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Gender Differences in Pay of Young Management Professionals in the United States: A Comprehensive View

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Abstract: We conduct a comprehensive examination of the gender differences in pay focusing on multiple perspectives emanating from economics, social psychology, and gender studies. Data are drawn from surveys of MBA students conducted by the Graduate Management Admissions Council. Although women in both samples earn significantly less on average than men, when the effects of the study's variables are considered via multiple regression analysis, no significant difference in annual salary is observed. Our results show the importance of simultaneously considering the impact of human capital, job and firm characteristics, demographics, and cognitive skills. Structural differences are noted in the models estimated separately for men and women. However, the results from decomposing

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salary differentials are quite consistent with estimates from the single-equation models.

I. Introduction

Research focusing on the underlying determinants of the gender wage gap has a rich history and has generated interest from economists, sociologists, psychologists, and members of other disciplines. Four primary categories of variables predicting the wage gap have emerged from this work: human capital, job characteristics, firm characteristics, and demographics. In addition, recent research has focused on the importance of cognitive ability in predicting earnings. However, we are not aware of any research which attempts to address the impact of these multiple perspectives in a single study. At this stage of the research it seems important to determine whether a primary, dominant explanation of gender wage differences exists or if an additive effect is present whereby each perspective contributes separately in explaining the wage gap.

Our main purpose is to ascertain whether or not women receive lower salaries than men after simultaneously controlling for other factors. In addition, we test for the significance of variable groupings, and whether the effects of these variables, individually or jointly, are different for women than for men. Additionally, structural differences in the estimated models for men and women are examined. We utilize data obtained from two projects commissioned by the Graduate Management Admissions Council (GMAC).[1] Questionnaire respondents were either currently enrolled in MBA programs or were registered to take the Graduate Management Admissions Test (GMAT). All respondents had obtained undergraduate degrees, thus our sample consists of individuals pursuing careers in professional and managerial fields. Although our results may not be generalized to the entire population of workers, over 200,000 individuals take the GMAT annually. Thus, the samples clearly represent a significant proportion of the workforce who are focused on management careers.

II. Background

Human Capital Variables

Human capital theory is probably the most frequently investigated explanation for gender pay differences. Human capital theory posits that a worker's knowledge and skills come from education and training, including learning on the job, which generate a stock of productive capital (Ehrenberg and Smith, 2003). The value of this human capital stems from how the labor market values these skills. Human Capital research is quite broad and somewhat fragmented. Several investigations report that the choice of college major is significant in explaining gender differences (Brown and Corcoran, 1997; Gerhart, 1990; Loury, 1997), although a recent investigation found that the importance of college major may have declined (Joy, 2003). Work experience is a key, if not the key, determinant of earnings (Loury, 1997; Mitra, 2002; Murname et al., 1995; O'Neill and Polachek, 1993; Weinberger, 1998; Wellington, 1994). Stanley and Jarrell (1998) report that large biases in estimating the gender earnings gap are likely when labor force experience is omitted. Gender differences in full-time work experience have explained a significant portion of gender differences in pay (Frieze et al., 1990; Olson and Frieze, 1987, 1989; Schneer and Reitman, 1990). When controlling for labor force experience, length of service with an employer is positively related to earnings (Brett and Stroh, 1997; Brown and Corcoran, 1997; Chauvin, 1994; Topel, 1991; Wellington, 1994).

It is noteworthy that men and women have different employment patterns, as women are more likely to leave the workforce for significant periods of time. Blau et al. (2002) discuss the implications of traditional roles on the expected work life of women and the predicted negative effect on earnings. Support for this relationship was reported by Frieze et al. (1990), Schneer and Reitman (1990), and Wellington (1994). Some contrary evidence has been observed. In studies of MBA graduates by Murrell et al. (1989), Olson and Frieze (1989), and by Schneer and Reitman (1994), employment gaps were neither positively nor negatively related to salary. The above articles clearly show how the accumulation of human capital affects wages. Our study examines how all of these variables, when assessed simultaneously, affect wages.

Job and Employer Characteristics

Joy (2003) reports that job and industry along with hours worked, accounted for just over half of the wage gap between men and women. Company size is positively related to compensation level according to studies by Cox and Harquail (1991), Mitra (2002), and Schneer and Reitman (1995). In order to maintain flexibility and achieve work-family balance, women may work in smaller organizations. This is important to investigate and may account for a portion of the wage gap. Number of hours worked is positively related to compensation among executives (Judge et al., 1995; Schneer and Reitman, 1995; Wallace, 1989; Wellington, 1994). Schneer and Reitman (1995) find that women worked fewer hours than men.

Taking on more responsibility in organizations is a generally recognized way to increase one's wages. However, findings indicate gender differences in the association between earnings and supervisory as well as budgetary responsibility (Ferber and Spaeth, 1984; Spaeth, 1985; Ferber, Green, and Spaeth, 1986). Several studies report that women progress more slowly in their careers and, receive lower salaries (Cox and Harquail, 1991; Murrell et al., 1996; Schneer and Reitman, 1990). Organizations may be less willing to invest in the careers of women because women are perceived to be twice as likely as men to leave (Schwartz, 1989; Stroh et al., 1996). Wellington (1994) reports that employer-provided training was significantly related to earnings for both genders, and men had significantly more training than women.

Women in the United States tend to be employed in occupations staffed primarily by women (Fields and Wolff, 1991). The high concentration of women in a few occupations may stem from discriminatory hiring practices (Sorensen, 1990). An alternative explanation is that the "crowding phenomena" stems from occupational choices of women that result from socialization and sex-role stereotypes (Subich et al., 1989). Bergmann's (1974) seminal work on the "crowding phenomenon" demonstrates that regardless of the reason for gender-based occupational segregation, the outcome can be significant male-female pay differentials, as substantiated by several studies which report lower compensation levels in occupations staffed primarily by women (Groshen, 1991; Kilbourne et al., 1994; Macpherson and Hirsch, 1995; Sorensen, 1989, 1990). Note that Fields and Wolf (1991) present data which reveal that occupational segregation by gender declined between 1970 and 1980. Blau et al. (2002) report that occupation segregation continued to decline during the 1980s and 1990s, significant occupational segregation was still present in 1999. Thus, including a measure of occupational segregation is still warranted.

Research investigating these variables is somewhat fragmented. By examining these variables in a single study we can better ascertain the cumulative effects of job and organizational characteristics on wages. In addition, by estimating separate equations for men and women we will be able to determine if a differential effect exists.

Cognitive Ability

Several studies have investigated the impact of cognitive ability on earnings.[2] Paglin and Rufolo (1990) present data suggesting that differences in earnings for occupations with high proportions of men, compared to occupations with high proportions of women, are related to the occupation's mathematical and quantitative requirements. They report that GRE verbal scores are unrelated to earnings. Mitra (2002) reports similar findings. Alternatively, Brown and Corcoran (1997) find that SAT verbal scores are significantly related to earnings, whereas SAT quantitative scores are not related to earnings. Brown and Corcoran's analysis includes measures of enrollment in quantitative courses, which are significantly related to pay. Inclusion of the latter measures may explain why quantitative scores are not significant in this investigation.

