

## Do Chinese employers discriminate against females when hiring employees ?

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### *Abstract*

In order to examine whether Chinese employers discriminated against females during the hiring process in 1996 and 2005, we used the China Health and Nutrition Survey (CHNS) questionnaire (1997 data, pooled data of 2004 and 2006) by referring to Johnson (1983) and Mohanty (1998). Empirical results of the 1996 sample reveal that male workers generally receive less favorable treatment and consequently enjoy a lower average employment probability than female workers. However, approximately a decade after the enactment of the labor law, the 2005 sample shows that male workers generally enjoy preferential treatment over female workers with otherwise identical worker characteristics. Our empirical results suggest that an increase in the education level of females, in the employment probability of females aged 25 and younger, and in the employment probability of females working in the government sector may prove effective in eliminating employment discrimination between males and females.

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**Citation:** Chen, Guifu and Shigeyuki Hamori, (2008) "Do Chinese employers discriminate against females when hiring employees ?." *Economics Bulletin*, Vol. 10, No. 14 pp. 1-17

**Submitted:** October 29, 2008. **Accepted:** December 20, 2008.

**URL:** <http://economicsbulletin.vanderbilt.edu/2008/volume10/EB-08J70009A.pdf>

## 1. Introduction

A woman is afforded equal rights with a man in employment. ...  
(Labour Law<sup>1</sup>, 1994, Article 13)

After 1949, the Chinese government adopted a bureaucratic system of administering wages and allocating labor. Since 1957, the state exercised a virtual monopoly over the allocation of urban labor. It was the plan, and not labor market, that governed labor supply and demand. The labor “requirements” of each enterprise were based on the plan, which was adjusted to avoid urban unemployment. Reform of the urban labor system began in 1980, when the state monopoly of labor allocation was replaced by a fairly more decentralized one. Labor exchanges were set up for the registration of job vacancies, most job placements, and training. In the 1990s, the planning quota for recruitment by state enterprises was abolished, and enterprises were allowed to choose their own employees. The state no longer took responsibility for matching the supply of and demand for labor. In principle, this should have made the labor market more flexible. Moreover, the government decided to steer state enterprises into the market, holding them responsible for their losses even to the point of bankruptcy. Until 1995, the state sector was still dominant, and a combination of retraining and attrition managed to keep open unemployment low.<sup>2</sup>

State enterprise reform gained momentum in the mid-1990s, and major surplus labors were ostracized from state and collective enterprises. Labor supply exceeded labor demand in the labor market (Wu and Li, 2006). As shown in Figure 1, in 1994, the total employment, male employment, and female employment in urban units were 152,585,000, 94,594,000, and 57,991,000 persons, respectively. However, in 2005, these figures dropped to 114,040,000, 70,794,000, and 43,246,000 persons, respectively. The share of female employment is maintained by an approximate 38%. One of the reasons that the share of female employment is lesser than that of male employment is that labor force participation of females is lower than that of males (Cai et al., 2005). Another probable reason could be related to employee demand, that is, employers could discriminate against females during recruitment. According to the China Employment Discrimination Survey Questionnaire Report,<sup>3</sup> 85.5% responded “yes,” when asked “Is there employment discrimination in current labor market?” Moreover, 50.8% responded “very serious” to the same question. On the other hand, while it was inquired “whether or not the enterprise or employer put forward gender-based employment restrictions,” respondents said that 13.9% of the cases specified “males only,” while 7.1% of the cases specified “females only.” However, a detailed and more precise analysis of employment discrimination among males and females

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<sup>1</sup> The labor law was promulgated in 1994 and put into effect in 1995.

<sup>2</sup> The details reported in this paragraph draw on various sources, primarily, Shirk (1981), White (1988), and Knight and Song (2003).

<sup>3</sup> The survey was conducted by the China University of Political Science and Law (CUPL) in 2006; it included 3,454 questionnaires and covered 10 cities, namely, Beijing, Guangzhou, Nanjing, Wuhan, Shenyang, Sian, Chengdu, Zhengzhou, Yinchuan, and Qingdao.

Source: <http://www.eeo.com.cn/eeo/jjgcb/2007/07/02/73823.html>

in the Chinese labor market is required.

