Group Heterogeneity and the Gender Earnings Gap in Mexico

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Abstract: This study analyzes the role of group heterogeneity on the gender earnings gap in Mexico. Using individual level data from the *Encuesta nacional de empleo urbano*, an additively decomposable index of the extent of gender unexplained wage inequality is estimated. The Jenkins index is larger for those with lower levels of education, those with a college/university degree, and those relatively older and with more labor market experience. The index is also inversely related to firm size and larger in the private and informal sectors. There is also some evidence of significant regional differences in unexplained gender wage inequality. The results are robust to alternative assumptions about employer discrimination aversion and suggest that group-specific public policy measures would be more effective than programs targeting women as a whole, if the goal is to reduce gender pay inequities as delineated in Mexico's National Development Plan 1995-2000.

Resumen: Este artículo analiza el papel de la heterogeneidad de grupo sobre la brecha de ingresos según el género en México. Utilizando datos individuales de la *Encuesta nacional de empleo urbano,* se estimó un índice que se puede descomponer aditivamente del grado de la desigualdad salarial inexplicada según el género. El índice Jenkins es mayor para personas con niveles inferiores de educación, las que tienen licenciaturas y las relativamente mayores con más experiencia laboral. Además, el índice se relaciona inversamente con el tamaño de la empresa y es mayor en los sectores privado e informal. Existen pruebas, también, de importantes diferencias regionales en la desigualdad salarial inexplicada según el género. Los resultados son congruentes con las suposiciones alternativas acerca de la aversión a la discriminación del empleador y sugieren que las políticas públicas dirigidas a grupos específicos señalan una medida más efectiva que los programas enfocados a las mujeres en su conjunto, si se pretende reducir las desigualdades salariales según el género, como se esboza en el Plan Nacional de Desarrollo 1995-2000.

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1. Introduction

Most research on the male-female earnings differential in Mexico has attempted to explain the sources of the gender wage gap and its evolution during the late 1980's and early 1990's, a period characterized by increasing economic opening and structural reforms in the Mexican economy (Garro Bordonaro and Rodríguez, 1996a, 1996b; Brown, Pagán and Rodríguez, 1999; Valdez Moreno, 1997). From 1987 to 1995, the gender hourly wage gap first widened substantially until 1990 but has been falling since then to about 7 percent by 1995 (Brown, Pagán and Rodríguez, 1999). Most studies attribute these changes to transformations in the Mexican labor market structure resulting primarily from economic opening and reform (Fleck and Sorrentino, 1994; Hanson, 1997).

Understanding the sources of gender differences in wages in Mexico is particularly important given the gradual economic integration occurring between the U.S., Canada and Mexico through, for example, the North American Free Trade Agreement. Altogether, the relative performance of women in the Mexican labor market not only plays an important role in understanding the overall development process in Mexico, but also quantifying female labor market outcomes can help us in the implementation of effective economic development policy measures.

Most studies on gender wage gaps in both developed and developing countries attempt to explain the "unjustified" portion of the male-female wage differential (i.e., the unexplained component in the typical Oaxaca-Blinder decomposition commonly attributed to labor market discrimination) using the average proportionate earnings gap. However, a more policy-relevant approach would take into account the complete distribution of the unexplained wage gap (e.g., Dolton and Makepeace, 1985; Munroe, 1988). This is appropriate because we would expect greater heterogeneity across narrowly defined socio-demographic groups, particularly in a developing country such as Mexico. For example, the unexplained gender wage ratio most likely differs according to education and experience groups, sector of employment, region, age, etc. This has important public policy implications because if large differences across groups exist, blanket measures implemented in an attempt to reduce the male-female unjustified earnings differential may not be as effective as policies that target the groups most in need.

The additively decomposable wage gap index developed by Jenkins (1994) is employed to analyze the distribution of the unexplained gender earnings gap across heterogeneous groups. The first step is to estimate separate log wage functions for males and females. The Jenkins Index of wage inequality is then calculated as the area between two generalized Lorenz curves representing two different earnings distributions: the predicted wages of females, and the predicted wages of females if they were treated as males. The index can then be decomposed across narrowly defined groups to calculate the portion of total inequality experienced by each subgroup.