Each previous investigation addressing these variables has a shortcoming. Paglin and Rufalo (1990) study average earnings, average GRE verbal scores, and average GRE quantitative scores associated with college majors rather than directly measuring the cognitive ability of individual subjects. They conclude that earnings differences associated with majors are explained in part by GRE quantitative scores, but that GRE verbal scores are not related to differences in earnings.

Studies by Murname et al. (1995), Brown and Corcoran (1997), and Mitra (2002) are superior to Paglin and Rufalo's study in that direct measures of cognitive ability for individuals are investigated. However, a shortcoming shared by these three investigations is that the measures of cognitive ability were obtained about the time subjects were high school seniors or had just finished high school. Earnings data were collected about six years later by Murname et al. (1995) and Brown and Corcoran (1997), and about 12 years later by Mitra (2002). Both Murname et al. and Mitra report that quantitative ability is related to earnings, but verbal ability is not. Brown and Corcoran, on the other hand, report that verbal ability is related to earnings, but quantitative ability is not related.

These three studies can be criticized because the relative standing of subjects with regard to measures of verbal and quantitative ability are almost certainly influenced by the college experience. In addition, as pointed out above, Brown and Corcoran include measures of college major and enrollment in quantitative courses, which are both significantly related to earnings.

Demographic Characteristics

Several studies find that marital status affects compensation (Joy, 2003; Judge et al., 1995; Kilbourne et al., 1994; Landau and Arthur, 1992; Mitra, 2002). Typically married employees receive higher salaries, presumably because married individuals are more stable. However Mitra (2002) reports that among white-collar, professional, and highly skilled workers, marriage has a significant negative association with hourly wages for females and a significant positive association with hourly wages for men. Race differences in earnings have frequently been reported (Blau et al., 2002; Mitra, 1999; Weinberger, 1998). The presence of children should influence labor force attachment, education investment decisions, and earnings of women (Blau et al., 2002; Waldfogel, 1997).

Stanley and Jarrell (1998) conclude that in studies of gender wage discrimination, age makes a material difference in wage equations and excluding age may result in omitted variable bias. The importance of demographic characteristics has been established and should be considered in combination with the other variables.

III. Comprehensive Investigation

We propose a comprehensive model which includes human capital variables, job and employer characteristics, cognitive skills, and demographic characteristics that explains gender differences in pay. The contribution of each set of explanatory variables will be assessed. The measures for each set of explanatory variables are:

- Human Capital Variables: college major, labor force experience, gaps in employment and length of service with current employer.
- Job Characteristics: hours worked, number of persons supervised, budgetary responsibilities, job training and gender density of occupation.
- Employer Characteristics: industry and size.
- Cognitive Skills: verbal and quantitative skills.
- Demographic Characteristics: marital status, age, race, children and gender.

IV. Data

Two separate samples sponsored by the GMAC are used to investigate gender differences in pay. The National Opinion Research Center (NORC) collected the first sample, and second sample was conducted by Battelle Research Center.

Sample 1

NORC conducted a survey for GMAC during 1985 of first-year graduate students pursuing an MBA or MBA-equivalent degree. Ninety-one of the 100 schools contacted agreed to participate. Schools accredited by the International Association for Management Education as well as nonaccredited schools were sampled. The participating schools distributed the surveys to first-year students who returned the completed questionnaires directly to NORC.

A total of 2,054 responses were received from the original random sample of 2,794 full-time and part-time students, a 73.5 percent response rate. One hundred and thirty-four students who completed a short form via a telephone interview were dropped from further analysis due to incomplete information. We limited our analysis to individuals who were working full-time. This action, along with missing data, reduced our final sample to 519 individuals who were working full-time and attending graduate school as part-time students. The profile of these students was 31 percent female, 28 years of age, with five years of work experience beyond the bachelor degree.

Sample 2

The second sample is drawn from a study conducted by Battelle Memorial Institute for the GMAC of individuals who register to take the GMAT. Approximately 250,000 individuals register to take the test every year. Based on a stratified random sample of test registrants, questionnaires were sent to 7,006 individuals who signed up to take the test between June 1990 and March 1991. Completed questionnaires were received from 5,790 individuals (82.6 percent response rate). We focus on those who were employed full-time and responded to the items relevant to this investigation, resulting in a final sample of 2,460 individuals. The respondents had an average age of 29 years, 40 percent of the participants were women, and the average work experience beyond their bachelor degree was just over six years.

Variables

Current annual salary is measured in both samples. Individuals report their total annual salary, including bonuses and incentive payments. Independent variables are collected to measure the various influences on current salary identified by current professional literature. These influences are grouped according to the following categories: (1) human capital, including both formal education and labor force experience;[3] (2) individual job characteristics such as budgetary and supervisory responsibilities, hours worked per week, and gender density of occupation;[4] (3) characteristics of the particular firm worked for; (4) demographic characteristics of the employee, including race as well as gender, age, and marital status;[5] and (5) cognitive skills as measured by GMAT score results. Table 1 reports descriptions as well as the mean values (by gender) for each of our variables.

There are some differences in the variables collected for each sample. A measure of employment gap is computed for each sample. For the first sample we tabulate a categorical measure of gaps in labor force participation since completing the bachelor degree: (1) no gap in labor force participation; (2) One to six months' gap in labor force participation; (3) seven to 12 months' gap in labor force participation; (4) greater than 12 months' gap in labor force participation. For the second sample, the gap measure is equal to the number of years not in the labor force since age 21. A job training measure is available only for the first sample. Quantitative and verbal scores for the GMAT exam are available only for the second sample.

Table 1 reveals other differences and similarities between the two samples. Both samples reveal significant differences in the mean values for men and women for the following variables: *ENGINEER, LABORFRC, DENSITY, MANUF*, and *MARRIED*. In both samples men have more labor force experience, and are more likely to have an engineering undergraduate major, to be employed by a manufacturing firm, and to be married than women. In both samples women are more likely to be in an occupation that had a high proportion of women.[6] Both samples reveal no significant differences in the mean values for men and women for the following variables: *PHYSSCI, BUDGET, HISPANIC*, and *ASIAN*. In Sample 1 the labor force gap measure has a significantly different mean for men than for women (*GAPMORE*), whereas in Sample 2 there is no significant difference in labor force gaps for men and women. In Sample 1 men are more likely to be employed by larger firms than women, whereas in Sample 2 there is no significant difference in the mean values of *SIZE* for men and women.