An employer can discriminate against a worker at various stages of employment, for instance, during the hiring process, in the payment of wages, with regard to promotion, etc. Wage discrimination refers to a difference in the earnings of two identical workers. Several studies have demonstrated gender discrimination in the payment of wages (Oaxaca, 1973; Blau and Beller, 1988; Olian et al., 1988; Gill, 1989; Hersch, 1991).

Employment discrimination refers to disparities in employment probabilities resulting from the prejudices of employers. If an employer is prejudiced against non-whites, for example, then non-white workers are less likely to be hired than otherwise identical white workers (Abowd and Killingsworth, 1984). When differences in employment probabilities between two groups of workers cannot be explained by observable characteristics, there may be employment discrimination in the labor market. Several studies have examined the presence of employment discrimination in the US labor market, using unexplained employment probability differential as an indicator (Johnson, 1983; Abowd and Killingsworth, 1984; Mohanty, 1998, 2000).

Several studies have analyzed gender wage differential and discrimination in the Chinese labor market (Liu et al., 2000; Mason et al., 2000; Meng, 1998). Others have analyzed wage discrimination between urban residents and rural migrants in China (Meng and Zhang, 2001; Wang and Zuo, 1999; Zhao, 2000). To our knowledge, however, there have been no earlier analyses of employment discrimination among males and females in the Chinese labor market.

This study focuses on hiring discrimination. The next section introduces the procedures used for our estimations. Section 3 presents the data and the definitions of variables, while section 4 presents the empirical results. The final section offers concluding remarks.

## 2. Empirical Techniques

In this section, we briefly summarize the procedure for estimating the worker's employment probability by referring to Johnson (1983) and Mohanty (1998). Let  $y_t$  denote the employer's preference for the  $t$ -th worker, and let  $X_t$  be a set of variables describing the worker's characteristics and the aggregate employment situation in the labor market. Then, we have the following relationship:

$$y_t = X_t\beta + u_t, \quad t = 1, 2, \dots, T, \quad (1)$$

where  $\beta$  is a vector of unknown coefficients, and  $u_t$  is the error term. It is assumed that the error term has a standard normal distribution.<sup>4</sup> The  $t$ -th worker in the labor force is employed (i.e.,  $EMP_t = 1$ ), if  $y_t > 0$ ; and unemployed (i.e.,  $EMP_t = 0$ ), if  $y_t \leq 0$ . Thus,

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<sup>4</sup> Assumptions of unit variance are typically made in probit analysis to avoid estimating parameters to a scalar proportion.

we have

$$\Pr(EMP_t = 1) = \Pr(y_t > 0) = \Pr(X_t\beta + u_t > 0) = \Pr(u_t > -X_t\beta), \quad (2)$$

and

$$\Pr(EMP_t = 0) = \Pr(y_t \leq 0) = 1 - \Pr(y_t > 0). \quad (3)$$

Then, we can rewrite the employment probability in equation (2) as follows:

$$\Pr(EMP_t = 1) = \Phi(X_t\beta), \quad (4)$$

where  $\Phi$  denotes the cumulative distribution function of a standard normal distribution (Cameron and Trivedi, 2005). We estimate the vector of unknown parameters  $\beta$  using the maximum likelihood method.

Let  $P(EMP)_d$  be the worker's employment probability in the presence of discrimination, and let  $P(EMP)_{nd}$  be the worker's employment probability in the absence of discrimination. Thus, we define the indicator of employment discrimination ( $D$ ) as follows:

$$D = P(EMP)_d - P(EMP)_{nd}. \quad (5)$$

Equation (5) shows the unexplained differential between the probability with discrimination and the probability without discrimination.