To estimate the model, 1995 third quarter microdata from Mexico's *Encuesta nacional de empleo urbano* is employed (ENEU, National Urban Employment Survey). The ENEU provides individual level data on employment and other socio-economic outcomes on those residing in the largest metropolitan areas of the country (INEGI, 1996). The data set is particularly unique in that it contains comprehensive labor market information on a relatively large sample of the Mexican population and has seldomly been used to study male-female differences in employment and earnings.

The empirical analysis shows that the unexplained male-female earnings gap is about 10.43 percentage points and that the Jenkins gender wage inequality index is larger for those with lower levels of education, those with a college/university degree, and those who are relatively older. The unexplained gender wage gap –as measured by the Jenkins Index– is inversely related to firm size. The Index is also large for private and informal sector firms. There is also heterogeneity in the inequality index across regions, with the largest gender disparity observed in Central and Northern Mexico. Moreover, the results are robust to alternative index assumptions about employer discrimination aversion.

The paper is organized as follows. Section 2 discusses the evolution of the Mexican labor market and the gender earnings gap in recent years; Sections 3 and 4 present the statistical specification of the Jenkins Index and the empirical estimates; and Section 5 discusses the public policy implications of the study and provides some concluding remarks.

2. Background

The study of gender differences in labor market outcomes in Mexico deserves attention given the major structural changes that have oc-

curred in the Mexican labor market over the last few years (e.g., Fleck and Sorrentino, 1994; Pagán and Tijerina Guajardo, 1999). During the 1987-1993 period, Mexico experienced increasing economic opening, substantial structural reforms and increasing trade with the industrialized world. Mexico's economic experience has reshaped the industrial structure of the country and its labor markets (e.g., Cardoso and Helwege, 1992; Edwards, 1995; Fleck and Sorrentino, 1994). During the 1980s and into the 1990s, the country also experienced high population and labor force growth, and a substantial drop in real earnings for both men and women. Consequently, population growth and socio-economic changes have led to a 3.2 percent yearly increase in Mexico's labor force during the last decade (Fleck and Sorrentino, 1994).

At the same time, the country underwent a considerable population shift to urban areas during most of the eighties. These migratory patterns have resulted in increasing female access to education and employment opportunities, which tend to be relatively scarce in rural communities (Brown, Pagán and Rodríguez, 1999; Pagán and Sánchez, 1999). The growing importance of women in the Mexican labor market is particularly evident in the substantial increases in female employment occurring over the last decade (e.g., Fleck and Sorrentino, 1994; Valdez Moreno, 1997). From 1987 to 1993, Mexican males experienced a 4 percent decrease in employment rates while female employment grew more than 8 percent during the same period (Brown, Pagán and Rodríguez, 1999). Moreover, a substantial part of these increases in employment opportunities have occurred in services, the traditional female employment sector (Blau and Ferber, 1992:120). As a result, by 1993 the service sector accounted for 50.6 percent of total non-agricultural urban employment in Mexico (Fleck and Sorrentino, 1994).

During the last decade, real earnings have grown at an average annual rate of about 4 percent for both males and females; however, male earnings have been less volatile than female earnings. Female wages were fairly stagnant from 1987 to 1990 but grew at an average annual rate of 8.1 percent from 1991 to 1993 (e.g., Valdez Moreno, 1997).

In 1995, the gender wage differential in Mexico's largest urban areas stood at 7 percent. Economists have analyzed the sources of this wage differential, yet, most studies have concentrated on the average proportionate gender earnings gap and not in the complete distribution of the earnings differential (e.g., Garro Bordonaro and Rodríguez, 1996a, 1996b; Pagán, Rodríguez and Brown, 1999; Valdez Moreno, 1997). In other words, the earnings gap most likely differs across the

various socio-demographic groups (e.g., age, education, sector of employment, region, and so on).

Analyzing the sources of the male-female wage differential by socio-economic groups is particularly important from a public policy perspective since it sheds light on the segments of the female population that experience unjustified wage inequality. Furthermore, the Mexican government –through the National Development Plan 1995-2000 (Poder Ejecutivo Federal, 1995, p. 102)– has made gender equity part of the country's overall economic development strategy through "... the promotion of a set of programs and actions that guarantee women equal opportunity in education, training and employment". In particular, the National Development Plan calls for government programs that seek to correct male-female inequality in education and employment to reduce poverty, and it allows the use of gender as a legitimate criteria in the development and implementation of these programs (Poder Ejecutivo Federal, 1995, p. 102).

