

Wage Inequality and the Gender Wage Gap in Mexico

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Abstract: Using data from the Urban Employment Survey, this article shows that the gender wage gap in Mexico decreased from 1988 to 1996, and that it raised from 1996 to 1998, either if it is measured as the mean wage differential, or as the differential at different points of the wage distributions. The study tries to distinguish among the reasons behind these changes, given that the Mexican economy has experienced an increase in wage inequality between skilled and unskilled workers, and that Mexican women are acquiring more formal education and are participating more in the labor force. The analysis shows that wage inequality within gender groups increased between 1988 and 1996, and that it decreased between 1996 and 1998. The analysis also shows that wage inequality was higher within the male group until 1996, but from 1996 to 1998, wage inequality is larger for the female labor force. Using a decomposition analysis, the article shows that gender specific factors worked for a drop in the gender pay gap until 1996, and that they worked against it in the 1996-1998 period. The analysis also shows that male wage inequality worked against the gender wage gap until 1996, and that it worked for it in the 1996-1998 period.

Keywords: wages, compensation and labor costs, and particular labor markets.

Resumen: Con base en la Encuesta de Empleo Urbano, este artículo muestra que la brecha salarial hombre-mujer disminuyó en México entre 1988 y 1996, y que aumentó entre 1996 y 1998, ya sea que ésta se mida como el diferencial salarial promedio, o que se mida como el diferencial salarial en distintos puntos de las distribuciones. El estudio trata de entender las razones que provocaron estos cambios, dado que en México ha aumentado la desigualdad salarial entre trabajadores calificados y no calificados, y dado que las mujeres están adquiriendo más educación formal y aumentando su participación en la fuerza laboral. El análisis muestra que la desigualdad salarial aumentó entre 1998 y 1996 tanto para el grupo de

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mujeres como para el grupo de hombres, y que disminuyó entre 1996 y 1998. El análisis también señala que la desigualdad salarial era mayor para el grupo de hombres hasta 1996, y que a partir de 1996 ésta es mayor dentro del grupo de mujeres. Usando un análisis de descomposición, el artículo muestra que factores específicos de género promovieron la disminución en la brecha salarial hombre mujer hasta 1996, y que éstos obstaculizaron la disminución a partir de ese año. El estudio también muestra que la desigualdad salarial dentro del grupo de hombres afectó de manera negativa a la disminución en la brecha salarial hombre-mujer, y que trabajó en favor de su disminución a partir de 1996.

Palabras clave: salarios, brecha salarial hombre-mujer, desigualdad salarial.

Introduction

Gender wage differentials seem to be a constant in our modern world. In the traditional economic theory, this differential is the result of women's lower measured and unmeasured labor skills, and/or a result of labor market discrimination. In the last few years, many studies have reported important decreases in the gender wage gap in several countries (Blau and Kahn, 1992, and 1999), and these changes vary among countries. These results seem to have taken place mostly in developed economies, where women have been increasing their average observed qualifications, and have increased their participation in the labor markets. In the US, this result also coincides in time with the commitment of the authorities with policies of equal pay and equal employment opportunities (i.e., Affirmative Action). The comparison of the US with other countries with similar results, however, shows that the American gender wage gap has decreased less than the gap in countries like Switzerland or Germany, where no policies aimed to decrease labor market discrimination have taken place. This paradoxical result has been associated with the increasing wage inequality in the US, and the argument is the following: suppose that in two countries women have lower levels of skills than men, but that the differences in skills (somehow measured) is the same in the two countries. If the return to skills is higher in one country, then that nation will have a larger gender pay gap (Blau and Kahn, 1992).

In Mexico, several studies have reported an increasing wage inequality in the male wage distribution (i.e., Meza, 1999, Cragg and Epelbaum, 1995), associated with an increasing return to education

and other unmeasured skills, at least until 1993. This study shows that the gender wage gap also dropped in Mexico between 1988 and 1998, similarly to other countries. These two results coincide in time with an important economic reform in the country, characterized mainly by trade and foreign investment liberalization, deregulation, privatization and decentralization, and with an increase in both, the female labor force participation and the average education level of women. If gender specific factors in Mexico are working for a drop in the gender wage gap, and if the increasing wage inequality in the male wage distribution is working against the drop in the gender wage gap, I should be able to show that the decrease in the gender pay differential would have been larger, if changing wage inequality was not working to offset the effect of better female labor qualifications.

This paper tries to estimate the contribution of the increasing wage inequality to the change in the male-female pay differential. The article is organized as follows: in the first section, I talk about the data. In the second part, I present different theories that try to explain the gender wage gaps, and analyze the Mexican wage structures by gender in the whole 1988-1998 period, comparing the differences in Mexico to the differences in other countries. The third section presents the changes of the male-female wage structures along the 1988-1998 period, and shows that wage inequality increased more for men than for women, at least until 1996. After this year, female wage inequality seems to be larger than male's. In the fourth part, I present calculations of the wage differentials of different education groups, by gender, and its changes in the 1988-1998 period. I also analyze changes in gender wage gaps within education groups. In the fifth section, I do a decomposition analysis to try to estimate the contribution of the increasing male wage inequality to the change in four different measures of the gender pay gap. The last chapter gives some concluding remarks.

I. The Data

The results in this article are based on the Urban Employment Survey collected by the Instituto Nacional de Estadística, Geografía e Informática (INEGI). Between 1987 and 1991 the survey was compiled in sixteen cities. In 1992 and 1993 the sample increased to include 16 more, and in 1996 the survey covered 43 cities. I use all the cities

included in every year, except in some calculations where I use the original 16. The earnings data for 1987 are also not comparable to the later years. I therefore use data for the 1988-1998 period.

The data contain demographic characteristics, employment and earnings information of randomly selected households in urban areas. The survey was conducted on a quarterly basis for 1987-1998. Similar to the Current Population Survey collected in the US, the information refers to the week preceding the survey. People are asked about their education, job, occupation and industry. The total number of occupation brackets included in the data set between 1987 and 1993 is 18, and this number increased to around 180 in 1994. On the other hand, the number of industry brackets is 24 between 1987 and 1993, and it increases to 76 in 1994. I use 15 occupation categories and 18 industry brackets. The schooling information is included in 12 education brackets in the 1987-1993 period, and it is measured in a more continuous way after 1994.

Throughout the paper, I use 5 education brackets: the people with no primary school are included in the "No Education" bracket. Persons with some or complete primary school are included in the "Primary School" bracket. People with some or complete secondary school are classified as "Secondary School." The people classified as "High-School" have between 10 and 12 years of education, and the people included in the "College" bracket have 13 or more years of schooling.

The wage sample includes men and women with strong labor force attachment. It contains workers aged 16-65, who worked 50 weeks or more the year prior to the survey, and worked more than 30 hours the week before the survey. Those who studied more than 30 hours the week before the survey, the self-employed, and those who worked without pay were deleted from the wage sample. The information about wages comes from a monthly earnings variable included in the data. I report results based on hourly wages. Similar results are obtained if monthly earnings are used instead. To calculate real hourly wages, I divided the monthly earnings by 4.3 times the hours worked per week. Hourly wages were deflated using the National Quarterly Consumer Price Index, based on the first quarter of 1987.

Table 1 presents a summary of the entire sample aged 16-65. The data includes weights to make the sample a representation of the total urban population of the country. These weights are used throughout the paper. This first table shows that the hours worked by the male sub-sample increased constantly between 1988 and 1994, and

Wage Inequality and the Gender Wage Gap in Mexico

Table 1. Summary Statistics

Variables (means)	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Age											
Men	32.6	32.7	32.8	32.9	32.9	32.9	33.0	33.3	33.5	33.8	33.7
Women	33.2	33.3	33.3	33.4	33.3	33.3	33.4	33.7	34.0	34.1	34.1
Hours worked											
Men	34.0	34.6	34.7	35.6	35.9	35.6	36.6	35.1	35.7	37.1	37.3
Women	13.0	13.5	13.5	14.0	14.4	14.5	14.8	15.0	15.1	15.6	15.9
% Married											
Men	57.1	57.1	57.5	58.4	58.6	59.3	60.8	59.7	59.6	60.5	60.9
Women	55.4	55.4	55.4	55.9	56.4	56.9	57.5	57.3	57.2	57.2	58.1
Children											
Women	2.5	2.5	2.4	2.4	2.3	2.3	2.3	2.3	2.2	2.2	2.2
% Full time											
Men	63.2	64.1	64.3	65.2	64.8	63.2	59.5	50.3	50.9	53.1	54.5
Women	24.6	25.3	25.5	26.5	26.7	26.5	25.0	23.3	23.6	24.2	25.2
% Unemployed*											
Men	1.2	0.8	1.0	0.6	0.7	0.7	2.7	5.0	4.4	2.8	2.4
Women	1.8	1.8	1.0	0.9	1.0	1.3	1.4	2.5	2.3	1.7	1.4
Sample size											
Men	189 886	192 545	196 837	196 332	359 111	376 807	97 707	197 463	208 169	212 986	445 851
Women	210 250	212 812	218 314	217 887	400 008	418 642	109 104	221 518	231 913	239 203	495 185

Source: Author's calculations based on the Urban Employment Survey, INEGI.

