

WIDENING GENDER WAGE GAP IN ECONOMIC SLOWDOWN: THE PHILIPPINE CASE

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ABSTRACT. *The paper uses the Philippine Labor Force Survey for the years 2003 to 2005 to examine the sensitivity of the gender wage gap during periods of economic expansion and slowdown. The findings reveal that in 2003, male workers received a wage premium by 8 percentage points for managers and 13 percentage points for rank and file employees in the secondary and tertiary industries. There is strong evidence that gender differences in wages is attributable to discrimination even as the endowment effect is mostly negative indicating that women workers bring in better human capital attributes but remained to be less compensated. The results show that both the gender wage gap and the discrimination component of the gap narrow down with accelerated economic growth and widen with a slackening of growth. The pay gap is more responsive to an economic contraction than to an expanded growth and for the secondary sector than for the tertiary sector.*

Keywords: Philippines, gender wage gap, gender segregation, gender discrimination, manufacturing, construction and industry studies

JEL code: J7, J14, J16, J31, L6, L7, L8

1. INTRODUCTION

There is increasing global cognizance of the important role that women play in economic development and poverty reduction. In the Philippines, the top position in the country was held by a woman twice in the country's history and reflective of its high regard for women. A year following the election of the first Filipino woman president, the revised Philippine constitution placed a clear emphasis on gender equality and the Philippine Labor Code was later amended to explicitly address gender discrimination in employment and wages. In the 2009 Philippine Magna Carta of Women, the state affirms its role in the enforcement of women's right to equal participation in the "political, economic, social, cultural, civil or any other field". Bolstered by strong policy reforms for gender equality, Filipino women have increased their levels of education and economic participation in both the domestic and international labor markets over time. In the 2011 Global Gender Gap ranking, the Philippines placed 8th among 135 countries in terms of promoting gender equality.

Amidst the major strides in policies and programs that promote gender equality in the country and the attendant increases in women's education and participation in managerial positions, male-female differences in wages persisted. In 2007, male workers in the secondary and tertiary industries were paid about 12 percentage points higher than women workers.

While there has been a plethora of global literature on gender inequality in wages (Lazear and Rosen, 1990; Bayard et al. 2003; Cohen and Huffman, 2007; World Bank, 2012), the analysis investigating the changes in the magnitude of the gender wage gap when the economy expands or contracts remains scarce. In the more recent period between 2003 and 2005, the Philippines experienced swings in economic growth. Real GDP growth increased from 4.7 percent in 2002-2003 to 6 percent in 2003-2004 and then declined to 4.7 percent for the period 2004-2005. These economic fluctuations were associated by changes in the gender wage gap in the opposite direction, namely, a diminishing pay gap in the secondary and tertiary sectors by 4 percentage points in 2003-2004 and an increase in the wage gap by 6 percentage points in 2004-2005.

The paper seeks to provide a better understanding of the composition of the gender wage gap for the years 2003 to 2005 depicting periods of economic expansion and slowdown and whether the disadvantaged position of women workers is sensitive to economic conditions.

2. EMPIRICAL MODEL

The extended Mincerian wage equation for individual i based on the human capital theory (Mincer, 1974) is:

$$\begin{aligned} w_{i,s} &= \beta_s X_{i,s} + \varepsilon_{i,s}, & s = f, m \\ &= \beta_0 + \beta_{1,s} A_{i,s} + \beta_{2,s} E_{i,s} + \beta_{3,s} L_{i,s} + \varepsilon_{i,s} \end{aligned} \quad [1]$$

where w is the natural logarithm of wages with superscripts m and f that denote male and female, respectively, X is a vector of human capital attributes including age (A) and education (E), and the location (L) variables, β is a vector of parameters and ε is the random disturbance term. The paper estimates separate wage regressions for male and female, for managers and rank and file staff, and for each industry.

Following the Oaxaca (1973), Blinder (1973), Holtmann and Idson (1993) and Oaxaca and Ransom (1994), the mean difference in the log of wages between men and women is:

$$\bar{w}_m - \bar{w}_f = \underbrace{0.5 \sum (\beta_m + \beta_f) (\bar{X}_m - \bar{X}_f)}_{\Delta e} + \underbrace{0.5 \sum (\bar{X}_m + \bar{X}_f) (\beta_m - \beta_f)}_{\Delta d} \quad [2]$$

The gender wage gap can be broken down into two components, namely the *characteristics effect* or *endowment effect* (Δe) and the *remuneration effect* or *the wage discrimination effect* (Δd). On the right hand side of equation [2], the first term represents the endowment component or the part of the gender wage gap due to differences in observable characteristics between male and female. The second term represents the discrimination component or the unexplained part of the gender wage gap that may be attributed to differential returns for equal endowments of men and women. The first component, Δe , reflects the average of the difference in wages if women (men) had the same human capital attributes of the men (women) while Δd indicates the average wage difference in wages if one sex faced the same returns to labor market characteristics as that of the opposite sex.

The mean gender wage gap due to differences in endowments is calculated as the average in the wage difference between the predicted and the counterfactual wages for women and for men. Likewise, the second term in equation [2] can be calculated as the average in the wage difference between men's (women's) predicted wages and the counterfactual wages for women (men).