3. A Subgroup Decomposable Index of the Unexplained Gender Earnings Gap

To measure the extent of the unexplained gender earnings gap by socio-economic subgroups, Jenkins (1994) proposed an index that summarizes the distribution of the unexplained gender wage gap based on the difference between two generalized Lorenz curves representing two log earnings distributions: the predicted wages of females and the predicted wages of females if they were treated as males. Jenkins (1994) shows that the index can be decomposed across narrowly defined groups to calculate the portion of total inequality experienced by each group.

The first step to calculate the Jenkins Index is to estimate selectivity-corrected log earnings functions for both male and female samples using the method of Heckman (1979).[1] The log earnings regressions include controls for educational attainment, experience, experience squared, marital status, log of weekly hours worked, and

[1] The Heckman two-step procedure consists on first estimating a probit model on the determinants of employment and calculating the inverse Mills ratio. The second step involves the estimation of a log wage regression on the sample of those employed and with the inverse Mills ratio included as an explanatory variable to account for selectivity bias (see Heckman, 1979; Maddala, 1983; Greene, 1997),

sector of employment, firm size, and region of residence dummies (e.g., Pagán and Tijerina Guajardo, 1999; Dávila and Pagán, 1999). Our specification of the log earnings function is essentially an augmented human capital earnings model and the variables were selected under the assumption that any earnings inequality measure must have policy relevance across the groupings constructed from these variables. The log wage equations are then used to estimate the earnings of the i^{th} female in the sample under both the male and female wage structures.

Assuming that the male wage structure would be the one prevailing under no labor market discrimination, the Jenkins Index takes the form,

$$J_{\alpha} = \sum_{i=1}^{N} w_i \left(1 - d_i^{-\alpha}\right) = 1 - \sum_{i=1}^{N} w_i d_i^{-\alpha}, \tag{1}$$

$$d_i = 1 + \left|\hat{r}_i^{\,m} - \hat{w}_i^{\,m}\right| \Big/ \bar{r}^{\,m}, \tag{2}$$

$$w_i = \left(\hat{w}_i^{\,m} \Big/ N\bar{w}^{\,m}\right), \tag{3}$$

where N represents the number of females in the sample, d_i is a normalized wage gap between the earnings that the i^{th} female would receive under the male wage structure ($\hat{r}_i^{\,m}$, the reference predicted wage), and the predicted earnings of the i^{th} female under the female wage structure ($\hat{w}_i^{\,m}$), divided by the mean reference earnings ($\bar{r}^{\,m}$). $\bar{w}^{\,m}$ is the mean female predicted earnings, w_i measures the wage share (i.e., the percentage of aggregate earnings) of the i^{th} female, and α is a positive parameter reflecting alternative assumptions about how wage gaps should be aggregated. α essentially captures the degree of discrimination aversion, with higher values of the parameter corresponding to greater aversion (Jenkins, 1991).

The uniqueness of this index is that it can be decomposed to analyze the extent of the unexplained portion of the gender wage gap experienced by socio-economic subgroups of the female sample. By partitioning the sample into g mutually exclusive groups (according to say age, educational levels, sector of employment, etc.), J_{α} can be decomposed as the weighted sum of the index for each subgroup; namely,

$$J_{\alpha} = \sum_{g=1}^{G} \theta_g J_{\alpha g}, \tag{4}$$

where J_{ag} is the Jenkins Index for subgroup g and θ_g is the share of total earnings of subgroup g. Note also that,

$$\sum_{g=1}^{G} \theta_g = \sum_{g=1}^{G} n_g \overline{w}_g \Big/ n\overline{w} = 1,\ \theta_g \geq 0 \text{ for each } g = 1,2,\ldots,G, \tag{5}$$

where n_g and $\overline{w}_g$ represent the group size and mean earnings, respectively, for subgroup g, and $\overline{w}$ is the full sample female earnings mean. Thus, the aggregate index is a weighted sum of the indices for each subgroup.

According to (4) and (5), the proportion of the overall unexplained gender wage gap attributed to the g^{th} subgroup is a function of two factors: the size of the gender earnings gap for subgroup g (i.e., the magnitude of the index $J_{\alpha g}$), and the share of total female earnings that this subgroup represents (θ_g). The contribution of each subgroup g to the aggregate index is then simply given by $\theta_g J_{\alpha g}/J_{\alpha}$.