Using the residual difference approach given by Oaxaca (1973) and Johnson (1983), we obtain two alternative indicators of employment discrimination based on two different no-discrimination coefficient vectors as follows:

$$D_1 = \overline{\Phi}(X_t^M \hat{\beta}^M) - \overline{\Phi}(X_t^M \hat{\beta}^F) \quad (6)$$

$$D_2 = \overline{\Phi}(X_t^F \hat{\beta}^M) - \overline{\Phi}(X_t^F \hat{\beta}^F), \quad (7)$$

where  $\overline{\Phi}$  denotes the average employment probability of all workers in the sample. In equations (6) and (7), the superscripts  $M$  and  $F$  denote male workers and female workers, respectively. Equation (6) indicates that  $D_1$  measures the unexplained differences in male and female employment rates, when  $\hat{\beta}^F$  are used as no-discrimination coefficients. Equation (7) indicates that  $D_2$  measures the unexplained differences in male and female employment rates, when  $\hat{\beta}^M$  are used as no-discrimination coefficients. If a positive value for  $D_j$ , that is, ( $j = 1, 2$ ) is obtained with statistical significance, then it is

likely that employment discrimination against females exists.<sup>5</sup>

### 3. Data

This paper uses the China Health and Nutrition Survey (CHNS)<sup>6</sup> questionnaire data (1997, 2004 and 2006<sup>7</sup>) to examine whether Chinese employers discriminate against females during the hiring process. The year 1996 was the next year that the labor law was put in force, and state enterprise reform gained momentum. On the other hand, around a decade later, the labor supply exceeded labor demand in the labor market, and China joined the WTO. Through our study, we wish to find out whether Chinese employers discriminated against females during the hiring process in the year 2005. In the 1997 CHNS, questionnaires were distributed in the provinces of Heilongjiang, Jiangsu, Shandong, Guizhou, Guangxi, Hubei, Henan, and Hunan (16 cities with 128 neighborhoods, and 32 counties with 256 villages); whereas, in the CHNS of 2004 and 2006, nine provinces were included, and Liaoning was superadded (18 cities with 216 neighborhoods, and 36 counties with 432 villages). However, the data used in this paper are taken from the urban household data only.

In order to examine the problem of employment discrimination among males and females, we drew samples that comprised only employed workers and unemployed workers, who were actively seeking employment. In accordance with the standard practice, we excluded employers, self-employed individuals, retirees, students, and household workers from the analysis. We also excluded all persons aged 15 or younger (China's labor law sets the minimum working age as 16), as well as respondents who provided incomplete individual information or household composition. After the exclusions, the 1996 sample comprised 1,287 employed workers (697 men and 590 women) and 94 unemployed workers actively seeking employment (55 men and 39 women). On the other hand, the 2003 and 2005 sample comprised 2,422 employed workers (1,419 men and 1,003 women) and 460 unemployed workers actively seeking employment (253 men and 207 women), between the ages of 16 (the school leaving age) and 55 (state retirement age for women) or 60 (state retirement age for men).

The explanatory variables used in the hiring equations include those related to the worker's human capital characteristics (such as years of schooling completed, *GRADE*<sup>8</sup>;

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<sup>5</sup> This should *not*, however, be interpreted as a measure of discrimination, as part of it may be attributable to other unmeasured characteristics (Blau and Beller, 1988).

<sup>6</sup> Source: <http://www.cpc.unc.edu/projects/china>

<sup>7</sup> The 2003 and 2005 data are pooled for our analysis; moreover, we convert the income in 2003 into the income in 2005, taking into consideration the price increase or decrease of each province.

<sup>8</sup> The survey includes the following question: "How many years of formal education have you completed in a regular school?" Based on methodologies from other studies, we assign these years as follows: master's degree or higher (19 years), 4 years of college/university (16 years), 3 years of college/university (15 years), 2 years of college/university (14 years), 1 year of college/university (13 years); 3 years of technical school or upper middle school (12 years), 2 years of technical school

experience, *EXP*; age, *YOUNG*; and marital status, *MARRIED*) and family income (*FAMINC*) as well as other variables (such as region of residence, *EAST*; and location of residence, *CNTRCITY*).

As shown in Figure 1, the employment percentage in the government sector and the employment percentage in the service sector in urban units decrease and increase, respectively. That is, the two variables that represent the macro-economical situation may influence the employer's hiring decision as well as the yearly unemployment rate. Consequently, the province employment percentage in the government sector (*GOVPCT*), the province employment percentage in the service sector (*SERPCT*), and the city registration unemployment rate of each province (*URATE*) are included in the hiring equations of the cross-section data of 1996 and 2005. The province-level *URATE* of 1996 was obtained from the *China Labour Statistical Yearbook 1997*, and the other aggregate variables were obtained from the *China Statistical Yearbook 1997*. On the other hand, the province-level data on these aggregate variables for 2003 and 2005 were obtained from the *China Statistical Yearbook 2004* and *2006*, respectively.