In Sample 2 there are more significantly different means between men and women than in Sample 1. In Sample 2 women are more likely to be business and social science majors than men, but the differences are insignificant in Sample 1. In Sample 2 men have significantly longer tenure with current employer, work more hours per week, and supervise more subordinates than women, whereas the mean values of these variables are not significantly different in Sample 1. In Sample 2 men are significantly older, less likely to be black, and more likely to be white than women, whereas the mean values of these variables are not significantly different in Sample 1. In Sample 2 men have significantly higher verbal and quantitative GMAT scores than women, although women score higher in the verbal than in the quantitative test and men score higher in the quantitative test than in the verbal.

V. Specification

It has become a standard practice in the salary discrimination literature to use a semi-log model and to report several specifications.[7] The semi-log model permits the estimated coefficients to be interpreted as measuring the percentage change in salary per unit change in the explanatory variable. With only a few exceptions the literature has converged on a methodology that employs a single-equation model or multiple-equation models to measure differentials in salary that can be attributed to gender, holding constant a variety of other determinants of salary. In addition to the differences in variables described previously, the specifications for Sample 1 and Sample 2 also differ in the treatment of the *LABORFRC* variable, which appears in linear form in Sample 1 and in quadratic form in Sample 2.[8]

Herein the single-equation model, in which *MALE* is included as an independent variable, is presented first. This model is used to address several questions. (1) Do women receive lower salaries than men, other factors constant? (2) Are the groupings of variables into categories of human capital, job characteristics, firm characteristics, demographic characteristics, and cognitive skills jointly significant? (3) Are the effects of these variables different for women than for men, individually or jointly? (4) Are there structural differences in the estimated models for men and women? The first question is examined with a one-tailed *t*-test of the coefficient on *MALE*. The second question is examined with *F*-tests of joint significance of the respective variables. The third question is examined with *F*-tests of joint significance of the respective variables interacted with *MALE*. The fourth question is examined with Chow tests to determine if a structural difference exists in the estimated models for male and female. Results of the single-equation models are reported in Tables 2, 3, and 4.

As mentioned in Section 2, the effect of the *DENSITY* variable has two possible explanations. The first is that discriminatory hiring practices limit women to fewer occupational choices than men, and the second is that women choose these occupations over others for a variety of personal reasons that may be a result of socialization or sex-role stereotypes. Including this variable in a model that investigates gender differentials in salary is subject to debate, because women are by definition over-represented in female-dominated occupations, and if that over-representation is due to differential treatment of men and women, the variable should not be included in a salary model. To include it under such circumstances would underestimate gender differentials as measured by the *MALE* variable. For this reason, we present two estimates of the single-equation models; one that includes the *DENSITY* variable, and one that omits it.

A finding that the estimated structural equation is significantly different for women than for men reinforces the use of the multiple-equation model for estimating the size of the male-female differential. The multiple-equation model, suggested simultaneously by Blinder (1973) and Oaxaca (1973), is used to decompose differentials in salaries earned by men and women. This methodology requires the estimation of separate regression equations for men and women. Salary differentials are then decomposed into two components: the first due to differences in endowments, the second due to differences in coefficients (including the constant term). The first applies assumed nondiscriminatory coefficients to the different characteristic endowments of men and women. Differences due to differences in endowments are considered to be explained and therefore nondiscriminatory. The second component applies the female endowments to the differences in coefficients. The second component is considered to be unexplained, and possibly the result of discrimination.[9] Blinder and Oaxaca assume the appropriate set of nondiscriminatory coefficients to be those estimated for either the male or the female model. Neumark (1988) pools the male and female data to estimate a nondiscriminatory set of coefficients. Salary differentials are decomposed using both techniques in this study. Results of the wage decompositions are reported in Table 5.

VI. Results

Table 2 reports two sets of estimates for Sample 1 and three sets of estimates for Sample 2. Model 1 represents the single-equation regression equation including all of the variables in each sample. Model 2 represents the single-equation that omits the *DENSITY* variable. Two specifications that omit the *DENSITY* variable are reported for Sample 2; one with GMAT scores included (Model 2a) and one without GMAT scores (Model 2b). We do this so that the results using Sample 2 can be directly compared to the results using Sample 1.

Table 3 reports the estimates from Sample 1 that include the interactions between gender and the other groups of variables, including the human capital variables, the job characteristic variables, the firm characteristic variables, the demographic variables, and the cognitive skill variables. Table 4 reports corresponding estimates of interactions from Sample 2. Table 5 reports the results of the salary decomposition calculations. Five models are decomposed, each using both the Oaxaca method and the Neumark method. They are Models 1 and 2 from Sample 1, and Models 1, 2a, and 2b from Sample 2.

VII. Discussion

Results of the estimates are, in general, consistent with *a priori* expectations and, with a few notable exceptions, consistent with one another. In all models in both samples, the estimated coefficients for *HOURS*, *LOG*(*BUDGET*), *MANUF*, *SIZE*, and *AGE* are significantly positive. Similarly, the estimated coefficients for *PHYSSCI* and *DENSITY* are significantly negative in all models in both samples. Estimated coefficients for *TENURE*, *SUPER*, and *HISPANIC* are insignificant in all models in both samples.[10]

Subcategories of variables describing human capital, job characteristics, firm characteristics, demographic characteristics, and cognitive skills of variables are tested for joint significance in both samples. Among the human capital variables, *BUSINESS*, *PHYSSCI*, and *SOCSCI* represent formal education, and are jointly significant in both samples (note that *ENGINEER* is the reference UG major). *LABORFRC*, *TENURE*, and *GAP* measures capture on-the-job training, (or lack thereof in the case of the *GAP* measures) and are jointly significant in both samples. *HOURS*, *SUPER*, *BUDGET*, *TRAINING*, and *DENSITY* all represent job characteristic variables, and are jointly significant in both models. Firm characteristics are represented by *MANUF* and *SIZE*, and are jointly significant in both samples. Among the demographic characteristics, *MARRIED*, *AGE*, and *GENDER* were grouped together and found to be jointly significant in both samples. The race variables, *BLACK*, *HISPANIC*, and *ASIAN*, are jointly significant in Sample 1 but not in Sample 2 (note that *WHITE* is the reference race). Finally, the cognitive skill variables, *QUANTSC* and *VERBSC* are positive as expected, and individually and jointly significant in Sample 2, but unavailable for Sample 1.

Notable differences in the coefficients estimated for the two samples include the estimates for *GAP*, *MARRIED*, and *MALE*. In Sample 1 none of the *GAP* variables are significant (nor are they jointly significant) whereas in Sample 2 *GAP* is significant and negative as expected. This may be due to the fact that *GAP* is a continuous variable in Sample 2, but is proxied by four binary variables in Sample 1 (*NOGAP* is the reference gap variable). Similarly *MARRIED* is insignificant in Sample 1 and significant and positive in Sample 2. However, the sign and size of the estimated coefficients are similar in both sample, so the lack of significance in Sample 1 (p-value = 0.08) may be explainable by the lower number of observations in Sample 1. Finally the coefficient estimated for *MALE* is significant and positive in Sample 1, and insignificant in Sample 2.