* People who declared to be looking for a job when they were interviewed, and who didn't work the week before the survey are considered unemployed.

that the financial crisis in 1995 caused a drop in the mean of hours worked by men, although they recovered very fast in the following years. For women, the story is quite different. The hours worked by the female sub-sample increase constantly in the 1988-1998 period, and the financial crisis did not affect this trend. On the other hand, the table shows that the proportion of full-time workers, either male or female, decreased in Mexico during the crisis. This proportion recovered very fast for the female sub-sample, but this did not happen with men. The table also shows that the proportion of people who declared to be looking for a job, and were unemployed when interviewed, increased in 1994 for both men and women, but the increase was larger for the male sub-sample.

II. Male and female wage structures in the 1988-1998 period

The human capital model, attributed to Mincer and Polachek (1974), explains gender differences in earnings by differences in productivity, resulting from the traditional division of labor within the family.¹ According to this theory, women expect shorter and more volatile work lives than men, and this implies less incentives to pursue strong human capital investments, which causes lower economic outcomes. This same model argues that women also choose occupations that demand less human capital investments and that penalize less the work interruptions. This causes then lower labor payments for women. Also, according to this model, gender differences in sectoral distributions should take place, if industries vary in their skill requirements.

The human capital model has been questioned mainly because of its emphasis on labor-supply-side considerations. Aigner and Cain (1977) and Lundberg and Startz (1983) developed another theory, based on labor-demand-side considerations. This theory emphasizes the role of imperfect labor markets, where the problem of asymmetric information causes a drop in the mean wage of women, given that employers do not know if they are hiring a low productivity or a high productivity female worker. Given that it is more likely to hire a low productivity woman than a low productivity man, gender earnings differences arise, reflecting these differences in probabilities more than real differences in productivity. This model explains labor market discrimination against women.

¹ Mincer and Polachek (1974) and Polachek (1981).

Wage Inequality and the Gender Wage Gap in Mexico

Another theory about why gender earning differences exist was developed by Bergmann (1974), who argues that the discriminatory exclusion of women from “male” jobs results in an excess supply of labor in “female” occupations, depressing wages for otherwise equally skilled and productive workers. All these theories, however, share the feature that gender specific factors are considered the main source of the gender wage differential.

In Mexico, the gender wage gap is present in the labor market, and is very likely that not a singular theory can explain it. Table 2 shows the mean, median, and wages at other points in the wage distribution function of full-time male and female workers in Mexico over the 1988-1998 period. The table shows that the average male worker earned a wage of approximately 1.59 pesos per hour (an average of around 32 US cents), while the average female worker earned a wage of approximately 1.30 pesos per hour (an average of around 26 US cents). The average earnings gender ratio (average female wage as a proportion of the average male wage) was 0.82 in the analyzed period. As a comparison, this ratio was 0.65 and 0.61 in the US and in the United Kingdom, respectively, between 1985-1989; it was 0.73 in Australia in 1986; and 0.72 and 0.65 in Italy and Switzerland in 1987, respectively.² It is worth noting that the gender pay gap in Mexico was lower in the 1988-1998 period than in many developed nations, although it may have changed along these years.

When we look at the Mexican earnings gender ratios in other points of the distributions, we see some differences. While this is 0.89 in the median of the distributions, and very close to this number in many other points, this ratio drops to 0.71 in the 95th percentile. Figure 1 shows this result more clearly. This figure shows that in the 1988-1998 period, the female inverse cumulative wage distribution positioned below the male’s inverse cumulative wage distribution in all percentiles, except in the ones at the very top of both distributions.³ Both distributions show a dramatic jump in wages around the 90th percentile, supporting the idea that this discrete break is a fundamental feature of the Mexican wage structure, and not an artifact of measurement error. The distance between the two distributions is larger around the 90th percentile, suggesting that men around this position have characteristics highly valued by the market as compared

² Blau and Kahn (1995).

³ This result holds for every year of the analyzed period.

Table 2. Average Hourly Wages for the 1988-1998 Period, by Gender (constant, 1987 pesos)

	<i>Men</i>	<i>Women</i>	<i>% W/M</i>
Mean	1.59	1.30	0.82
Median	0.85	0.76	0.89
f1	0.16	0.12	0.75
f5	0.34	0.29	0.85
f10	0.42	0.37	0.88
f25	0.57	0.51	0.89
f75	1.52	1.30	0.86
f90	5.00	3.06	0.61
f95	726.93	519.69	0.71

Source: Author's calculations.

to women.⁴ Figure 2 graphs the log hourly gender wage differential for all percentiles, showing that the male-female gender wage gap is almost 6 times larger around the 90th percentile than for the rest of the distribution. At the very bottom of the distributions, the gender wage gap is almost twice the differential of the rest of the distribution (ignoring the difference around the 90th percentile). This is an important result, if we consider that wages in this part of the distribution are very low, and this should give us a threshold of subsistence. For example, if we look at the hourly wages in constant 1987 pesos at the first percentile of both distributions, the average wage for male workers was 16 cents, while the average wage for female workers was 12 cents.⁵

Theoretically, and based on the models cited above, men and women with the same measured skills are not considered perfect substitutes by firms. This is somehow empirically reflected in the Mexican economy

⁴ The mean differences in male and female wages are large enough to say there is a gender wage gap in every point of the wage distributions. Remember wages are expressed in logarithms, and weights are used to make the sample representative of the whole Mexican urban population.

⁵ Here the sample is full time workers, working more than 30 hours per week, either male or female.

Figure 1. Inverse Cumulative Wage Distributions by Sex

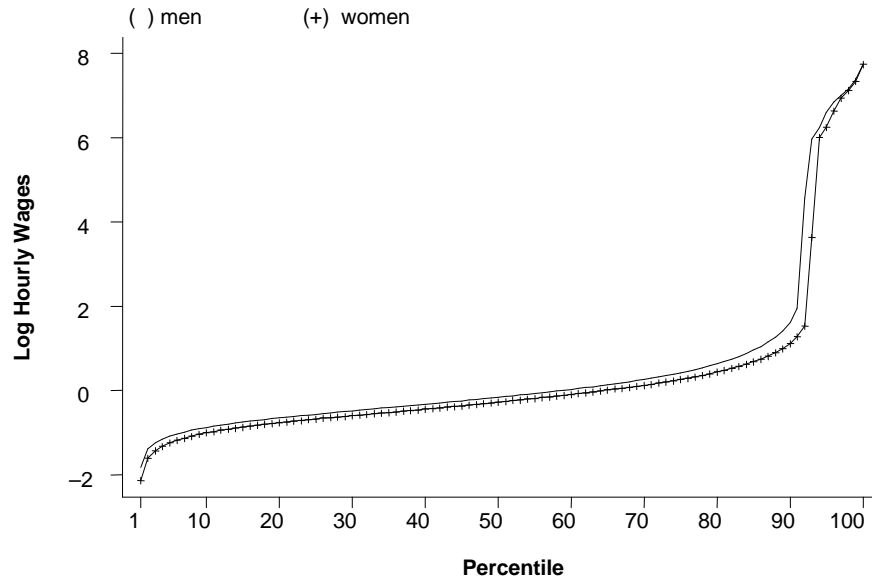
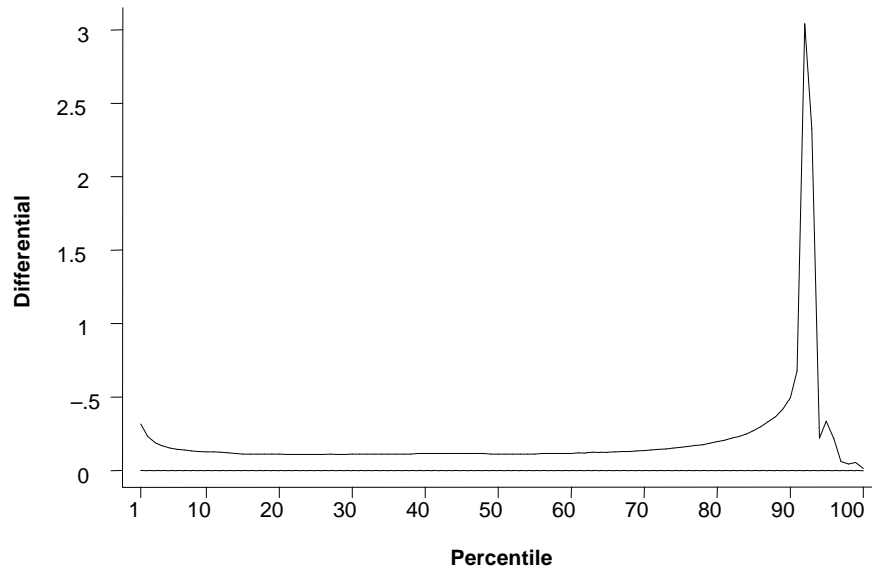