We have provided the definitions, means, and standard deviations of these variables in Tables 1 and 2.

#### 4. Empirical Results

Table 3 presents the parameter estimates of employment probability equations for the male and female workers, based on the 1996 sample and the 2003 and 2005 pooled sample. The average employment probabilities (presented in Table 4) are obtained on computing individual probabilities for all workers in the sample by the use of relevant variables and coefficients.

The estimated average male and female employment probabilities are provided in the first two columns of Table 4. The average employment probability of male workers  $\Phi(X^M \beta^F)$  can be obtained (presented in column iii) using coefficients obtained from the hiring equations obtained from the female sample. When using coefficients obtained from hiring equations obtained from the male sample, the average employment probability of female workers  $\Phi(X^F \beta^M)$  are shown in column iv.

When the value of column i  $\Phi(X^M \beta^M)$  is smaller than that of column iii  $\Phi(X^M \beta^F)$ , it indicates an increase in the employment probability of males, by using the coefficients obtained from the hiring equation of the 1996 female sample. Similarly, when the value of column ii  $\Phi(X^F \beta^F)$  is larger than that of column iv  $\Phi(X^F \beta^M)$ , it indicates a decrease in the employment probability of females, by using the coefficients obtained

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or upper middle school (11 years), 1 year of technical school or upper middle school (10 years); 3 years of lower middle school (9 years), 2 years of lower middle school (8 years), 1 year of lower middle school (7 years); 6 years of primary school (6 years), 5 years of primary school (5 years), 4 years of primary school (4 years), 3 years of primary school (3 years), 2 years of primary school and lower (2 years).

from the hiring equation of the 1996 male sample. The male employment probability increases by about 2.2% when male workers are treated in a manner similar to that of female workers. Conversely, the employment probability of female workers decreases by about 1.8% when the female workers are treated in a manner similar to that of male workers.

However, the results are converse in the 2005 sample. When the value of column i  $\Phi(X^M \beta^M)$  is larger than that of column iii  $\Phi(X^M \beta^F)$ , it indicates a decrease in the employment probability of males, by using the coefficients obtained from the hiring equation of the 2005 female sample. Similarly, when the value of column ii  $\Phi(X^F \beta^F)$  is smaller than that of column iv  $\Phi(X^F \beta^M)$ , it indicates an increase in the employment probability of females, by using the coefficients obtained from the hiring equation of the 2005 male sample. The male employment probability decreases by about 3.2% when male workers are treated in a manner similar to that of female workers. Conversely, the employment probability of female workers increases by about 4.0% when the female workers are treated in a manner similar to that of male workers.

When both  $D_1$  and  $D_2$ , defined in equations (5) and (6), have the same sign with statistical significance, employment discrimination may be present in the labor market. A positive and significant  $D_1$  denotes that male workers benefit from favoritism when the coefficient vector of females,  $\beta^F$ , is considered discrimination-free. Since  $D_1$  in the first column of Table 5 is around  $-0.02$  and significant, this result indicates that male workers generally receive less favorable treatment and consequently enjoy a lower average employment probability (in other words, they suffer from higher unemployment) than they would if they were treated in a manner similar to that of female workers in the 1996 sample. However, the converse result, in which  $D_1$  in the third column of Table 5 is around  $0.03$  and significant, shows that male workers generally enjoy preferential treatment over female workers with otherwise identical worker characteristics in the 2005 sample. Similarly, a positive and significant  $D_2$  suggests that the employers have a prejudice against female workers when the coefficient vector of males,  $\beta^M$ , is considered discrimination-free. Since  $D_2$  in the second column of Table 5 is around  $-0.02$  and significant, this result indicates that female workers generally receive higher favorable treatment and consequently enjoy a higher average employment probability than they would if they were treated in a manner similar to that of male workers in the 1996 sample. On the other hand, the converse result, in which  $D_2$  in the fourth column of Table 5 is about  $0.04$  and significant, suggests that female workers generally receive less favorable treatment and consequently enjoy a lower average employment probability (in other words, they suffer from higher unemployment) than they would if they were treated in a manner similar to that of male workers in the 2005 sample.