Model 2 in Sample 1, and Models 2a and 2b in Sample 2 are estimated to explore further the effect of gender on salary. Omitting *DENSITY* from the specifications has the expected effect of increasing the coefficient estimated for *MALE*, from 0.064 to 0.086 in Model 2 of

Sample 1, and from 0.005 to 0.022 in Model 2a of Sample 2. In order to determine if the reason for the small and insignificant coefficient for *MALE* in Sample 2 is because the cognitive skill variables are accounted for, Model 2b is estimated, omitting *QUANTSC* and *VERBSC*. In this model, the coefficient estimate for *MALE* equals 0.046, and it is significant at the 1 percent level. From this we can conclude that one possible explanation for measured differences in salary between men and women is the lack of controls for cognitive skills.

The subcategories of variables describing human capital, job characteristics, firm characteristics, demographic characteristics, and cognitive skills all were interacted with the *MALE* variable, to investigate whether or not the effects of these variables on salary are different for women than for men, individually or jointly. Table 3 shows that, for Sample 1 only *LABORFRC* and *SIZE* have a significantly different effect on salary for men than for women. Men are rewarded better than women for labor force experience, and women are rewarded better than men as the size of the firm they work for increases. None of the other interactive variables is significant, either individually or jointly.

Table 4 shows that, for Sample 2, *AGE*, *ASIAN*, and *QUANTSC* and *VERBSC* have significantly different effects on salary for men than for women. Men are rewarded better than women as they age; Asian women are rewarded better than men; and, whereas women are rewarded better than men for their quantitative skills, men are rewarded better than women for their verbal skills. Additionally, the labor force experience variables, when interacted with gender, are jointly significant. This last finding is consistent with the result reported in Table 3 for Sample 1.

To test whether or not the model is structurally different for men than for women, the data are sorted according to gender, and Chow tests rejects the null hypothesis that there are no significant differences between the models estimated for men and women. These results indicate that it is appropriate to use the multiple-equation approach for calculating explained and unexplained differences in salary for men and women in both samples. Table 5 reports the results of the salary gap decompositions. In addition to the results of the wage decompositions, Table 5 reports the percentage differential computed from the single-equation models as an unexplained salary gap.

In Table 5, the percentage gap reported under "endowments" can be interpreted as an explained differential, and the gap reported under "coefficients" can be interpreted as unexplained. In each case, unexplained salary gaps are smaller using the decomposition techniques than using the single-equation estimate. Regardless of the methodology used to calculate salary differentials, they disappear to negligible levels when *DENSITY* and *GMAT* scores are included in the regression estimates, as in the Sample 2 estimates for Model 1.

To summarize the results, we return to the empirical questions posed above. (1) Do women receive lower salaries than men, other factors constant? Salary differentials between men and women disappear when cognitive skills are accounted for. (2) Are the groupings of variables into categories of human capital, job characteristics, firm characteristics, demographic characteristics, and cognitive skills jointly significant? All of theses categories of variables are jointly significant, with the exception of race variables in Sample 2. This finding supports the premise that many factors contribute to salary differentials, and all need to be included in empirical studies. (3) Are the effects of these variables different for women than for men, individually or jointly? Our results show that men are rewarded better than women for work experience, whether measured by time in the labor force or age. Interestingly, women are rewarded better than men for quantitative skills, whereas men are rewarded better than women for verbal skills. For both genders, the rarer combinations are rewarded better. (4) Are there structural differences in the estimated models for men and women? There are structural differences in the models estimated separately for men and women. However, when the separate models are used to decompose salary differentials, the resulting calculations of salary gaps are quite consistent with the estimates from the single-equation models.

VIII. Conclusions

The importance of including variables that represent a variety of different theoretical and conceptual perspectives is clear. Despite obvious gender differences in salary, the direct effect of gender on pay is eliminated when all of the study variables are introduced into the regression equation. Our results indicate that the differences in salaries for young professional men and women cannot be easily attributed to a single factor, rather it is an overall additive effect generated by market factors, personal decisions, and job and organizational characteristics. Workforce experience, hours worked, gender density, and quantitative ability are the strongest individual predictors of salary. Although some of these variables tend to negatively affect women, e.g., gender density, it is difficult to conclude whether the differences are due to market factors or discrimination.

Our findings clarify the relationship among verbal ability, quantitative ability, and the gender earnings gap. Because our investigation includes measures of verbal and quantitative ability secured after or near college graduation, one can have more confidence in our findings. Among college graduates, both verbal ability and quantitative ability are related to earnings among men as well as women.

Although existing research indicates that the gap in pay is narrowing and our results show no direct effect of gender on pay, clearly women still earn significantly less. What factors will be drivers for continuing to narrow the gender wage gap? As overt forms of discrimination are diminishing (Cianni and Romberger, 1995), continued efforts to provide developmental opportunities in organizations for women must be encouraged. Furthermore, the deterioration of gender-based stereotypes will eliminate occupational barriers and reduce misperceptions concerning the aptitudes and abilities of women. Related to this, our findings indicate that women in our sample score lower on measures of cognitive abilities and are more likely to be employed in occupations with a higher percentage of women. These two factors negatively affect earning potential. Recent research indicates that differences in cognitive ability in mathematics may be due, in part, to socialization and self-esteem. Sex-role socialization has created the perception of math as a male-oriented domain (Fennema and Sherman, 1977) where teachers and parents have provided greater encouragement to boys than to girls (Entwisle and Baker, 1983; Fox et al., 1979). Women have tended to shy away from advanced math and science classes in high school and college. This lack of preparation will be reflected in tests scores on the SAT, ACT, and GMAT. As women receive encouragement and gain confidence, gender-based differences in cognitive ability are likely to gradually disappear. This will result in a continued shift in the employment patterns.

Our data sets clearly represent a limited stratum of the American labor force, focusing on employed individuals who are pursuing an MBA or planning to pursue an MBA. Although this limits the generalizability of our study, the number of subjects is substantial and such individuals represent an important segment of the labor force.

Notes

[1]The GMAC is composed of a consortium of business schools that owns and administers the GMAT through the Educational Testing Service (ETS).

[2]General mental ability or "g" has been shown to be strongly related to both educational and occupational performance and is a better predictor than any other trait (Jenson, 2000; Schmidt and Hunter, 2004). In fact, "g" is an extremely important predictor of performance in jobs which are more cognitively complex (Gottfredson, 2004). Gender and racial differences in cognitive ability tests have been reported. Studies using cognitive ability tests to predict GPA and work performance have shown that single equation models may not predict performance as well as separate equations for men and women (Linn, 1982). A possible explanation for this noted difference is that cognitive ability tests may be biased against women and minority groups. However, committees appointed by the National Academy of Sciences (Hartigan and Wigdor, 1989; Wigdor and Garner, 1982) find no evidence of bias. Hunter and Schmidt (2000) state "substantively strong methods have shown that professionally developed tests of cognitive ability and educational achievement are not biased against minority groups." Furthermore, Jensen (1998) reports that factor analysis of a broad variety of different cognitive ability tests administered to a various races and genders produces the same general intelligence factors.