4. The ENEU Data and Empirical Results

To analyze group heterogeneity in the unexplained gender earnings gap, we utilize 1995 third quarter data from the National Urban Employment Survey (ENEU). For consistency with previous studies, we only employ the 16 major metropolitan areas originally surveyed in 1987. These urban areas account for most of the employed population in Mexico. The ENEU provides basic socio-economic information on the Mexican urban population and contains data on employment, unemployment, and underemployment, as well as unique detail on earnings, usual hours worked and other relevant labor market outcomes (INEGI, 1996:3). Our sample consists of those individuals between the ages of 16 and 65 who reported positive monthly earnings and hours of work during the months of July-September 1995.

Table 1 reports the definitions of the variables employed in the analysis as well as the descriptive statistics of the sample (by gender) of those employed. Men possess almost two more years of potential labor market experience than women; nevertheless, the gender differences in the distribution of education levels are not as large. Only 31.45 percent of employed females are married and, when compared to men, women tend to work less hours, are more concentrated in the public sector, in non-regulated (informal) firms, and in either very small

Table 1. Definition of Variables and Descriptive Statistics (Employed Sample)

Variables		*Males*	*Females*
Ln Earnings	= Log of weekly earnings during reference week	5.6183 (0.7112)	5.4186 (0.6751)
Experience	= Age minus years of schooling minus six	16.818 (12.520)	14.859 (11.820)
Experience 2	= Square of experience/100	4.3958 (5.9578)	3.605 (5.1952)
Primary or Less	= 1 if educational level is primary or less; 0 otherwise	0.2711 (0.4445)	0.2479 (0.4318)
Secondary	= 1 if completed secondary schooling; 0 otherwise	0.3457 (0.4756)	0.4055 (0.4910)
High School	= 1 if completed high school; 0 otherwise	0.1210 (0.3262)	0.0984 (0.2978)
University	= 1 if completed a college degree; 0 otherwise	0.1423 (0.3494)	0.1406 (0.3477)
Married	= 1 if married; 0 otherwise	0.5766 (0.4941)	0.3145 (0.4643)
Ln Hours	= Log of weekly hours worked during reference week	3.8049 (0.3055)	3.676 (0.3649)
Public Sector	= 1 if public sector; 0 if private sector	0.1792 (0.3835)	0.2193 (0.4138)
Informal Sector	= 1 if employed in a non-registered firm; 0 otherwise	0.0779 (0.2681)	0.1554 (0.3623)
Micro	= 1 if firm employs 15 workers or less; 0 otherwise	0.3308 (0.4705)	0.3665 (0.4818)
Small	= 1 if firm employs 16-100 workers; 0 otherwise	0.1959 (0.3969)	0.1495 (0.3566)
Medium	= 1 if firm employs 101-250 workers; 0 otherwise	0.0549 (0.2279)	0.0462 (0.2099)
Large	= 1 if firm employs more than 250 workers; 0 otherwise	0.4184 (0.4933)	0.4378 (0.4961)
Mexico City	= 1 if region of residence is Mexico City; 0 otherwise	0.1100 (0.3129)	0.1185 (0.3232)
Border	= 1 if region of residence is a border state; 0 otherwise	0.2241 (0.4170)	0.2113 (0.4082)
North	= 1 if region of residence is Northern Mexico; 0 otherwise	0.3254 (0.4686)	0.3239 (0.4680)
Center	= 1 if region of residence is Central Mexico; 0 otherwise	0.2921 (0.4547)	0.2987 (0.4577)
South	= 1 if region of residence is Southern Mexico; 0 otherwise	0.0484 (0.2146)	0.0476 (0.2129)
Sample size		18 703	11 752

or very large firms. There are also no discernible gender differences in the distribution of employment across regions. Further, note that the employment rate of women is only about 27 percent whereas the male employment rate is almost 62 percent.

Table A1 in the Appendix presents the participation equation estimates for both males and females. The statistical significance of the χ^2 statistic implies that we reject the null hypothesis that all the coefficients are equal to zero. Married males are more likely to be employed than single males, and those residing in the border, center or south regions of the country are more likely to be employed than those residing in Mexico City and the (non-border) Northern Mexican states. For females, years of age and education increase the probability of being employed, but married females are less likely to be employed than single females. There is also a statistically significant variation in the employment propensity of females across regions, with those in the border, north and south regions being more likely to be employed than women residing in Mexico City and Central Mexico.

