change in overall job satisfaction rate on the change in proportion male, dummies for the change in job satisfaction rate of pay, and demographic variables. The coefficients on the change in proportion male are $-.139$ $(.148)$ for women and $.320$ $(.124)$ for men. Women prefer job-amenities in female jobs, but men prefer job-amenities in male jobs.

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[6]Men and women in male jobs work in different types of jobs. Most women who work in such jobs hold white-collar managerial positions, whereas men do both white-collar and blue-collar work.

[7]The results are robust to restricting the sample to quits.

5 Conclusion

This paper examines the relation between job satisfaction and the proportion male in an occupation. Men and women report higher overall job satisfaction (including better pay) in predominantly male jobs. However, most of the pay premium for women is a compensating differential, because the effect of proportion male on overall job satisfaction is insignificant.

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Table 1. Ordered Probit Estimates of Proportion Male Effects on Job Satisfaction Rates

Dependent Variable	Men	Women	Male-Female Difference
Overall job satisfaction	0.346	0.040	0.292
	(0.116)	(0.131)	(0.177)
Pay is good	0.407	0.371	0.027
	(0.135)	(0.139)	(0.194)
Can do what you do best	0.390	-0.120	0.512
	(0.132)	(0.140)	(0.191)
Pleasant physical surroundings	0.004	-0.249	0.243
	(0.118)	(0.137)	(0.179)
Friendly co-workers	0.125	-0.335	0.470
	(0.138)	(0.159)	(0.212)
Dangerous job	0.543	0.573	0.065
	(0.128)	(0.137)	(0.181)
Exposure to unhealthy conditions	0.398	0.115	0.308
	(0.116)	(0.138)	(0.177)
Good job security	0.167	0.396	-0.219
	(0.123)	(0.145)	(0.188)
Skills valuable in getting better job	0.338	-0.172	0.510
	(0.139)	(0.151)	(0.204)

Models control for a set of demographic characteristics: changes in experience and its square, change in education, change in dummies for marital status, residence in SMSA and region, and calendar years. Robust panel standard errors are in parentheses.

Appendix Table 1. Means of Selected Variables

Variable	Men	Women
Proportion male (*PMALE*)	0.763	0.273
Wage	6.106	4.938
Hours/week	40.96	35.79
Less than high school education	0.374	0.198
High school education	0.512	0.624
Some college education	0.106	0.166
College education	0.007	0.012
Black	0.203	0.124
Experience	3.890	3.787
Married	0.292	0.395
N	1074	751