Whereas cognitive ability is an important predictor of performance, there are factors that may help to explain gender and racial differences in performance. For example, O'Reilly and Chatman (1994) report that performance is a function of the joint effect of both ability and motivation. They find intelligence and hard work, in combination, were better predictors of success than just intelligence by itself.

[3]Respondents indicated the actual number of years of full-time work experience beyond college graduation. Age (or age-years of education-6) is often used as a proxy for actual work experience when true measures are lacking. We included measures of both age and years of full-time work experience.

[4]Three-digit occupation codes were used in computing the gender density measure.

[5]As per the literature we included children in the initial specification of the models. Number of children was insignificant in both samples, had no effect on other estimated coefficients, and reduced sample size. Based on these findings, we dropped this variable from the study. Blau et al. (2002) suggest that the presence of children should influence education investment decisions of women. This may explain why number of children is insignificant, i.e., women who believe they would not be employed in a full-time job following completion of a MBA are not in our sample because they do not pursue an MBA.

[6]This is true almost by the definition of the variable. Although it is possible that, for the particular samples we use, the women could have been in male-dominated occupations, in the entire population it must be the case that proportionally more women are in the female-dominated occupations.

[7]Both the linear and semi-log functional forms were estimated herein. The semi-log form was chosen on the basis of the test in which an adjusted sum of squared residuals from the semi-log estimate is calculated and compared to the sum of squared residuals from the linear form (Ramanathan, 1998: 277). Signs and significance of estimated coefficients do not change from linear to semi-log specification.

[8]Linear and quadratic specifications were tested for both *LABORFRC* and *AGE* variables in both samples. Only in the case of *LABORFRC* in the Sample 2 estimates was the squared term significant.

[9]Considering the unexplained portion to be the result of discrimination is problematic, given the inexactness of econometric modeling and the very nature of unexplained residuals. See Follett et al. (1993) for a critique of the use of statistical analysis in the assessment of discrimination.

[10]Variance inflation factors (VIF) were calculated for each of these variables to determine the extent to which multicollinearity may contribute to the

insignificant coefficients. In no case was multicollinearity found to be severe, as the highest calculated VIF was 2.17, for the variable *HISPANIC* in Sample 1.

References

Bergmann, Barbara R. "Occupational Segregation, Wages and Profits When Employers Discriminate by Race or Sex." *Eastern Economic Journal* 1 (April–July 1974): 103–10.

Blau, Francine D., Marianne A. Ferber, and Anne E. Winkler. *The Economics of Women, Men, and Work*, 4th ed. Upper Saddle River, NJ: Prentice Hall, 2002.

Blinder, Alan S. "Wage Discrimination: Reduced Form and Structural Estimates." *Journal of Human Resources* 8 (Fall 1973): 436–55.

Brett, Jeanne M. and Linda K. Stroh. "Jumping Ship: Who Benefits from an External Labor Market Career Strategy?" *Journal of Applied Psychology* 82 (June 1997): 331–41.

Brown, Charles and Mary Corcoran. "Sex-Based Differences in School Content and the Male-Female Wage Gap." *Journal of Labor Economics* 15 (July 1997): 431–65.

Chauvin, Keith W. "Firm-Specific Wage Growth and Changes in the Labor Market for Managers." *Managerial and Decision Economics* 15 (January/February 1994): 21–37.

Cianni, Mary and Beverly Romberger. "Perceived Racial, Ethnic, and Gender Differences in Access to Developmental Experiences." *Group and Organization Management* 20 (December 1995): 440–59.

College Entrance Examination Board. *Using Scholastic Aptitude Test Scores in Counseling Prospective Graduate and Law Students.* Statistical Report SR-63-62. Princeton, NJ: Education Testing Service, October 1963.

Cox, Taylor H. and Celia V. Harquail. "Career Paths and Career Success in the Early Career Stages of Male and Female MBA's." *Journal of Vocational Behavior* 39 (August 1991): 54–75.

Ehrenberg, Ronald G. and Robert S. Smith, *Modern Labor Economics: Theory and Public Policy*, 8th ed. Boston MA: Addison Wesley, 2003.

Entwisle, Doris R. and David B. Baker. "Gender and Young Children' Expectations." *Developmental Psychology* 19 (March 1983): 200–209.

Fennema, Elizabeth and Julia Sherman. "Sex-Related Differences in Mathematics Achievement, Spatial Visualization, and Affective Factors." *American Educational Research Journal* 14 (Spring 1977): 51–71.

Ferber, Marianne A., Carole A. Green, and Joe L. Spaeth. "Work, Power and Earnings of Women and Men." *American Economic Review* 76 (May 1986): 53–56.

Ferber, Marianne A. and Joe L. Spaeth. "Work Characteristics and the Male-Female Earnings Gap." *American Economic Review* 74 (May 1984): 260–64.

Fields, Judith, and Edward N. Wolff. "The Decline of Sex Segregation and the Wage Gap, 1970–80." *Journal of Human Resources* 26 (Fall 1991): 608–21.

Follett, Robert S., Michael P. Ward, and Finis Welch. "Problems in Assessing Employment Discrimination." *American Economic Review* 83 (May 1993): 73–78.

Fox, Lynn H., Dianne Tobin, and Linda Brody. "Sex Role Socialization and Achievement in Mathematics." In Michele A. Wittig and Anne C. Petersen, eds. *Sex-Related Differences in Cognitive Functioning: Developmental Issues*. New York: Academic Press, 1979, pp. 303–32.

Frieze, Irene Hanson, Josephine E. Olson, and Deborah C. Good. "Perceived and Actual Discrimination in the Salaries of Male and Female Managers." *Journal of Applied Social Psychology* 20 (January 1990): 46–67.

Gerhart, Barry. "Gender Differences in Current and Starting Salaries: The Role of Performance, College Major and Job Title." *Industrial and Labor Relations Review* 43 (April 1990): 418–33.

Gottfredson, Linda S. "Intelligence: Is It the Epidemiologists' Elusive 'Fundamental Cause' of Social Class Inequalities in Health?" *Journal of Personality and Social Psychology* 86 (January 2004): 174–99.

Groshen, Erica L. "The Structure of the Female/Male Wage Differential: Is It Who You Are, What You Do, or Where You Work?" *Journal of Human Resources* 26 (Summer 1991): 457–92.

Guilford, J. P. and Benjamin Fruchter. *Fundamental Statistics in Psychology and Education*. New York: McGraw-Hill, 1973.