Figure 2. Log Hourly Wage Gender Differential



by the fact that the female's wage distribution is always below the male's distribution. This result can be associated to the fact that, on average, Mexican women accumulate less formal education than men. Table 3 shows that the proportion of the male labor force with more than 13 years of formal education was 23.11 per cent in 1998, while this proportion was 17.03 per cent for women in the same year. Almost 60 per cent of the female labor force had less than 9 years of formal education in 1998, while this proportion was slightly above 50 per cent for men the same year. However, human capital accumulation has increased in Mexico for both men and women in the last few years, changing the education structure noticeably.

Until recently, literature on gender wage differentials had ignored the role of wage inequality on the gender wage gap, mainly because the wage structures had been relatively stable, and no important changes had been reported in any country. A "wage structure" describes the array of prices set for various labor market skills (measured and unmeasured), and rents received for employment in particular sectors of the economy. According to Blau and Kahn (1995), as men and women tend to have different levels of labor market skills and to work in different sectors, there is a potentially important role for wage structure in determining the gender pay gap. Over the last two decades, wage dispersion has increased considerably in some developed countries. The increasing wage inequality has been the subject of analysis of many labor economists (see Juhn, Murphy and Pierce, 1989, Levy and Murnane, 1991, Bound and Johnson, 1992, Leamer, 1996, and Topel, 1997, among others). The explanations of this phenomenon are still under debate. While some scholars (Blackburn and Bloom, 1987, and Fortin and Lemieux, 1997) point changes in labor market institutions, there appears to be growing consensus that labor demand has shifted in favor of skilled workers. In nations where wages are more flexible, this situation is leading to a higher disparity between wages of skilled and unskilled workers. In countries with less flexible wages, this is leading to high unemployment rates of less skilled workers. Skilled-biased technological change brought about by computers, along with increases in import competition, have emerged as the leading causes behind the increase in demand for highly skilled workers.

In Mexico, many authors (Robertson, 2000, Meza, 1999, Alarcón and McKinley, 1995, Cragg and Epelbaum, 1994, Feliciano, 1994, Feenstra and Hanson, 1996, and Hanson and Harrison, 1995, among others) have reported an increase in the wage differential between

Wage Inequality and the Gender Wage Gap in Mexico

Table 3. Proportions of Workers by Education Level and by Sex

<i>Education level</i>	<i>Sex</i>	<i>1988</i>	<i>1990</i>	<i>1992</i>	<i>1994</i>	<i>1996</i>	<i>1998</i>
No education (less than 3 years)	women	7.02%	6.23%	6.12%	5.90%	5.39%	5.09%
	men	4.53%	3.93%	3.75%	3.71%	3.41%	3.26%
3-6 years	women	40.03%	38.64%	35.05%	35.97%	34.55%	32.95%
	men	36.44%	34.84%	31.89%	30.24%	28.57%	27.69%
7-9 years	women	21.63%	21.44%	21.02%	17.88%	18.79%	20.13%
	men	23.46%	24.22%	24.00%	23.01%	24.00%	24.96%
9-12 years	women	22.34%	23.59%	25.37%	25.63%	25.25%	25.35%
	men	18.39%	19.20%	20.09%	20.26%	20.43%	20.98%
more than 13 years	women	8.98%	10.10%	12.44%	14.62%	16.01%	17.03%
	men	17.18%	17.81%	20.27%	22.78%	23.59%	23.11%

Source: Author's calculations based on the Urban Employment Survey, INEGI.

skilled and unskilled workers in the 1980s and until early 1990s. Part of this literature has emphasized the role of the education premium on the increasing wage inequality. As the Mexican economy became more market oriented and as international trade and foreign investment were liberalized, firms seem to have tried to produce with international standards to be internationally competitive. The constant appreciation of the Mexican currency may have encouraged firms to import technology, because it decreased the relative price of imported capital. This seems to have increased the relative demand for skilled workers, a complement of capital. In 1995, Mexico suffered an important drop in GDP growth, as a result of a deep financial crisis. This crisis depressed most real wages substantially, and contributed to a slight decrease in wage inequality. As the economy recovered very quickly from this depression, indicators of wage inequality show that this is rising again.

With respect to wage inequality in Mexico, Table 4 presents some data showing that the male wage distribution had more dispersion than the female in the 1988-1998 period, when we measure dispersion with the standard deviation of wages, the 90-10, the 75-25 and the 90-50 log hourly wage differentials.⁶ If we measure wage inequality as the wage differential between the 50th and the 10th percentiles of the

⁶ The 90-10 log hourly wage differential is calculated as the difference between the mean log hourly wage in the 90th percentile of the distribution and the 10th percentile. This is the same for the rest of the wage inequality measures that involve wage differentials.

Table 4. Log Hourly Wage Inequality Measures by Gender, 1988-1998

	<i>Men</i>	<i>Women</i>
f90-f10	2.487	2.122
f75-f25	0.988	0.938
f90-f50	1.771	1.392
f50-f10	0.716	0.730
Standard Deviation	1.769	1.688

Source: Author's calculations.

wage distribution, the data suggest that the female wage distribution is more dispersed in this part. The next section presents the evolution of the wage distributions for male and female workers in the 1988-1998 period.

III. Changes in the male and female wage structures between 1988 and 1998

In 1988, the average male worker in Mexico earned a real hourly wage of 1.42 pesos, while the average female worker earned an average of 1.08 pesos per hour, a difference of 34 cents. In 1998, the average men's real hourly wage had dropped to 1.31 pesos, while the average women's real hourly wage had increased to 1.15 pesos, reducing the difference to only 16 cents, half the difference of 1988. On the other hand, the median real hourly wage of male workers was 0.82 pesos in 1988, and had dropped to 0.71 pesos in 1998 (a decrease of 11 cents), while the median real hourly wage of female workers had decreased from 0.74 pesos in 1988 to 0.67 pesos in 1998 (a drop of only 7 cents). Although both dropped, the larger decrease in the median real hourly wage of male workers implied a reduction in the median gender wage gap. Table 5 shows real hourly wages by year, measured in different points of the wage distributions, and includes different measures of the earnings gender ratio. In all cases, the gender wage gap shows a decrease between 1988 and 1998, and this is represented in Figure 3, where the gender wage gap is measured as the male-female difference in the average wages at different percentiles of the wage distributions. All gender wage differentials are indexed to make them comparable. The graph makes clear that all

Wage Inequality and the Gender Wage Gap in Mexico

Table 5. Hourly Wages for Men and Women and Proportions (constant pesos, base 1987)

	1988	1990	1992	1994	1996	1998
Mean						
Men	1.42	1.67	1.64	1.88	1.41	1.31
Women	1.08	1.25	1.34	1.58	1.34	1.15
% W/M	76.21	74.71	81.78	83.94	95.21	87.52
Median						
Men	0.82	0.90	0.93	0.98	0.69	0.71
Women	0.74	0.76	0.83	0.88	0.67	0.67
% W/M	90.01	84.27	89.15	89.26	96.37	93.67
f10						
Men	0.48	0.47	0.45	0.47	0.33	0.35
Women	0.35	0.42	0.42	0.43	0.31	0.32
% W/M	73.86	89.48	92.41	92.21	93.76	90.74
f25						
Men	0.60	0.60	0.63	0.65	0.45	0.48
Women	0.53	0.54	0.55	0.57	0.42	0.43
% W/M	89.13	90.11	88.42	88.27	93.50	89.43
f75						
Men	1.32	1.57	1.62	1.80	1.39	1.38
Women	1.13	1.20	1.39	1.60	1.38	1.28
% W/M	85.49	76.23	85.71	88.89	99.03	92.99

Source: Author's calculations based on the Urban Employment Survey, INEGI.