3. DATA

The paper uses the data from the Philippine Labor Force Survey (LFS) for the period 2003 to 2006. This study is restricted to paid employees of private establishments in the manufacturing, construction and services industries. The total sample varies from 17,536 in 2006 to 19,207 in 2003 (Table 1). Rank and file employees comprise 85 percent of the workers.¹ Males take up the lion's share of the workforce, but less so for managers than for rank and file staff (49-52 percent for managers and 69-72 percent for non-managers). In general, men dominated the managerial positions in the manufacturing and construction industries while the reverse was true for the services industries. Rank and file employees were clearly male dominated, with more than 3 male employees for every female employee in the manufacturing and construction industries and close to 2 males for every female in the services industry.² The sex ratio was declining in the services industries from 2003 to 2006, implying the increasing dominance of women managers and increasing women labor absorption in the services sector.

Data on unconditional hourly wage rates³ indicate that there is a wage premium for working in the manufacturing and construction industries and for the male workers (Table 2). Data also reveal that on average, men earned more than women. This pattern was more evident among managers in the manufacturing and construction industries where men earned 18 percentage points more than women in 2003. This gender pay gap diminished to 4 percentage points during the economic acceleration in 2004 but widened to 15 percentage points in 2005 and 22 percentage points in 2006. The gender wage gap is least among managers in the services industry, with the exception of 2004 where the gender pay is about the same for managers in both the secondary and the tertiary sectors. For the rank and file staff, the pay differential between male and female in 2003 was almost twice as much in the services than in the manufacturing industries. Significant improvements male employees earned 7-13 percentage points more than women employees.

Gender differences in human capital attributes may explain partly the gender wage gap. Table 3 presents the socioeconomic characteristics of the sample for 2006. Similar results were observed for the rest of the study period. Men were older than women workers by an average of 2-3 years.⁴ The age difference was more marked for workers in the manufacturing and construction industries than in the services industries. Women workers were better educated than male

¹ In this paper, managers include administrative, managerial, professional and technical occupations. The rest of the occupations (e.g., clerical, production and related workers, sales and service occupations) comprise the rank and file staff.

² Male dominance is very pronounced in the construction and transport sectors and females are more likely than males to be rank and file employees in the manufacture of textiles, health and social services, education, and banking and finance industries.

³ Hourly wage is computed as the basic daily wages divided by the normal hours of worked in a day for an average week. The paper reports the natural logarithm of hourly wage.

⁴ Age is indicative of duration of work experience

Table 1. Sample size by occupation, industry and gender, Philippines

Year/Industry	Managers			Rank and file		
	Male	Female	Sex ratio	Male	Female	Sex ratio
2003						
Total	1433	1319	1.09	11886	4569	2.60
Manufacturing and construction	431	223	1.93	6159	1669	3.69
Services	1002	1096	0.91	5727	2900	1.97
2004						
Total	1327	1290	1.03	11685	4603	2.54
Manufacturing and construction	349	177	1.97	5861	1659	3.53
Services	978	1113	0.88	5824	2944	1.98
2005						
Total	1280	1292	0.99	10374	4624	2.24
Manufacturing and construction	377	217	1.74	5405	1646	3.28
Services	903	1075	0.84	4969	2978	1.67

Table 2. Log of hourly wage rate and gender gap by occupation and industry, Philippines

Year/Industry	Managers			Rank and file		
	Male	Female	Wage gap	Male	Female	Wage Gap
2003						
Total	3.93	3.84	0.09	3.12	3.00	0.12
Manufacturing and construction	3.99	3.81	0.17	3.17	3.10	0.07
Services	3.91	3.84	0.06	3.06	2.94	0.12
2004						
Total	3.95	3.90	0.05	3.15	3.06	0.09
Manufacturing and construction	3.95	3.92	0.04	3.21	3.14	0.07
Services	3.94	3.89	0.05	3.10	3.01	0.08
2005						
Total	3.97	3.86	0.10	3.21	3.07	0.14
Manufacturing and construction	4.01	3.86	0.15	3.26	3.14	0.12
Services	3.95	3.87	0.09	3.16	3.03	0.13