Hartigan, John A. and Alexandra K. Wigdor, eds. *Fairness in Employment Testing: Validity Generalization, Minority Issues, and the General Aptitude Test Battery*. Washington, DC: National Academy Press, 1989.

Hunter, John E. and Frank L. Schmidt. "Racial and Gender Bias in Ability and Achievement Tests: Resolving the Apparent Paradox." *Psychology, Public Policy, and Law* 6 (March 2000): 151–58.

Jensen, Arthur R. *The g Factor: The Science of Mental Abilit*y. Westport, CT: Praeger, 1998.

———. Testing: The Dilemma of Group Differences." *Psychology, Public Policy and Law* 6 (March 2000): 121–27.

Joy, Lois. "Salaries of Recent Male and Female College Graduates: Educational and Labor Market Effects." *Industrial and Labor Relations Review* 56 (July 2003): 606–21.

Judge, Timothy A., Daniel M. Cable, John W. Boudreau, and Robert D. Bretz, Jr. "An Empirical Investigation of the Predictors of Executive Career Success." *Personnel Psychology* 48 (Autumn 1995): 485–519.

Kilbourne, Barbara S., George Farkas, Paula England, Dorothea Weir, and Kurt Beron. "Returns to Skill, Compensating Differentials, and Gender Bias: Effects of Occupational Characteristics on the Wages of White Women and Men." *American Journal of Sociology* 100 (November 1994): 689–719.

Landau, Jacqueline and Michael B. Arthur. "The Relationship of Marital Status, Spouse's Career Status, and Gender to Salary Level." *Sex Roles* 27 (December 1992): 665–81.

Linn, Robert. "Ability Testing: Individual Differences, Prediction, and Differential Prediction." In Alexandra K. Wigdor and Wendell R. Garner, eds. *Ability Testing: Uses, Consequences, and Controversies* (Part II). Washington, DC: National Academy Press, 1982, pp. 335–88.

Loury, Linda Datcher. "The Gender Earnings Gap Among College-Educated Workers." *Industrial and Labor Relations Review* 50 (July 1997): 580–93.

Macpherson, David A. and Barry T. Hirsch. "Wages and Gender Composition: Why Do Women's Jobs Pay Less?" *Journal of Labor Economics* 13 (July 1995): 426–71.

Mitra, Aparna. "Mathematics Skill and Male-Female Wages." *Journal of Socio-Economics* 31 (September 2002): 443–56.

Murname, Richard J., John B. Willett, and Frank Levy. " The Growing Importance of Cognitive Skills in Wage Determination." *Review of Economics and Statistics* 77 (May 1995): 251–66.

Murrell, Audrey J., Irene H. Frieze, and Josephine E. Olson. "Mobility Strategies and Career Outcomes: A Longitudinal Study of MBAs." *Journal of Vocational Behavior* 49 (December 1996): 324–35.

Neumark, David. "Employers' Discriminatory Behavior and the Estimation of Wage Discrimination." *Journal of Human Resources* 23 (Summer 1988): 279–95.

Oaxaca, Ronald L. "Male-Female Wage Differentials in Urban Labor Markets." *International Economic Review* 14 (October 1973): 693–709.

Olson, Josephine E. and Irene H. Frieze. "Income Determinants for Women in Business." In Ann H. Stromberg, Laurie Larwood and Barbara A. Gutek, eds. *Women and Work: An Annual Review*. Newbury Park, CA: Sage Publications, 1987, pp. 173–206.

———. "Job Interruptions and Part-Time Work: Their Effect on MBA's Income." *Industrial Relations* 28 (Fall 1989): 373–86.

O'Neill, June and Solomon Polachek. "Why the Gender Gap in Wages Narrowed in the 1980s." *Journal of Labor Economics* 11 (January 1993): 205–28.

O'Reilly, Charles A., III and Jennifer A. Chatman. "Worker Smarter and Harder: A Longitudinal Study of Managerial Success." *Administrative Science Quarterly* 39 (December 1994): 603–27.

Paglin, Morton and Anthony M. Rufolo. "Heterogeneous Human Capital, Occupational Choice, and Male-Female Earnings Differences." *Journal of Labor Economics* 8 (January 1990): 123–44.

Ramanathan, Ramu. *Introductory Econometrics with Applications*, 4th ed. Orlando, FL: Harcourt College Publishers, 1998.

Schmidt, Frank L. and John Hunter. "General Mental Ability in the World of Work: Occupational Attainment and Job Performance." *Journal of Personality and Social Psychology* 86 (January 2004): 162–73.

Schneer, Joy A. and Frieda Reitman. "The Impact of Gender as Managerial Careers Unfold." *Journal of Vocational Behavior* 47 (December 1995): 290–315.

———. "The Importance of Gender in Mid-Career: A Longitudinal Study of MBA's." *Journal of Organizational Behavior* 15 (May 1994): 199–207.

———. "Effects of Employment Gaps on the Careers of MBA's: More Damaging for Men Than for Women?" *Academy of Management Journal* 33 (June 1990): 391–406.

Schwartz, Felice N. "Management Women and the New Facts of Life." *Harvard Business Review* 67 (January–February 1989): 65–76.

Sorensen, Elaine. "The Crowding Hypothesis and Comparable Worth Issue: A Survey and New Results." *Journal of Human Resources* 25 (Winter 1990): 55–89.

———. "Measuring the Effect of Occupation Sex and Race Composition on Earnings." In Robert T. Michael, Heidi I. Hartman and Brigid O'Farrell, eds. *Pay Equity: Empirical Inquiries.* Washington, DC: National Academy Press, 1989, pp. 101–24.

Spaeth, Joe L., "Job Power and Earnings." *American Sociological Review* 50 (October 1985): 603–17.

Stanley, T.D. and Stephen B. Jarrell. "Gender Wage Discrimination Bias? A Meta-Regression Analysis." *Journal of Human Resources* 33 (Fall 1998): 947–73.

Stroh, Linda M., Jeanne M. Brett, and Anne H. Reilly. "Family Structure, Glass Ceiling, and Traditional Explanations for the Differential Rate of Turnover of Female and Male Managers." *Journal of Vocational Behavior* 49 (August 1996): 99–118.

Subich, Linda Mezydlo, Gerald V. Barrett, Dennis Doverspike, and Ralph A. Alexander. "The Effects of Sex-Role-Related Factors on Occupational Choice and Salary." In Robert T. Michael, Heidi I. Hartman and Brigid O'Farrell, ed. *Pay Equity: Empirical Inquiries.* Washington, DC: National Academy Press, 1989, pp. 49–69.

Topel, Robert. "Specific Capital, Mobility and Wages: Wages Rise with Job Seniority." *Journal of Political Economy* 99 (February 1991): 145–76.

U.S. Census Bureau. *Statistical Abstract of the United States*. Washington, DC: U.S. Government Printing Office, 2003.