Figure 3. Gender Wage Differential by Year, Indexed



my measures of the gender wage gap had a decreasing tendency until 1996, when they start increasing.

Figure 4 presents, in four panels, a graphical analysis of the changes in real hourly wages in the whole wage distribution of male and female workers in Mexico between 1988 and 1998. This figure shows that, between 1988 and 1998, wages of men fell from the first to around the 75th percentile of the wage distribution, and wages increased from the 75th to the 95th percentile. Male wages in the last 5 percentiles dropped dramatically between these two years. For women the situation is a little different. Wages in the first 7 percentiles increased slightly, and wages from the 7th to the 65th percentile fell, but less than the male's wages in these percentiles. Between the 65th and the 75th percentiles of the female wage distribution, female wages increased while male wages decreased. These changes caused a drop in the gender pay differential in the segment of the wage distribution that lies below the 75th percentile. From the 66th and up to the 97th percentile, female's wages increased, and the increase is larger than the one corresponding to the male wage distribution. In the last 3 percentiles, female and male wages suffer an important drop, but the drop for the female group is smaller. It seems fair then to say that the female labor force was less affected by the economic crisis than the male, given that their real wages did not drop as much, and in the cases where real wages increased, this increase was larger for them than for their male counterparts. This will be clearer with the next graph.

Figure 5 plots together the 1998-1988 change in both the male and the female wage distributions. The first panel shows both wage differentials for the entire wage distributions. The graph makes clear that female wages between the 7th and the 65th percentiles did not drop as much as male wages, and that female wages between the 65th and the 75th percentiles even increased, while male wages decreased. Only male wages between the 85th and the 95th percentiles increased more than the female wages. Panel 2 shows the differentials up to the 75th percentile, and panel 3 shows the differentials up to the 90th percentile. When the changes in the last part of the wage distributions are ignored, it is clearer that the female labor force was less affected than the male by the economic events that took place in Mexico between 1988 and 1998. This result can be due to gender specific factors working for a drop in the gender pay gap, or it could be related to changes in male wage inequality, if we assume that employers con-

Wage Inequality and the Gender Wage Gap in Mexico

Figure 4. Wage Differentials for Men and Women, 1988-1998

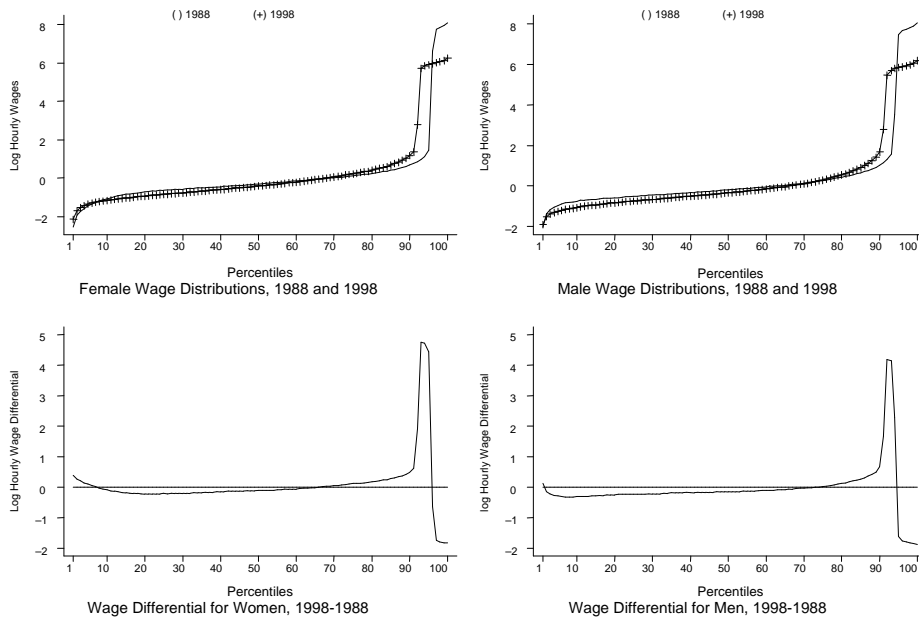


Figure 5. Wage Differentials for Men and Women

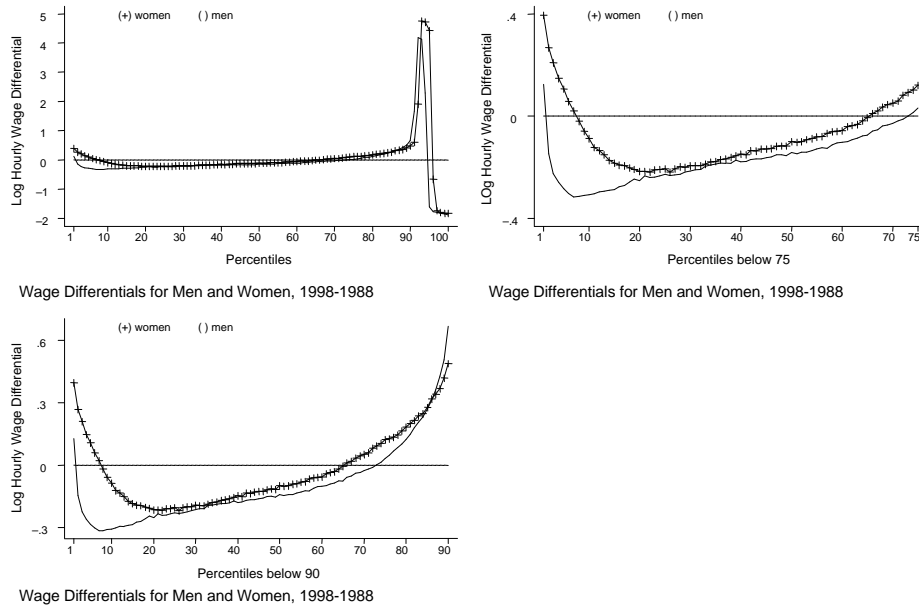


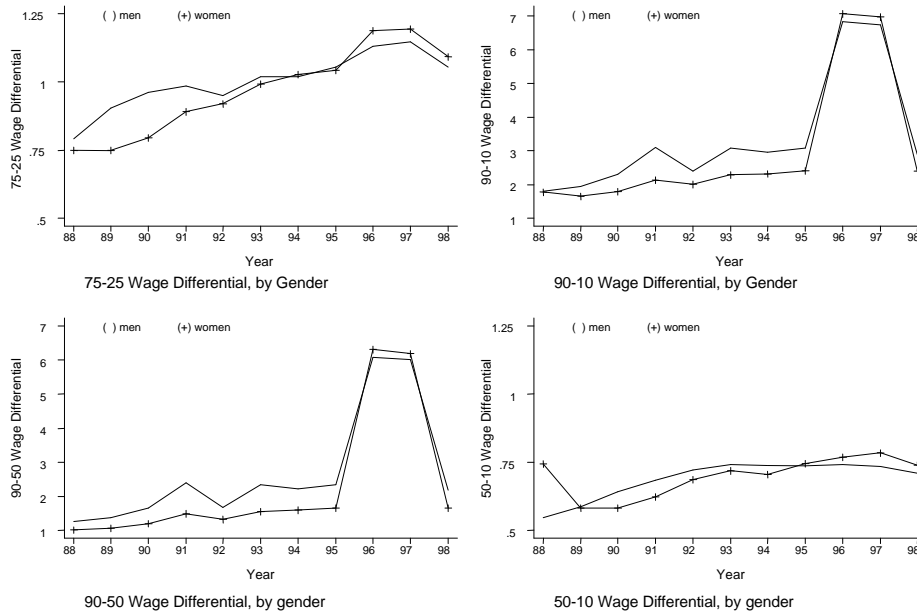
Table 6. Wage Inequality Measures for Men and Women, by year, 1988-1998

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
f75-f25											
Men	0.791	0.905	0.962	0.984	0.950	1.019	1.020	1.053	1.131	1.146	1.053
Women	0.750	0.748	0.794	0.891	0.919	0.993	1.027	1.042	1.188	1.193	1.092
f90-10											
Men	1.809	1.954	2.302	3.088	2.398	3.081	2.953	3.082	6.828	6.749	2.901
Women	1.771	1.654	1.787	2.127	2.013	2.282	2.316	2.411	7.075	6.970	2.404
f90-50											
Men	1.262	1.368	1.659	2.404	1.677	2.339	2.215	2.345	6.086	6.015	2.192
Women	1.026	1.071	1.204	1.504	1.327	1.563	1.610	1.666	6.306	6.186	1.663
f50-10											
Men	0.547	0.586	0.643	0.684	0.722	0.742	0.738	0.737	0.742	0.734	0.709
Women	0.745	0.583	0.583	0.623	0.686	0.719	0.706	0.745	0.769	0.784	0.741
Standard Deviation											
Men	2.008	1.985	2.092	2.213	1.982	2.131	2.088	2.074	2.119	2.091	1.912
Women	1.865	1.791	1.917	2.110	1.882	2.018	2.029	1.995	2.155	2.114	1.876

Source: Author's calculations based on the Urban Employment Survey, INEGI.