Table 2 reports the selectivity-corrected earnings equations for males and females, respectively. The regressions were estimated using White's (1980) heteroscedasticity consistent estimator of the variance-covariance matrix. The models have a reasonable predictive power and there is evidence of sample selection for females but not for males (see the Lambda coefficients, where statistical significance means that there is evidence of selectivity bias). Note that the rates of return to experience and education are uniformly higher for males than for females. For example, males (females) with a university education enjoy a 222.13 (49.62) percent wage premium over those with a primary education or less.[2]

Married females experience a higher wage premium over single females than married males over single males. For both social and economic reasons, married women in developing countries (such as Mexico) are less likely to be employed than in industrialized countries (Blau and Ferber, 1992). Consequently, employed married females may be positively self-selected into the wage and salary sector (when compared to single women) and, thus, earn relatively high wages.

Also, and unlike males in the public sector, females in the public sector enjoy a 12.51 percent wage premium over those employed in

[2] The percentages were calculated as $[\exp(\beta) - 1] \times 100$ (see Kennedy, 1981).

Table 2. Male and Female Earnings Function Estimates*

Variables	*Males*	*Females*
Experience	0.0331 (28.735)	0.0233 (16.681)
Experience 2	–0.0546 (–25.135)	–0.0403 (–13.664)
Education:		
Secondary	0.2136 (23.359)	0.0693 (4.196)
High School	0.4833(32.979)	0.0974 (3.423)
University	1.1698 (70.025)	0.4029 (10.543)
Married	0.2104 (1.621)	1.0249 (19.836)
Ln Hours	0.4223 (25.401)	0.4751 (29.262)
Public Sector	–0.0144 (–1.139)	0.1179 (7.289)
Informal Sector	–0.1226 (–8.839)	–0.0869 (–5.464)
Firm Size:		
Small	0.1601 (14.65)	0.1782 (11.90)
Medium	0.1843 (10.783)	0.1637 (7.388)
Large	0.2484 (23.409)	0.2331 (16.973)
Region of Residence:		
Border	0.1673 (3.467)	0.0248 (1.372)
North	–0.0415 (–2.741)	–0.2214 (–12.47)
Center	–0.0459 (–1.943)	–0.0936 (–5.712)
South	–0.1939 (–6.785)	–0.3203 (–12.154)
Lambda	0.1021 (0.293)	–2.3201 (–19.184)
Constant	3.0936 (11.835)	5.3807 (38.561)
Sample size	18 703	11 752
R^2	0.4853	0.4842
Adjusted R^2	0.4848	0.4834

* (i) The dependent variable is the log of weekly earnings.
(ii) *t*-statistics are reported in parentheses.
(iii) Primary Education (or less) is the educational category of reference.
(iv) Mexico City is the reference region.

the private sector. This result can be attributed to two sources: first, the public sector tends to be more committed to gender employment and pay equality and, second –and partially as a result of this commitment– women face relatively less labor market discrimination (from both the employer and employees) in this sector (Gyourko, 1988). Both males and females employed in the informal sector earn less than those in the formal sector although the underpayment is larger for males than for females.[3] Nevertheless, the female sectoral wage gap may be relatively small as a result of the overall lower female earnings. There

[3] Following Roubald (1995), the informal sector comprises those workers who reported being employed in a non-registered firm at the time of the interview.

is also evidence of increasing earnings due to firm size (e.g., Mellow, 1982), as well as statistically significant higher earnings for males residing in the U.S.-Mexico border region compared to the rest of the country (Brown, Pagán and Rodríguez, 1999).

Tables 3 and 4 present the results from the Jenkins Index decomposition under different assumptions of discrimination aversion. The results in Table 3 present the estimations under the assumption of $\alpha = 0.5$. The table reports the sample size by subgroup followed by the mean predicted weekly earnings of females (in weekly 1995 pesos) under both the female and male wage structure, the Jenkins Index, and the percentage that each subgroup contributes to the global unexplained earnings inequality index. Note that in every subgroup female mean predicted earnings are lower when they are remunerated as men than when they are paid according to the female log earnings regression.