U.S. Department of Labor. *Handbook of Labor Statistics*. Washington, DC: U.S. Government Printing Office, 1989.

Waldfogel, Jane. "The Effect of Children on Women's Wages." *American Sociological Review* 62 (April 1997): 209–17.

Wallace, Phyllis A. *MBA's On the Fast Track*. Cambridge, MA: Ballinger Publishing, 1989.

Weinberger, Catherine J. "Race and Gender Wage Gaps in the Market for Recent College Graduates." *Industrial Relations* 37 (January 1998): 67–84.

Wellington, Alison J. "Accounting for the Male/Female Wage Gap Among Whites: 1976 and 1985." *American Sociological Review* 59 (December 1994): 839–48.

Wigdor, Alexandra K and Wendell R. Garner, eds. *Ability Testing: Uses, Consequences, and Controversies*. Washington, DC: National Academy Press, 1982.

Appendix

Table 1: Mean Values by Gendera

		Sample 1 (69% male)		Sample 2 (60% male)	
Variable	Description	Men	Women	Men	Women
SALARY	Annual salary in dollars	**$31,950**	**$26,587**	**$36,760**	**$29,984**
Human Capital Variables					
ENGINEER	Engineering UG major (binary variable)	**35%**	**17%**	**31%**	**14%**
BUSINESS	Business UG major (binary variable)	42%	50%	**22%**	**28%**
PHYSSCI	Physical Science UG major (binary variable)	12%	17%	5%	6%
SOCSCI	Social Science and other UG major (binary variable)	11%	16%	**42%**	**52%**
LABORFRC	Years in labor force	**5.53**	**4.56**	**6.89**	**5.90**
TENURE	Weeks with current employer	50.7	49.0	**42.1**	**34.5**
GAP	Years not in labor force after age 21			0.92	0.8
NOGAP	No labor force gap (binary variable)	10%	6%		
GAP6	1–6 mos. gap (binary variable	42%	36%		
GAP12	7–12 mos. gap (binary variable	24%	25%		
GAPMORE	>12 mos. gap (binary variable)	**24%**	**33%**		
Job Characteristics					
HOURS	Hours worked per week	44.27	43.5	**46.7**	**44.2**
SUPER	Number of persons supervised	2.37	2.06	**1.17**	**0.71**
BUDGET	Budget responsibility in dollars	$20,7012	$17,1241	$3,581,731	$1,476,565
TRAINING	Job training program (binary variable)	65%	64%		
DENSITY	Proportion of women in occupation	**0.33**	**0.46**	**0.34**	**0.44**
Firm Characteristics					
MANUF	Manufacturing co. (binary variable)	**43%**	**24%**	31%	**25%**
SIZE[b]	No. of employees (Scale from 1–10)	**7.10**	**6.43**	6.44	6.36
Demographic Characteristics					
MARRIED	Married (binary variable)	**64%**	**49%**	**47%**	**37%**
AGE	Age in years	28.8	28.4	**29.1**	**28.1**
BLACK	African-American (binary variable)	3%	4%	**9%**	**18%**
HISPANIC	Hispanic (binary variable)	3%	2%	17%	17%
ASIAN	Asian (binary variable)	4%	2%	15%	15%
WHITE	Caucasian (binary variable)	90%	92%	**58%**	**50%**
Cognitive Skills					
QUANTSC	GMAT Quantitative test score			**30.9**	**26.3**
VERBSC	GMAT Verbal test score			**29.0**	**27.4**
N		358	161	1,484	976

Notes: [a]Bold-face indicates significant difference between means (5% level of significance). [b]Size categories range from 1= less than 25 up to 10 = more than 50,000 in sample 1, and from 1 = less than 25 up to 10 = more than 25,000 in sample 2.

Table 2: Estimates of Regression Coefficients Dependent Variable: LOG(SALARY)

	SAMPLE 1 (519 observations)		SAMPLE 2 (2460 observations)		
Variable	Model 1	Model 2	Model 1	Model 2a	Model 2b
C	9.384**	9.295**	8.616**	8.50**	8.830**
[a]*BUSINESS*	−0.026	−0.069*	−0.125**	−0.17**	−0.210**
[a]*PHYSSCI*	−0.128**	−0.164**	−0.078*	−0.102**	−0.093*
[a]*SOCSCI*	0.014	−0.039	−0.122**	−0.167**	−0.204**
LABORFRC	0.021**	0.021**	0.013	0.016	0.013
$LABORFRC^2$			−0.001**	−0.001**	−0.001**
TENURE	0.0006	0.0006	0.0004	0.0004	0.0003
GAP			−0.040**	−0.038**	−0.044**
[b]*GAP6*	0.031	0.030			
[b]*GAP12*	−0.029	−0.030			
[b]*GAPMORE*	−0.023	−0.022			
HOURS	0.009**	0.009**	0.008**	0.008**	0.009**
SUPER	−0.009	−0.012	0.002	0.001	−0.001
LOG(BUDGET)	0.006**	0.006**	0.006**	0.007**	0.007**
TRAINING	0.021	0.031			
DENSITY	−0.244**		−0.301**		
MANUF	0.105**	0.115**	0.038*	0.070**	0.065**
SIZE	0.019**	0.021**	0.018**	0.019**	0.020**
MARRIED	0.043	0.045	0.030*	0.029*	0.027
MALE	0.064*	0.086*	0.005	0.022	0.046**
AGE	0.008*	0.007*	0.037**	0.036**	0.037**
[c]*BLACK*	−0.164*	−0.168*	0.0002	0.0002	−0.087**
[c]*HISPANIC*	−0.066	−0.053	−0.042	−0.037	−0.084**
[c]*ASIAN*	−0.370**	−0.382**	−0.019	−0.016	−0.036
QUANTSC			0.005**	0.006**	
VERBSC			0.006**	0.006**	
N	519	519	2460	2460	2460
Adjusted R^2	0.381	0.369	0.364	0.349	0.321

Notes: *(**) denotes significance significant at the .05 (.01) level. aomitted condition: *ENGINEER*. bomitted condition: *NOGAP*, comitted condition: White