Wage Inequality and the Gender Wage Gap in Mexico

Figure 6. Wage Differentials, by Gender, 1988-1998



sider men and women who rank the same in the male wage distribution as perfect substitutes.

With respect to wage inequality, Table 6 shows that both the male and the female 75-25 wage differential increased almost constantly from 1988 to 1997, and that in 1998 they decrease. For the whole period, however, this measure of inequality increases substantially for both men and women. The inequality measures that use the 90th percentile of the distribution change in an erratic way. However, if we compare the value of this differential in 1988 and in 1998 for male and female workers, we observe an increase in both, but the increase is larger for the male wage distribution. This is related to the fact that wages of male workers around this percentile increased more than the wages of female workers in the same position in the wage distribution.

The 50-10 male wage differential increases from 1988 to 1993, and from this year it remains almost constant until 1998, when it decreases. The 50-10 female wage differential also increases from 1988 to 1993, then decreases, but it starts increasing again in 1996 and only decreases in 1998. For the whole period, the 50-10 male wage differential increases, while the female's decreases a little bit.

Figure 6 makes clear how wage inequality changed for men and female during the period of analysis. This figure graphs the 75-25, the 90-10, the 90-50 and the 50-10 wage differentials for men and women annually, from 1988 to 1998. In all cases, wage inequality is larger for the female labor force after 1996, and in the 75-25 and the 50-10 cases, it is larger since 1995. This is a result of the larger increase in female wages in the top part of the wage distribution that is not offset by the lower decrease in wages in the bottom and the middle part of the wage distributions. The results shown in this section of the article might be related to gender specific factors. In some cases, these gender specific factors may have allowed female wages not to fall as much as male's during the period of analysis, while in other cases, may have allowed female wages to increase more than male's. Of course, the increasing male wage inequality should have had an offsetting effect on this improvement if, as I mentioned above, we assume that firms consider men and women who rank the same in the male wage distribution as perfect substitutes.

The drop in the gender wage gap until 1996, and the increase between 1996 and 1998, in all cases, is a puzzle that can not be solved with the analysis carried on in the paper until now. It is clear that women improved their labor force skills along the 1988-1998 period, but it is also true that wage inequality has changed in the same period. I will now proceed to show changes in wage inequality defined as wage differentials between education groups, and changes in gender wage gap measured within the 5 different education groups.

IV. Changes in Education Wage Differentials and Gender Wage Gap within Education Groups

In 1988, the average male worker with college education earned 4.03 constant pesos per hour (base 1987), while the average male worker with primary education earned 1.03 pesos per hour. This meant a difference of 3 pesos. By 1998, the average male worker with college education earned 4.22 constant pesos per hour, while the average male worker with primary education earned 0.85 constant pesos per hour. This meant a difference of 3.36 pesos, and an increase of 36 cents in the differential. On the other hand, the average female worker with college education, in 1988, earned 2.69 constant pesos per hour, while the average female worker with primary education earned 0.67 con-

Wage Inequality and the Gender Wage Gap in Mexico

Table 7. Mean Hourly Wages, by Year, Gender and Education Group, 1988-1998

	1988	1990	1992	1994	1996	1998	Change 1988- 1998
No Education							
Men	0.777	1.063	1.052	1.123	0.632	0.654	-0.172
Women	0.567	0.786	0.700	0.736	0.568	0.469	-0.190
Primary Education							
Men	1.028	1.255	1.188	1.346	0.851	0.852	-0.188
Women	0.672	0.839	0.854	1.021	0.690	0.638	-0.051
Secondary Education							
Men	1.125	1.288	1.209	1.481	1.069	0.987	-0.131
Women	0.915	1.028	1.023	1.465	1.235	1.022	0.111
High-School							
Men	1.650	1.824	1.790	1.709	1.464	1.358	-0.195
Women	1.513	1.539	1.682	1.391	1.454	1.292	-0.158
College							
Men	4.031	4.415	4.754	4.816	4.840	4.216	0.045
Women	2.686	3.010	3.281	3.850	4.035	3.254	0.192
College-Primary Diff.							
Men	3.003	3.160	3.566	3.470	3.989	3.364	0.233
Women	2.014	2.171	2.427	2.828	3.345	2.616	0.243

Source: Author's calculations.

stant pesos per hour. This meant a difference of 2 pesos. By 1998, the average female worker with college education earned 3.25 pesos per hour, while the average female worker with primary education earned 0.64 pesos per hour. This meant a difference of 2.61 pesos, an increase of 61 cents in the difference. This implies that the education premium, measured as the average college-primary wage differential, increased for both men and women in the 1988-1998 period, but that this increase was larger for women than for men.

As the changes in the mean wages are affected by the changes in the top part of the wage distributions, I will now analyze the college-primary wage differentials using median wages. In 1988, the median male worker with college education earned 1.71 constant pesos per hour, while the median male worker with primary education earned

Table 8. Median Hourly Wages, by Year, Gender and Education Group, 1988-1998

	1988	1990	1992	1994	1996	1998	Change 1988- 1998
No Education							
Men	0.63	0.69	0.68	0.72	0.45	0.49	-0.236
Women	0.46	0.54	0.54	0.58	0.40	0.39	-0.161
Primary Education							
Men	0.72	0.77	0.81	0.82	0.55	0.57	-0.242
Women	0.58	0.60	0.63	0.66	0.46	0.47	-0.204
Secondary Education							
Men	0.77	0.80	0.82	0.92	0.62	0.64	-0.176
Women	0.70	0.68	0.72	0.87	0.66	0.67	-0.056
High-School							
Men	0.96	0.99	1.04	0.96	0.79	0.82	-0.161
Women	0.93	0.95	1.03	0.85	0.83	0.79	-0.163
College							
Men	1.71	1.95	2.23	2.41	1.96	2.00	0.157
Women	1.38	1.48	1.74	1.98	1.68	1.60	0.145
College-Primary Diff.							
Men	0.986	1.184	1.426	1.586	1.415	1.432	0.399
Women	0.807	0.880	1.112	1.321	1.213	1.129	0.349

Source: Author's calculations.

0.72 pesos per hour. This meant a difference of 99 cents. By 1998, the median male worker with college education earned 2.00 constant pesos per hour, while the median male worker with primary education earned 0.57 constant pesos per hour. This meant a difference of 1.43 pesos, and an increase of the differential of 44 cents. On the other hand, the median female worker with college education, in 1988, earned 1.38 constant pesos per hour, while the median female worker with primary education earned 0.58 constant pesos per hour. This meant a difference of 80 cents. By 1998, the median female worker with college education earned 1.60 pesos per hour, while the median female worker with primary education earned 0.47 constant pesos per hour. This meant a difference of 1.13 pesos, and an increase of 32 cents in the differential. This means that the education premium, measured

Wage Inequality and the Gender Wage Gap in Mexico

Table 9. Mean and Median Gender Wage Gap, by Year and Education Group, 1988-1998*