When analyzing the empirical results, note that the unexplained gender earnings differential (measured by the Jenkins index) is the largest for those with a college/university degree (a 0.0184 index value), followed by those with lower levels of education (particularly those with a primary education or less, with an index value of 0.0167). These findings are consistent with the previous result of a relatively higher wage premium for educated males than for females. Also, it seems that women with a college/university educational level have relatively greater access to the labor market (i.e., they have a higher employment rate); nonetheless, they might not to have equal access to high paying positions requiring a post-high school education.

Note also that almost half of the unexplained gender wage differential is explained by women aged 16 to 30. This is partly a result of this group representing 57 percent of employed women. However, when one looks at the Jenkins Index, there is a clear cut-off point at age 30, with older women having a larger unexplained wage gap. Thus, it seems that as women age and accumulate more labor market experience the gender wage penalty somewhat increases, perhaps as a result of increasing age discrimination in the labor market. Nevertheless, the result may also reflect the intermittent nature of female labor force participation. Women –particularly married females in developing countries– tend to have discontinuous age-earnings profiles as a result of social customs, family responsibilities, etc. This may in turn imply age-earnings paths that do not rise as fast as those of men, resulting in an increasingly larger age-related explained as well as unexplained gender wage gap (e.g., Blau and Ferber, 1992).

Table 3. Decomposition of the Jenkins Index by Subgroup*

	Sample size	$\overline{w}^m$	$\overline{r}^m$	J_a	%
Full Sample	11 752	223.6	249.64	0.0130	100.00
Education					
Primary or Less	4 138	160.61	192.84	0.0167	42.84
Secondary	4 765	225.88	230.44	0.0087	27.02
High School	1 156	259.82	280.87	0.0096	7.49
University	1 653	468.72	578.25	0.0184	22.66
Age Groups					
16 to 30	6 739	208.51	225.88	0.0109	47.22
31 to 45	3 820	265.07	307.97	0.0159	41.00
46 to 65	1 193	214.86	244.69	0.0152	11.77
Firm Size					
Micro	4 307	156.02	179.47	0.0141	37.02
Small+Medium	2 300	242.26	266.97	0.0126	19.24
Large	5 145	295.89	323.76	0.0124	43.74
Sector					
Public	2 577	343.78	357.81	0.0115	21.01
Private	9 175	200.33	228.15	0.0134	78.99
Formal	9 926	249.64	275.89	0.0124	82.03
Informal	1 826	125.21	149.90	0.0169	17.97
Region of Residence					
Border	2 483	265.07	297.85	0.0125	20.91
North	3 807	217.02	244.94	0.0132	32.64
South	559	198.34	204.38	0.0109	3.89
Center	3 510	202.35	232.76	0.0141	31.72
Mexico City	1 393	253.25	265.07	0.0116	10.83
Work Status					
Part-time	2 035	184.93	214.86	0.0161	20.71
Full-time	9 717	235.09	259.56	0.0123	79.29

* Columns 2 and 3 report the predicted female earnings using the female and male regressions, respectively.

Table 4. Decompositions under Alternative α's

	J_α (α = 4)	% (α = 4)	J_α (α = 25)	% (α = 25)
Full Sample	0.0966		0.4180	
Education				
Primary or Less	0.1232	42.01	0.4891	38.72
Secondary	0.0660	27.72	0.3187	30.96
High School	0.0731	7.65	0.3454	8.35
University	0.1369	22.62	0.5750	21.98
Age Groups				
16 to 30	0.0817	47.76	0.3718	50.22
31 to 45	0.1172	40.59	0.4835	38.70
46 to 65	0.1116	11.64	0.4595	11.08
Firm Size				
Micro	0.1033	36.56	0.4260	34.83
Small+Medium	0.0941	19.32	0.4145	19.69
Large	0.0926	44.11	0.4131	45.47
Sector				
Public	0.0873	21.37	0.4031	22.82
Private	0.0995	78.63	0.4226	77.18
Formal	0.0925	82.50	0.4089	84.29
Informal	0.1221	17.50	0.4745	15.71
Region of Residence				
Border	0.0930	20.96	0.4062	21.16
North	0.0980	32.65	0.4234	32.59
South	0.0819	3.94	0.3763	4.18
Center	0.1040	31.53	0.4392	30.78
Mexico City	0.8710	10.92	0.3895	11.28
Work Status				
Part-time	0.1184	20.44	0.4831	19.27
Full-time	0.0923	79.56	0.4049	80.72