Table 3: Interactions in Sample 1 Coefficient Estimates

Constant	9.390**	9.531**	9.436**	9.292**	9.455**	9.428**
BUSINESS	−0.003	−0.029	−0.034	−0.028	−0.028	−0.022
PHYSSCI	−0.134	−0.121*	−0.137**	−0.125**	−0.128**	−0.121*
SOCSCI	−0.045	0.021	0.005	0.002	0.013	0.011
LABORFRC	0.022**	0.007	0.021**	0.021**	0.020**	0.021**
TENURE	0.0006	0.0004	0.0006	0.0007*	0.0006	0.0007
GAP6	0.031	−0.008	0.035	0.036	0.031	0.026
GAP12	−0.032	−0.120	−0.030	−0.028	−0.030	−0.032
GAPMORE	−0.021	0.001	−0.019	−0.021	−0.023	−0.025
HOURS	0.008**	0.008**	0.008**	0.008**	0.009**	0.008**
SUPER	−0.009	−0.008	−0.010	−0.009	−0.009	−0.009
LOG(BUDGET)	0.006*	0.005*	0.003	0.006**	0.006**	0.006*
TRAINING	0.024	0.026	0.060	0.020	0.021	0.021
DENSITY	−0.238**	−0.239**	−0.360**	−0.236**	−0.237**	−0.256**
MANUF	0.109**	0.112**	0.108**	0.063	0.106**	0.105**
SIZE	0.020**	0.019**	0.019**	0.040**	0.019**	0.018**
MARRIED	0.040	0.044	0.045	0.048	0.034	0.043
MALE	0.065	−0.085	−0.015	0.245**	−0.067	0.049
AGE	0.008*	0.007*	0.008*	0.007*	0.006	0.007*
BLACK	−0.169*	−0.157*	−0.112	−0.091	−0.162	−0.332**
HISPANIC	−0.059	−0.061	−0.056	−0.068	−0.068	−0.036
ASIAN	−0.378**	−0.374**	−0.370**	−0.356**	−0.373**	−0.570**
*MALE*BUSINESS*	−0.034					
*MALE*PHYSSCI*	0.011					
*MALE*SOCSCI*	0.100					
*MALE*LABORFRC*		0.020*				
*MALE*TENURE*		0.0001				
*MALE*GAP6*		0.057				
*MALE*GAP12*		0.137				
*MALE*GAPMORE*		−0.028				
*MALE*HOURS*			0.0006			
*MALE*SUPER*			0.0006			
*MALE*LOG(BUDGET)*			0.003			
*MALE*TRAINING*			−0.056			
*MALE*DENSITY*			0.187			
*MALE*MANUF*				0.060		
*MALE*SIZE*				−0.030**		
*MALE*MARRIED*					0.012	
*MALE*AGE*					0.004	
*MALE*BLACK*						0.260
*MALE*HISPANIC*						−0.035
*MALE*ASIAN*						0.260
F-test for joint significance	0.740	2.37*	0.657	4.35*	0.423	1.57
Adjusted R^2	0.380	0.389	0.379	0.389	0.380	0.383

Notes: *(**) denotes significance significant at the .05 (.01) level.

Table 4: Interactions in Sample 2 Coefficient Estimates

Constant	8.615**	8.661**	8.649**	8.600**	8.777**	8.612**	8.629**
BUSINESS	−0.087*	−0.120**	−0.127**	−0.125**	−0.121**	−0.129**	−0.131**
PHYSSCI	−0.062	−0.076*	−0.080*	−0.079*	−0.077*	−0.082*	−0.086*
SOCSCI	−0.131**	−0.120**	−0.124**	−0.123**	−0.120**	−0.124**	−0.126**
LABORFRC	0.013	0.015	0.014	0.013	0.015	0.014	0.013
LABORFRC^2	−0.001**	−0.001**	−0.001**	−0.001**	−0.001**	−0.001**	−0.001**
TENURE	0.0004	0.001	0.0004	0.0004*	0.0003	0.0004*	0.0004*
GAP	−0.040**	−0.044**	−0.039**	−0.040**	−0.038**	−0.039**	−0.040**
HOURS	0.008**	0.008**	0.008**	0.008**	0.008**	0.008**	0.008**
SUPER	0.002	0.001	0.002	0.003	0.002	0.003	0.002
LOG(BUDGET)	0.006**	0.006**	0.002	0.006**	0.006**	0.006**	0.006**
DENSITY	−0.299**	−0.299**	−0.331**	−0.298**	−0.297**	−0.300**	−0.298**
MANUF	0.038*	0.036*	0.038*	0.022	0.037*	0.039*	0.039*
SIZE	0.018**	0.017**	0.018**	0.021**	0.017**	0.017**	0.017**
MARRIED	0.030	0.02	0.028	0.030	−0.017	0.027	0.028
MALE	0.015	−0.054	−0.024	0.048	−0.289**	0.031	−0.007
AGE	0.037**	0.036**	0.037**	0.037**	0.032**	0.037**	0.037**
BLACK	−0.001	0.002	−0.002	−0.0001	−0.0002	0.008	−0.002
HISPANIC	−0.043*	−0.042	−0.042	−0.042	−0.042	−0.037	−0.042
ASIAN	−0.020	−0.021	−0.019	−0.020	−0.020	0.073*	−0.019
QUANTSC	0.005**	0.005**	0.005**	0.005**	0.005**	0.005**	0.009**
VERBSC	0.007**	0.007**	0.006**	0.007**	0.007**	0.006**	0.002
*MALE*BUSINESS*	−0.067						
*MALE*PHYSSCI*	0.019						
*MALE*SOCSCI*	−0.024						
*MALE*LABORFRC*		0.006					
*MALE*LABORFRC^2*		0.0004					
*MALE*TENURE*		0.013					
*MALE*GAP*		−0.0004					
*MALE*HOURS*			−0.0003				
*MALE*SUPER*			0.00003				
*MALE*LOG(BUDGET)*			0.006				
*MALE*DENSITY*			0.055				
*MALE*MANUF*				0.026			
*MALE*SIZE*				−0.005			
*MALE*MARRIED*					0.065		
*MALE*AGE*					0.009**		
*MALE*BLACK*						−0.006	
*MALE*HISPANIC*						−0.007	
*MALE*ASIAN*						−0.153**	
*MALE*QUANTSC*							−0.006**
*MALE*VERBSC*							0.006**
F-test for joint significance	1.69	4.62**	1.32	0.877	9.86**	3.90**	3.94*
Adjusted R^2	0.364	0.367	0.364	0.363	0.368	0.366	0.365

Notes: *(**) denotes significance significant at the .05 (.01) level.

Table 5: Decompositions of the Salary Gap (in percentage)

	Total Gap	Explained	Unexplained
Sample 1			
Model 1	Total Gap	Explained	Unexplained
Oaxaca	17.4	10.8	6.6
Neumark	17.4	11.8	5.6
Single-equation	17.4		6.4
Model 2			
Oaxaca	17.4	9.2	8.2
Neumark	17.4	9.6	7.8
Single-equation	17.4		8.6
Sample 2			
Model 1	Total Gap	Explained	Unexplained
Oaxaca	16.2	16.0	0.2
Neumark	16.2	15.8	0.4
Single-equation	16.2		0.5
Model 2a			
Oaxaca	16.2	14.5	1.8
Neumark	16.2	14.3	1.9
Single-equation	16.2		2.2
Model 2b			
Oaxaca	16.2	12.1	4.1
Neumark	16.2	12.0	4.2
Single-equation	16.2		4.6