In order to explain how the employment probabilities of male and female workers change in response to changes in relevant independent variables, we will use the partial derivatives of the employment probability as the relevant independent variables (presented in Table 6).

The positive impact of *GRADE* on the worker's employment probability in all samples indicates the employer's preference for workers having a higher education level. As shown in Table 6, if the education level increases by one year, the employment probability of males increases by about 3.0%; however, the employment probability of females was slightly higher (3.7%) in 2005. The employment probability of females aged 25 and younger, with other variables held constant, was 8.2 % lower than other females in 2005. The impact of *GOVPCT* is positive for females on the 1996 sample and for males on the 2005 sample; however, this impact is negative for females on the 2005 sample. Consequently, steps taken with regard to increasing the education level of females, implementing policies for increasing the employment probability of females aged 25 and younger, and increasing the employment probability of females in the government sector<sup>9</sup> may reduce the employment probability gap between females and males.

Johnson (1983) and Mohanty (1998) demonstrated that the gap between female and male unemployment rates has disappeared in the United States. Mohanty (1998) explained that although the reason for such a change in employers' attitudes towards females is not clear, it may partly be attributed to the implementation of the Civil Rights Act in the 1960s and 1970s. According to the above explanation, this Act will play an important role in reducing employment probability difference between females and males, by strengthening the effectiveness of the labor law and constituting expert anti-discrimination law in China.

## 5. Some Concluding Remarks

By referring to Johnson (1983) and Mohanty (1998), we empirically analyzed whether employers discriminated between males and females when hiring employees in 1996—the year after the labor law was passed and when state enterprise reform gained momentum—and in 2005, a decade after the enactment of the labor law. Empirical results reveal the prevalence of hiring discrimination between male and female workers both in 1996 and in 2005. However, the 1996 sample suggests that male workers generally receive less favorable treatment and consequently enjoy a lower average employment probability than female workers; whereas, the 2005 sample reveals that male workers generally enjoy preferential treatment over female workers with otherwise identical worker characteristics. Then, we suggested that an increase in the education level of females, in the employment probability of females aged 25 and younger, and in the employment probability of females in the government sector may prove effective in eliminating employment discrimination between males and females.

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<sup>9</sup> Based on the China Employment Discrimination Survey Questionnaire Report, 32% respondents (females) encountered discrimination while civil servants invited applications for a job.

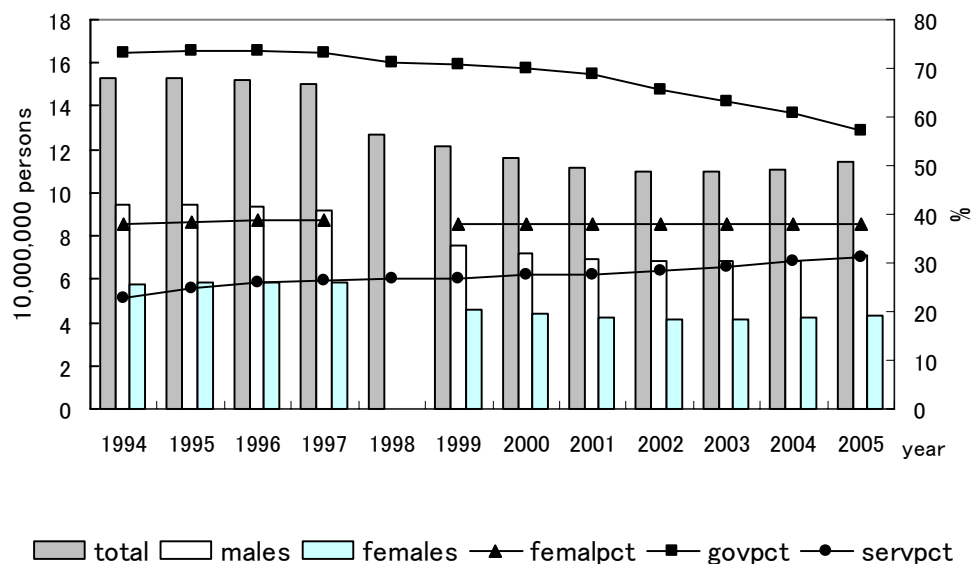


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Figure 1. The composition of employment in urban units by gender and the employment percentage in the government sector and service sector in urban China



Data source: Authors compiled based on the China Labour Statistical Book 2006.