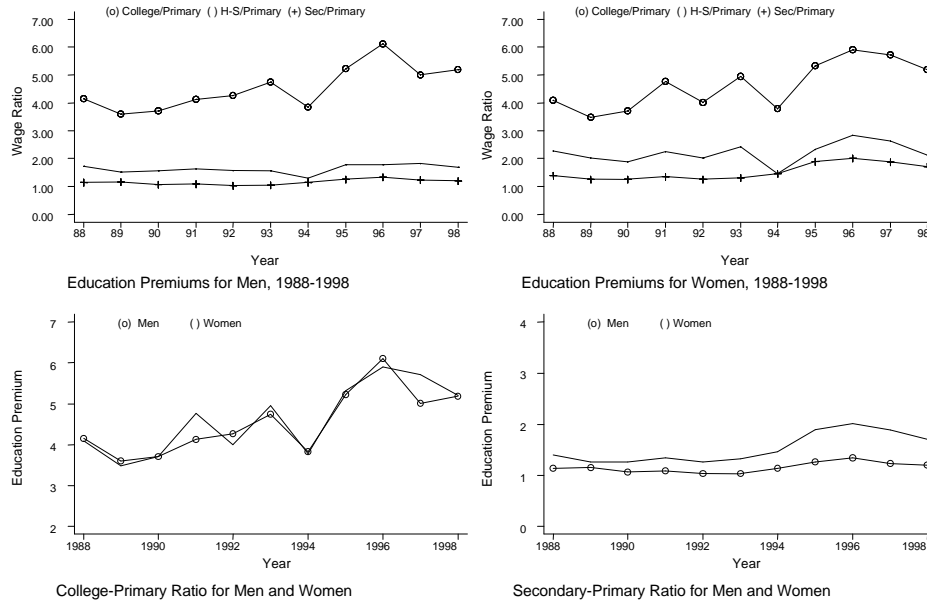
	1988	1990	1992	1994	1996	1998	Change 1988- 1998
No Education							
Mean	0.315	0.302	0.408	0.422	0.106	0.333	0.018
Median	0.307	0.245	0.245	0.230	0.113	0.232	-0.075
Primary Education							
Mean	0.426	0.402	0.330	0.276	0.210	0.289	-0.137
Median	0.228	0.250	0.257	0.217	0.168	0.190	-0.038
Secondary Education							
Mean	0.207	0.225	0.167	0.011	-0.144	-0.035	-0.242
Median	0.086	0.160	0.133	0.051	-0.069	-0.034	-0.120
High-School							
Mean	0.087	0.170	0.062	0.206	0.007	0.050	-0.037
Median	0.033	0.047	0.012	0.119	-0.052	0.035	0.002
College							
Mean	0.406	0.383	0.371	0.224	0.182	0.259	-0.147
Median	0.212	0.278	0.252	0.194	0.158	0.224	0.012

Source: Author's calculations.

* The gender wage gap is measured as the log hourly wage differential between men and women.

as the median college-primary wage differential, also increased for both men and women, but that measured in medians, the education premium increased more for men than for women. Tables 7 and 8 present hourly wages by education group, for men and women, in the 1988-1998 period. Table 7 shows that average male wages of all education groups, except college, decreased in this period. In the female group, the table shows an increase in the average wage of workers with secondary and college education, and a decrease in the average wages of all other education groups. With respect to median wages, Table 8 shows that between 1988 and 1998, median wages of all education groups, except college, decreased for both male and female workers. Table 9 presents mean and median gender wage gaps by education groups, measured as the log hourly wage differential between men and women. When we break the sample by education categories, we observe that the gender wage gap does not decrease within

Figure 7. Education Premiums by Gender



all groups. The exceptions are the mean differential for the “No Education” group, the median differential of the High-School group (which remains practically constant), and the median wage differential within the college education group. The increase in the median gender wage gap within the college educated group, seems to be related to the higher male education premium.

The education premiums by gender are represented in Figure 7 as wage ratios. The pattern of the average college-primary log hourly wage ratios is very similar for men and women, and only in 1991 and 1997 this ratio is larger for male than for female workers. Something remarkable in this graph is represented in the fourth panel, where we see that the secondary-primary wage ratio is larger for women than for men. This means that primary school and secondary school male workers are very good substitutes in the Mexican labor market, while secondary school female workers receive a premium relative to their primary school female counterparts.

College-education premiums by gender and year, calculated directly and by regression, are included in Table 10. The table shows that the education premium increased in Mexico between 1988 and 1998, either if this is measured as a simple college-primary log hourly

Wage Inequality and the Gender Wage Gap in Mexico

Table 10. Mean College Education Premium, by Gender and Year

	<i>College-primary Log-hourly wage differential</i>		<i>College-primary wage diff. with fixed age distribution*</i>	
	<i>Men</i>	<i>Women</i>	<i>Men</i>	<i>Women</i>
1988	1.37	1.39	1.41	1.40
1989	1.22	1.22	1.25	1.26
1990	1.26	1.28	1.31	1.30
1991	1.37	1.52	1.40	1.53
1992	1.39	1.35	1.42	1.38
1993	1.50	1.56	1.54	1.59
1994	1.28	1.33	0.92	0.90
1995	1.62	1.65	1.52	1.52
1996	1.74	1.77	1.63	1.63
1997	1.59	1.73	1.46	1.58
1998	1.60	1.63	1.48	1.52

Source: Author's calculations.

* Results from a regression of the log hourly wage against 4 education brackets, age1, age2, age3 and age4.

wage differential, or if it is measured with a fixed age distribution. This is true for both men and women. The male education premium seems to have increased constantly from 1989 to 1993, then dropped, and then increased again. In 1997, male wage inequality measured as the college-primary wage differential dropped, following the trend of other measures of wage inequality. This coincides in time with the trend in my different measures of the gender wage gap, suggesting a relationship between these two variables.

Next, I present a decomposition analysis to try to understand the relationship between the changes in the gender wage gap in Mexico, and the increasing wage inequality in the male wage distribution.

V. A decomposition analysis

To try to separate the effects of gender specific factors and changes in the level of male wage inequality on the gender wage differential, I use a framework first presented by Juhn, Murphy and Pierce (1991) to analyze race wage differentials in the US.⁷ The basic assumption

⁷ The interpretation of the components was taken from Blau and Kahn (1994).

here is that employers view men and women who rank the same in the male wage distribution as comparable. Thus, the same set of factors (i.e., the overall wage structure) will determine the relative rewards of women and their comparable male counterparts. Following their notation, assume we have a male wage equation for worker i in year t .

$$Y_{it} = X_{it}B_t + u_{it} \quad (1)$$

where Y_{it} is the log hourly wage; X_{it} is a set of explanatory variables that include education and age;⁸ B_t is a vector of coefficients; and u_{it} is the component of wages explained by unobservables. The residual u_{it} can be thought of consisting of two parts: an individual's percentile in the residual distribution, q_{it} , and the wage residual corresponding to that percentile in year t , $F^{-1}_t(q_{it}/X_{it})$.

$$u_{it} = F^{-1}_t(\theta_{it}/X_{it}) \quad (2)$$

where $F^{-1}_t(q_{it}/X_{it})$ is the inverse cumulative residual distribution for workers with characteristics X in year t . Here I am assuming that the error term is i.i.d. among individuals. This may not be true since the ENEU is a rotative panel, but the results can shed a light on the role of the changing male wage inequality on the changes in the gender wage gap.

Then, the male-female log wage gap for year t is:

$$D_t = Y_{mt} - Y_{ft} = \Delta X_t B_t + \Delta F^{-1}_t(\theta_{it}/X_{it}) \sigma_t \quad (3)$$

Where the m and f subscripts refer to male and female averages respectively: a Δ prefix represents the average male-female difference for the variable immediately following, and σ_t is the residual standard deviation of male wages for that year.

Equation (3) says that the gender pay gap can be decomposed into gender differences in measured qualifications (ΔX_t), and gender differences in the wage residuals [$\Delta F^{-1}_t(\theta_{it}/X_{it})$].

The difference in the gender pay gap between two years (0 and 1) can then be decomposed, using equation (3), as follows:

⁸ Here age is used as a proxy for work experience, because the Survey does not include information on this variable.

$$\begin{aligned}
 D_1 - D_0 = & (\Delta X_1 - \Delta X_0) B_1 + \Delta X_0 (B_1 - B_0) + \\
 & + (\Delta F^{-1}_1(\theta_{it}/X_{it}) - \Delta F^{-1}_0(\theta_{it}/X_{it})) \sigma_1 + \\
 & + \Delta F^{-1}_0(\theta_{it}/X_{it}) (\sigma_1 - \sigma_0)
 \end{aligned} \tag{4}$$

The first term in (4), the “observed X’s effect”, reflects the contribution of changing male-female differences in observed labor market qualifications (observed quantities) to trends in the gender wage gap. For example, if the level of relative female’s education increases, *ceteris paribus*, we should observe a drop in the gender wage gap. The second term, the “observed prices effect”, reflects the impact of changing prices of observed labor market qualifications for males on the gender pay gap. If, for example, the return to college education increases for male workers, this should weight the female education deficit more heavily and, therefore, raise the gender pay gap, everything else constant.