When one looks at firm size, there seems to be an inverse relationship between firm size and the Jenkins Index. That is, the unexplained gender wage gap is larger for micro and small/medium sized firms (J_α = 0.0141 and 0.0126) than for larger business entities (J_α = 0.0124). A possible explanation for this finding is that large firms face more social and political pressure in pay policy and gender equality than smaller firms. Moreover, and as pointed out by Carrington and Troske (1995), for logistical as well as structural reasons small firms are less likely to have an integrated workforce, which in turn might result in a larger unexplained gender pay gap.

The unexplained wage gap is also much higher in both the private and the informal sector. In particular, women employed in the latter have very low levels of measurable human capital and, thus, are also more likely to possess relatively low levels of unmeasurable human capital. A higher Jenkins Index for women employed in both the private and the informal sector is particularly interesting since most females are employed in either very small or very large firms (see the first column in Table 3).

The Jenkins Index is also high in the industrial Northern and Central Mexico (J_α = 0.0132 and 0.0141) as well as in the U.S.-Mexico border region (J_α = 0.0125). This finding is consistent with previous studies reporting a higher gender wage gap in the northern border Mexican states that has been attributed to higher female occupational segregation in the region (e.g., Pagán, Rodríguez and Brown, 1999). Also, although the unexplained gender earnings gap seems to be higher for those employed part-time, the large proportion of full-time employed females (almost 83 percent) helps explain about 79.29 percent of the overall wage inequality index.

To test for the robustness of the results, Table 4 reports the estimated Jenkins Index under $\alpha = 4$ and $\alpha = 25$. Note that the estimated results are not sensitive to subjective assumptions about the degree of discrimination aversion by employers. Although the index increases substantially at a decreasing rate (from 0.0130 for $\alpha = 0.5$, to 0.0966 for $\alpha = 4$, to 0.4180 for $\alpha = 25$), most of the "explained" percentages do not change by more than two percentage points.

5. Concluding Remarks

This study analyzes the gender earnings gap in Mexico's largest urban areas in an attempt to explain the extent of male-female differences in wages across heterogeneous socio-demographic groups. Gaining a better understanding on the sources of the gender earnings gap has important public policy implications given that the Mexican government has made gender equity in the labor market one of its top priorities in its National Development Plan 1995-2000. Consequently, understanding group-specific gender differences in wages is particularly important since uniform policies attempting to reduce the overall male-female unjustified earnings differential may not be as effective as policy measures targeting the socio-economic groups most in need.

Using data from Mexico's National Urban Employment Survey, we estimate an additively decomposable index of the extent of gender wage inequality and find that the Jenkins index is larger for those with lower levels of education, those with a college/university degree, and those that are relatively older. The Mexican unexplained gender wage gap is not only inversely related to firm size but it is larger for those employed in the private sector and in the informal sector. There is also some variation in the inequality index across the country's regions, with the largest inequality observed in Northern Mexico, perhaps as a result of the higher occupational segregation experienced by women in this area. Furthermore, the results are robust to alternative assumptions about employer discrimination aversion.

In all, the results suggest that in order to reduce unexplained gender differences in wages in Mexico, group-specific public policy measures would be more effective than programs targeting women as a whole if the goal is to effectively reduce male-female pay inequality. It remains to be seen whether the National Development Plan 1995-2000 is fully implemented given the fiscal and political constraints in Mexico resulting from the December 1994 economic crisis.

Appendix

Table A1. Male and Female Participation Probit Equation Estimates

Variables	*Males*	*Females*
Age	0.0002 (0.2971)	0.0030 (5.949)
Education	–0.0024 (–1.5426)	0.0346 (22.987)
Married	0.7766 (47.745)	–0.5843 (–45.936)
Region of Residence:		
Border	0.2753 (10.950)	0.0676 (2.987)
North	0.0376 (1.6399)	0.0689 (3.307)
Center	0.1143 (4.9856)	–0.0133 (–0.643)
South	0.1112 (2.9944)	0.0870 (2.612)
Constant	0.1151 (3.5711)	–0.5996 (–19.646)
Sample size	18 703 = 1; 11 664 = 0	11 752 = 1; 32 270 = 0
χ^2	3 500.80	2 883.52

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