Note: 1. *total*, *males*, *females*, *femalpct*, *govpct* and *servpct* denote total employment, male employment, female employment, the share of female employment in urban units, the employment percentage in government sector and the employment percentage in service sector in urban, respectively.

2. The data of female employment in urban units in 1998 is missing.

Table 1: Definition of Variables

Variable	Definition
<i>GRADE</i>	Years of schooling completed
<i>EXP</i>	AGE- GRADE -5
<i>YOUNG</i>	1, if age $\leq 25$ years; and 0, if otherwise
<i>FAMINC</i>	Income of other family members (in thousands of RMB)
<i>MARRIED</i>	1, if the worker is married; and 0, if otherwise
<i>URATE</i>	City registration unemployment rate of each province
<i>GOVPCT</i>	Province employment percentage in government sector
<i>SERVPCT</i>	Province employment percentage in service sector
<i>EAST</i>	1, if the worker is belongs to Jiangsu or Shandong; and 0, if otherwise
<i>CNTRCITY</i>	1, if the worker lives in a central city region; and 0, if otherwise
Dependent Variable	
<i>EMP</i>	1, if the worker is currently employed; and 0, if otherwise

Table 2: Means and Standard Deviations of Variables

Variables	1996		2005	
	Males	Females	Males	Females
<i>GRADE</i>	10.3218 (3.1092)	9.9110 (3.1357)	11.0467 (2.9991)	11.4959 (2.9994)
<i>EXP</i>	21.6197 (11.6432)	19.4833 (10.5255)	23.6734 (11.6286)	20.3240 (10.3623)
<i>YOUNG</i>	0.1888 (0.3916)	0.2178 (0.4131)	0.1298 (0.3362)	0.1479 (0.3552)
<i>FAMINC</i>	7.3190 (9.5156)	8.6926 (11.2406)	8.5210 (11.8436)	13.4935 (18.2498)
<i>MARRIED</i>	0.7606 (0.4270)	0.7965 (0.4029)	0.8170 (0.3868)	0.8322 (0.3738)
<i>URATE</i>	2.8467 (0.6087)	2.8291 (0.6132)	5.0298 (1.6269)	5.0548 (1.6439)
<i>GOVPCT</i>	64.7917 (4.5302)	64.9023 (4.4496)	52.3667 (17.0809)	52.1151 (17.5605)
<i>SERPCT</i>	23.9484 (3.6700)	23.8487 (3.6092)	32.6545 (5.6659)	32.7696 (5.5554)
<i>EAST</i>	0.3271 (0.4695)	0.3196 (0.4667)	0.1639 (0.3703)	0.1942 (0.3958)
<i>CNTRCITY</i>	0.4947 (0.5003)	0.5040 (0.5004)	0.3678 (0.4824)	0.3579 (0.4796)
Dependent variable				
<i>EMP</i>	0.9269 (0.2605)	0.9380 (0.2414)	0.8487 (0.3585)	0.82893 (0.37673)
Sample size	752	629	1672	1210

Notes: Quantities in parenthesis are standard deviations.