The third term, called “the gap effect”, measures the effect of changing differences in the relative wage positions of men and women, after controlling for measured characteristics. That is, gives the contribution to the change in the gender wage gap between two years that would result if the level of residual male wage inequality had remained the same, and only the percentile rankings of the female wage residuals had change. The fourth term, the “unobserved characteristics effect”, reflects the impact of differences in residual inequality between the two years. It measures the contribution to the change in the gender wage gap that would result if the percentile rankings of the female wage residuals had remained the same, and only the extent of male residual wage inequality had changed. *Ceteris paribus*, the larger the penalties of being below average in the residual wage distribution, the larger the gender wage gap would be.

According to equation (4), the impact of gender specific factors on the gender wage gap can be measured by the summation of the first and third terms, while the effect of the changing male wage structure on the gender pay gap can be obtained by the sum of the second and the fourth terms. The sum of the third and fourth terms represents the change in the “unexplained differential”, which is commonly taken as an estimate of discrimination.

The results of this decomposition analysis are shown in Table 11. The data used in this estimation comes from the same sample analyzed in the previous chapters of this paper. Table 11 shows that the factor that contributes in a constant way to the drop in the gender pay

Table 11. Log Hourly Gender Wage Differentials and its Components

	Wage Differential	Actual Change	Change Due to Observable Prices	Change Due to Observable Quantities	Change Due to Unobservable Prices	Change Due to Wage Inequality
10-10 Gender Wage Diff.						
1988	0.303	—	—	—	—	—
1989	0.148	-0.155	-0.037	0.016	0.030	-0.164
1990	0.111	-0.037	0.015	-0.011	-0.003	-0.038
1991	0.082	-0.029	-0.010	-0.031	-0.026	0.037
1992	0.079	-0.003	-0.025	-0.026	-0.006	0.054
1993	0.123	0.044	0.017	0.028	-0.004	0.003
1994	0.081	-0.042	-0.169	-0.093	-0.074	0.294
1995	0.081	0.000	0.069	-0.016	-0.060	0.007
1996	0.064	-0.017	-0.148	-0.099	-0.017	0.247
1997	0.094	0.030	0.081	0.035	0.020	-0.106
1998	0.097	0.003	0.046	0.054	0.044	-0.141
1988-1998	0.128	-0.206	-0.160	-0.143	-0.095	0.191
25-25 Gender Wage Diff.						
1988	0.115	—	—	—	—	—
1989	0.112	-0.003	-0.011	0.015	0.032	-0.038
1990	0.104	-0.008	0.004	-0.010	-0.001	-0.001
1991	0.123	0.019	-0.018	-0.031	-0.024	0.092
1992	0.123	0.000	-0.028	-0.025	-0.013	0.066
1993	0.131	0.008	0.029	0.029	-0.005	-0.045
1994	0.125	-0.006	-0.148	-0.089	-0.077	0.308
1995	0.084	-0.041	0.037	-0.022	-0.065	0.009
1996	0.067	-0.017	-0.131	-0.101	-0.009	0.224
1997	0.084	0.017	0.067	0.036	0.023	-0.109
1998	0.112	0.028	0.045	0.053	0.027	-0.096
1988-1998	0.109	-0.003	-0.154	-0.146	-0.113	0.410

Wage Inequality and the Gender Wage Gap in Mexico

50-50 Gender Wage Diff.									
1988	0.105	0.046	0.029	0.015	0.028	-0.026			
1989	0.151	0.020	-0.024	-0.008	-0.004	-0.056			
1990	0.171	0.028	-0.036	-0.031	-0.017	0.056			
1991	0.143	-0.028	-0.022	-0.025	-0.013	0.032			
1992	0.115	0.031	0.033	0.028	0.008	-0.038			
1993	0.146	-0.032	-0.072	-0.082	-0.096	0.218			
1994	0.114	-0.042	-0.045	-0.028	-0.042	0.072			
1995	0.072	-0.035	-0.093	-0.099	-0.007	0.164			
1996	0.037	0.007	0.034	0.035	0.012	-0.074			
1997	0.044	0.021	0.046	0.055	0.010	-0.090			
1998	0.065	-0.040	-0.148	-0.140	-0.121	0.369			
1988-1998	0.114								
75-75 Gender Wage Diff.									
1988	0.156	0.113	0.033	0.009	0.038	0.034			
1989	0.269	0.002	-0.023	-0.006	-0.010	0.040			
1990	0.271	-0.056	-0.048	-0.032	0.000	0.024			
1991	0.215	-0.061	-0.027	-0.024	-0.010	0.000			
1992	0.154	0.002	0.030	0.027	0.015	-0.069			
1993	0.156	-0.039	0.002	-0.077	-0.095	0.131			
1994	0.117	-0.021	-0.109	-0.030	-0.030	0.148			
1995	0.096	-0.086	-0.603	-0.097	0.003	0.611			
1996	0.010	0.027	-0.007	0.034	0.003	-0.004			
1997	0.037	0.036	0.056	0.052	0.002	-0.073			
1998	0.073	-0.083	-0.154	-0.144	-0.008	0.223			
1988-1998	0.160								

Source: Author's calculations.

differential in the 1988-1996 period is mainly the return to unobservable characteristics of women. This result suggests that during the 1988-1996 period, being a woman was rewarded by higher wages, independently of the education and work experience. In this period, the increase in the skill premiums for women also contributed to the drop in the different measures of the gender wage gap. However, the positive effect of the increase in the skill premiums (reflected in the table by a negative sign, which means that this was a factor that caused a drop in the pay differential) is not observed in all the years. The increasing male wage inequality offset the higher return to unobserved and observed characteristics of women, causing the drop in the gender differential to be lower than it would have been in the absence of this effect. This story is practically the same in all the gender wage gap measures, but for the 50-50 and the 75-75 gender wage differentials, the analysis shows slight differences. The evidence suggests that the contributions of the return to observed characteristics (education and age) to the decrease in the gender wage gap are slightly more important in these 2 cases than the contribution of the unobserved characteristics. Besides, the return to observed characteristics contributes to the drop in the gender gap more years than in the other two cases. This may be the result of an increasing relative demand for women in the 1988-1996 period. What could be the reasons behind the increasing relative demand for women? It could be the technological change that entered the Mexican economy through international trade and foreign direct investment, because it has been shown in several studies that women are considered better workers than men in more capital intensive production processes (Meza and Zúñiga, 2000). The appreciation of the Mexican currency in this period may also have facilitated the use of more capital intensive technologies.

After 1996, the story changes completely. Relative demand for highly skilled women seem to have decreased in Mexico in this period. This is reflected by the fact that measured and unmeasured characteristics of women contribute to an increase in the gender wage gap, and the contribution of the observed characteristics are always larger than the contribution of the unobserved characteristics. In this period, male wage inequality works to decrease the gender wage gap. This result may be related to an increase in the relative demand for low skilled male workers. As this estimation assumes that men and women are considered perfect substitutes by firms, and given that wom-

en are less skilled than men in average, the decrease in male wage inequality in this period should be a factor contributing to a drop in the gender wage gap. This effect, however, is more than offset by the decrease in the return to observable and unobservable characteristics of women. It seems that the Mexican economic crisis changed the way the economy was working. Mainly, the foreign exchange rate policy was modified, and the exchange rate became flexible. This could have restrained producers from using imported capital intensive technology, decreasing the demand for female workers.

VI. Concluding remarks

Gender wage differentials have been usually explained in the economics literature by gender specific factors, such as differences in qualifications and labor market discrimination. In the last two decades, the gender pay gaps have decreased in several developed countries, where women are achieving higher levels of formal education and work experience, and where governments have put in place policies against labor market discrimination. The decreasing gender wage gaps, however, reflect that something more than better qualifications of women and anti-discrimination policies is going on. When comparing the change in gender wage gaps between several other developed nations and the US, the data suggest that the increasing wage inequality has a negative effect on male-female pay differentials, and that this somehow offsets the better credentials of the female labor force.

The Mexican economy has experienced an increasing wage inequality along with a decreasing gender wage gap, at least until 1996. Women in Mexico have increased their participation in the labor force and have risen their average education level. While in 1991, 35 per cent of the urban labor force were women, by 1997 this number had increased to 40.1 per cent. The group with the larger participation is the single highly educated women, although the participation of married women with no children or 1 to 2 kids has been increasing steadily since 1991.⁹ These facts have had a decreasing effect on the gender wage gap. This paper tries to estimate the effect of these changes in the gender pay

⁹ This information comes from the Mexican Ministry of Labor (Secretaría del Trabajo y Previsión Social).

differential, and to see if the changes in male wage inequality have somehow offset the better qualifications of the Mexican female labor force in the 1988-1998 period.