Table 3: Probit Estimates of Male and Female Hiring Equations

Variables	1996		2005	
	Male	Female	Male	Female
<i>CONSTANT</i>	-6.9903 *	-7.0638 *	-3.7287 ***	-1.7236 ***
	(-1.8715)	(-1.9249)	(-7.9888)	(-3.2253)
<i>GRADE</i>	0.1722 ***	0.1319 ***	0.1738 ***	0.1820 ***
	(4.8204)	(3.4634)	(9.0406)	(9.0289)
<i>EXP</i>	0.0395 **	0.0393 **	0.0375 ***	0.0257 ***
	(2.5920)	(2.4368)	(5.9040)	(3.4131)
<i>YOUNG</i>	-0.1318	-0.3104	-0.1654	-0.4017 **
	(-0.4496)	(-0.9477)	(-0.9821)	(-2.1376)
<i>FAMINC</i>	-0.0035	0.0083	0.0289 ***	0.0097 **
	(-0.5013)	(0.7818)	(4.8903)	(2.5516)
<i>MARRIED</i>	0.5362 *	-0.1994	0.5225 ***	0.4266 **
	(1.8823)	(-0.6938)	(3.5211)	(2.5449)
<i>URATE</i>	-0.1427	-0.1989	-0.0958	-0.0702
	(-0.8067)	(-1.2217)	(-1.2689)	(-0.7496)
<i>GOVPCT</i>	0.0706 *	0.0824 **	0.0110 **	-0.0126 **
	(1.8349)	(2.1363)	(2.2012)	(-2.0588)
<i>SERVPCT</i>	0.0639 *	0.0781 **	0.0457 ***	0.0228
	(1.6871)	(2.0086)	(3.1901)	(1.2377)
<i>EAST</i>	1.2953 ***	1.0500 ***	0.6242 ***	-0.0986
	(3.3207)	(3.0096)	(4.2333)	(-0.6365)
<i>CNTRCITY</i>	-0.3209 *	-0.0675	-0.1279	0.3642 ***
	(-1.8511)	(-0.3789)	(-1.3239)	(3.1015)
Sample size	752	629	1672	1210
Log likelihood	-137.853	-121.114	-511.053	-446.587

Note: Numbers in parentheses are *t*-ratios.

\* shows that variables are significant at a 10 percent level.

\*\* shows that variables are significant at a 5 percent level.

\*\*\* shows that variables are significant at a 1 percent level.

Table 4: Male and Female Employment Probabilities Estimated Separately with Male and Female Coefficient Vectors

Sample	Male Emp Prob with Male coeff.  $(\Phi(X^M \beta^M))$ (i)	Female Emp Prob with Female coeff.  $(\Phi(X^F \beta^F))$ (ii)	Male Emp Prob with Female coeff.  $(\Phi(X^M \beta^F))$ (iii)	Female Emp Prob with Male coeff.  $(\Phi(X^F \beta^M))$ (iv)
A. The 1996 sample	0.9269 (0.1211)	0.9383 (0.0808)	0.9485 (0.0737)	0.9199 (0.1236)
B. The 2005 sample	0.8484 (0.1864)	0.8291 (0.1667)	0.8167 (0.1724)	0.8692 (0.1704)

*Note.* Standard errors are in parentheses.

Table 5: Two Measures of Differential Treatment against Females

Sample	1996		2005	
	$D_1$ (i)	$D_2$ (ii)	$D_1$ (iii)	$D_2$ (iv)
All	-0.0215*** (-4.1673) <sup>10</sup>	-0.0184*** (-3.1294)	0.0316*** (5.0929)	0.0401*** (5.8494)
Discrimination free coefficient	$\beta^F$	$\beta^M$	$\beta^F$	$\beta^M$

Note: Numbers in parentheses are *t*-ratios.

$$D_1 = \Phi(X^M \beta^M) - \Phi(X^M \beta^F) \text{ and } D_2 = \Phi(X^F \beta^M) - \Phi(X^F \beta^F).$$

\*\*\* shows that variables are significant at a 1 percent level.

<sup>10</sup>  $-4.1673 = (0.9269 - 0.9485) / (((0.1211)^2 + (0.0737)^2) / 752)^{1/2}$



Table 6: Changes in Employment Probabilities of Males and Females as a Result of Small Changes in Variables

Variables	1996		2005	
	Males (i)	Females (ii)	Males (iii)	Females (iv)
<i>GRADE</i>	0.0172	0.0134	0.0295	0.0370
<i>EXP</i>	0.0039	0.0040	0.0064	0.0052
<i>YOUNG</i>	-0.0132	-0.0316	-0.0280	-0.0817
<i>FAMINC</i>	-0.0003	0.0008	0.0049	0.0020
<i>MARRIED</i>	0.0535	-0.0203	0.0886	0.0867
<i>URATE</i>	-0.0142	-0.0203	-0.0162	-0.0143
<i>GOVPCT</i>	0.0070	0.0084	0.0019	-0.0025
<i>SERVPCT</i>	0.0064	0.0080	0.0077	0.0046
<i>EAST</i>	0.1292	0.1069	0.1058	-0.0200
<i>CNTRCITY</i>	-0.0320	-0.0069	-0.0217	0.0740