The paper shows that between 1988 and 1998, most real wages dropped in Mexico, except for those corresponding to workers between the 75th and the 90th percentiles of the distributions. These drops are more dramatic within the male workers group than within the females. When changes in wages are analyzed within education groups, the paper shows decreases in most average real wages, except for the highly educated group, either male or female. A remarkable result is that wages of secondary educated female workers also increase, somehow explaining the lower drop in female than in male wages in the middle part of the wage distributions.

A key result of the paper is that the gender pay gap started increasing in Mexico in 1996, just after the economic crisis. This seems to coincide with a drop in the relative demand for highly skilled women, and with a slight decrease in male wage inequality. The decomposition analysis shows that, until 1996, the factor that contributes in a constant way to the drop in the gender pay differential in the 1988-1996 period is mainly the return to unobservable characteristics of women. After 1996, both the observable and the unobservable characteristics of women contribute to the increase in the gender gap, suggesting that the economic conditions are punishing the female labor force in general. In this last period, male wage inequality work for a drop in the gender wage gap, suggesting an increase in the relative demand for low skilled workers, either male or female.

In my opinion, the Mexican economic crisis seems to have changed the way the economy was working. Mainly, as the foreign exchange rate policy changed from fixed to flexible, this should have restrained producers from using imported capital intensive technology, decreasing the demand for female workers. The maquiladoras, on the other hand, gained importance after the crisis, but they hire mainly low skilled female labor force. The increasing number of maquiladoras in Mexico, and the resulting increase in their employment, might be related to the increasing wages of primary and secondary educated women. This, however, may not have contributed to a decrease in the gender pay gap, as the female labor force in the maquiladoras is mainly low skilled.

Based on the results, it seems to be true that if the male wage inequality decreases, the gender wage gap will increase. Therefore, if there is a trade off between equality within gender groups and equal-

ity between gender groups, as this paper shows, the policies aimed to equal treatment in the labor market are more advisable during those periods of decreasing inequality within groups. Although, it is important to notice how sensible these results may be to changes in macroeconomic conditions, like the exchange rate policy.

References

- Alarcón G., Diana and Terry McKinley (1995), "Widening Wage Dispersion Under Structural Adjustment in Mexico", *Focal/CIS Discussion Papers, 1995-4*, Centre for International Studies, University of Toronto, Toronto, Canada.
- Albelda, Randy (1999), "Women and Poverty: Beyond Earnings and Welfare", *The Quarterly Review of Economics and Finance*, no. 39, pp. 723-742.
- Blackburn, McKinley and David E. Bloom (1987), "Earnings and Income Inequality in the US", *Population and Development Review*, vol. 13, no. 4, pp. 575-609.
- Blau, Francine and Lawrence M. Kahn (1992), "The Gender Earnings Gap: Learning from International Comparisons", *American Economics Association Papers and Proceedings*, vol. 84, no. 2, May, pp. 533-538.
- (1994), "Rising Wage Inequality and the US Gender Gap", *American Economics Association Papers and Proceedings*, May, pp. 23-28.
- (1997), "Swimming Upstream: Trends in the Gender Wage Differential in the 1980s", *Journal of Labor Economics*, vol. 15, no. 1, January, pp. 42-73.
- (1999), "Analyzing the Gender Pay Gap", *The Quarterly Review of Economics and Finance*, no. 39, pp. 625-646.
- (1996), "Wage Structure and Gender Earnings Differentials: An International Comparison", *Economica*, no. 63, The London School of Economics and Political Science, May, pp. S29-S62.
- Bound, John and George Johnson (1992), "Changes in the Structure of Wages in the 1980's: An Evaluation of Alternative Explanations", *The American Economic Review*, vol. 82, no. 3, June, pp. 371-392.
- Cragg, Michael I. and Mario Epelbaum (1994), "The Premium for Skills in LCD's: Evidence from Mexico", mimeo, School of International and Public Affairs, Columbia University, November.

- Cragg, Michael I. and Mario Epelbaum (1995), "Why has Wage Dispersion Grown in Mexico? Is it the Incidence of Reforms or the Growing Demand for Skills?", mimeo, Columbia University and ITAM.
- Feenstra, Robert and Gordon Hanson (1995a), "Foreign Investment, Outsourcing and Relative Wages", *NBER Working Paper No. 5121*, May.
- (1995b) "Foreign Direct Investment and Relative Wages: Evidence from Mexico's Maquiladoras", *NBER Working Paper No. 5122*, May.
- (1996), "Globalization, Outsourcing, and Wage Inequality", *NBER Working Paper No. 5424*, January.
- Feliciano, Zadia M. (1994), "Workers and Trade Liberalization: The Impact of Trade Reforms in Mexico on Wages and Employment", mimeo, Harvard University, January.
- Fortin, Nicole M. and Thomas Lemieux (1997), "Institutional Changes and Rising Wage Inequality: Is There a Linkage?", *The Journal of Economic Perspectives*, vol. 11, no. 2, Spring, pp. 75-96.
- Griliches, ZVI (1977), "Estimating the Returns to Schooling: Some Econometric Problems", *Econometrica*, vol. 45, no. 1, January, pp. 1-22.
- Hanson, Gordon and Ann Harrison (1995), "Trade, Technology, and Wage Inequality", *NBER Working Paper No. 5110*, May.
- Johnson, George E. (1997), "Changes in Earning Inequality: The Role of Demand Shifts", *The Journal of Economic Perspectives*, vol. 11, no. 2, Spring, pp. 41-54.
- Juhn, Chinhui, Kevin M. Murphy and Brooks Pierce (1993), "Wage Inequality and the Rise in Returns to Skill", *Journal of Political Economy*, vol. 101, no. 3, pp. 410-442.
- (1991), "Accounting for the Slowdown in Black-White Wage Convergence", in M. Koster (ed.), *Workers and Their Wages*, Washington, DC, American Enterprise Institute Press, pp. 107-43.
- Katz, Lawrence and Kevin M. Murphy (1992), "Changes in Relative Wages, 1963-1987: Supply and Demand Factors", *The Quarterly Journal of Economics*, February, pp. 35-78.
- Leamer, Edward (1996), "Wage Inequality from International Competition and Technological Change: Theory and Country Experience", *AEA Papers and Proceedings*, vol. 86, no.2, pp. 309-314.
- Levy, Frank and Richard J. Murnane (1992), "U.S. Earnings Levels and Earnings Inequality: A Review of Recent Trends and Proposed Explanations", *Journal of Economic Literature*, vol. XXX, September, pp. 1333-1381.

- Meza, Liliana (1999), "Cambios en la estructura salarial de México en el periodo 1988-1993 y el aumento en el rendimiento de la educación superior", *El Trimestre Económico*, abril-junio.
- Meza, Liliana (1997), "The Mexican Wage Structure", Ph.D. Dissertation, University of Houston.
- Meza, Liliana and Laura Zúñiga (2000), "El rendimiento del uso de computadoras en el mercado laboral mexicano", *Conocer*, México.
- O'Neill, June (1993), "Why the Gender Wage Gap in Wages Narrowed in the 1980s", *Journal of Labor Economics*, vol. 11, no. 1, pp. 205-228.
- Preston, Jo Anne (1999), "Occupational Gender Segregation Trends and Explanations", *The Quarterly Review of Economics and Finance*, no. 39, pp. 611-624.
- Robertson, Raymond (2000), "Can the Stolper-Samuelson Theorem Explain Relative Wage Movements? Evidence from Mexico", mimeo, Macalester College.
- Secretaría del Trabajo y Previsión Social (1998), *Mujer, trabajo y sector laboral*, Gobierno Federal, México.
- Székely, Miguel and Marianne Hilgert (1999), "The 1990s in Latin America: Another Decade of Persistent Inequality", mimeo, Inter-American Development Bank.
- Topel, Robert H. (1997), "Factor Proportions and Relative Wages: The Supply-Side Determinants of Wage Inequality", *The Journal of Economic Perspectives*, vol. 11, no. 2, Spring, pp. 55-74.
- Willis, Robert J. (1986), "Wage Determinants: A Survey and Reinterpretation of Human Capital Earnings Functions", in O. Ashenfelter and R. Layard (eds.), *Handbook of Labor Economics*, pp. 525-601.