Table 3. Descriptive Statistics, 2006, Philippines

Variable	Managers		Rank and file	
	Male	Female	Male	Female
Age	37.185	34.542	34.033	30.796
Less than college*	0.166	0.095	0.755	0.570
Some college	0.190	0.124	0.175	0.210
College graduate	0.644	0.781	0.070	0.221
Metro Manila*	0.326	0.314	0.192	0.227
Northern Luzon	0.095	0.096	0.109	0.086
Central Luzon	0.097	0.094	0.116	0.122
Southern Tagalog	0.171	0.202	0.168	0.206
Central Visayas	0.072	0.062	0.083	0.093
Other Visayas	0.076	0.078	0.138	0.100
Northern/Southern Mindanao	0.084	0.078	0.091	0.086
Other Mindanao	0.079	0.078	0.104	0.080
<i>Manufacturing and construction industries</i>				
Age	38.275	33.789	35.001	31.418
Less than college*	0.200	0.237	0.833	0.716
Some college	0.163	0.158	0.135	0.177
College graduate	0.637	0.605	0.032	0.106
Metro Manila*	0.325	0.311	0.159	0.194
Northern Luzon	0.059	0.021	0.111	0.046
Central Luzon	0.109	0.105	0.123	0.143
Southern Tagalog	0.251	0.447	0.195	0.325
Central Visayas	0.088	0.074	0.095	0.126
Other Visayas	0.059	0.016	0.127	0.053
Northern/Southern Mindanao	0.053	0.011	0.085	0.046
Other Mindanao	0.056	0.016	0.106	0.068
<i>Services industry</i>				
Age	36.819	34.647	33.222	30.498
Less than college*	0.155	0.075	0.690	0.499
Some college	0.199	0.119	0.208	0.225
College graduate	0.647	0.805	0.102	0.275
Metro Manila*	0.326	0.314	0.219	0.243
Northern Luzon	0.107	0.106	0.107	0.105
Central Luzon	0.093	0.092	0.111	0.111
Southern Tagalog	0.145	0.167	0.147	0.149
Central Visayas	0.066	0.060	0.074	0.078
Other Visayas	0.082	0.086	0.146	0.123
Northern/Southern Mindanao	0.094	0.088	0.095	0.105
Other Mindanao	0.086	0.086	0.102	0.085

*Reference category

workers, except for managers in the manufacturing and construction industries where 64 percent of male managers and 61 percent of female managers were college graduates. For the total sample, 78 percent of women managers had completed college education compared to 64 percent for the male managers. For the rank and file employees, women workers were thrice more likely than the males to have completed a college education (22 percent for females and 7 percent for males). Women managers dominate over male managers in terms of number and education in the services industries while the reverse holds for the manufacturing and construction industries. Male rank and file employees outnumber the better educated females.

Wages take account of the variation in the costs of living by location. Metro Manila, otherwise known as the National Capital Region, has the highest standard of living and offers relatively higher wages than the rest of the country. Compared to their female counterparts, the male managers in the manufacturing and construction industries were about equally likely, while those in the services sector were more likely to be in Metro Manila. By contrast, female rank and file employees were more likely than the males to reside in the National Capital Region. More urbanized areas are associated with higher costs of living and higher wages. Managers are mostly located in the urban areas with 86-91 percent of managers in the manufacturing and construction industries being urban residents and 81-84 percent for managers in the services sectors. About two-thirds of the rank and file employees were urban residents. Female were more likely than males to be urban residents among the rank and file staff, and less likely than males to reside in urban areas among the managers.

4. ESTIMATION RESULTS

The paper estimates separate wage equations for male and female workers, for managers and rank and file employees and the services and manufacturing and construction industries. For rank and file employees, separate regressions are estimated for each industry. Oaxaca-type decompositions of the gender wage gap are computed to isolate the non-discriminatory part of the wage gap that is attributable to gender differences in observed human capital attributes from the unexplained component that may be due to the differential returns for equal endowments.

Table 4 presents the decomposition of the gender wage gap for the period 2003 to 2005, where the 2003-2004 period reflects accelerated economic growth followed by a slowdown in the following period of 2004-2005. Compared to the previous year, real GDP in the manufacturing and construction sector grew at an average of 5.8 percent in 2003, 7.2 percent in 2004 and 6.5 percent in 2005. The corresponding figures for the services industries are lower at 3.3 percent in 2003, 5.2 percent in 2004 and 3.5 percent in 2005.

In all the periods under study, average wages of men were higher than that of women with the wage differential least in 2004. This pattern persists for both the secondary and tertiary industries and for managers and non-managers. In 2003, men's average wages in the secondary and tertiary industries were higher than women's wages by 8 percentage points for managers and 13 percentage points for rank and file employees. The pay gap declined by 4 percentage points in the following year that is characterized by accelerated economic growth and increased by 6 percentage points in 2005 when economic growth decelerated. The narrowing down of the gender wage gap when the economy picked up the pace in 2004 and the widening of the gender

wage gap in an economic slowdown in 2005 was observed for both managers and rank and file employees and for the industrial and services sectors.

The bulk of the gender wage gap can be attributed to the discrimination effect or differential returns to endowments between men and women while the endowment effect is negative for the workers other than the managers in the and construction industries. This reflects the better labor market characteristics of the male managers compared to female managers in the manufacturing and construction industries, which explains partly the gender wage gap. Otherwise, women workers have better observed human capital endowments, and in the absence of discrimination should expect to be paid higher wages than men.

Table 4. Decomposition of the gender wage gap, by industry and occupation, Philippines

Indicator	Total		Manufacturing and construction industries		Services industries	
	Managers	Rank & File	Managers	Rank & File	Managers	Rank & File
Year: 2003						
\bar{w}_m	3.90	3.11	3.97	3.16	3.87	3.04
\bar{w}_f	3.82	2.98	3.79	3.08	3.82	2.92
Wage gap: $\bar{w}_m - \bar{w}_f$	0.08	0.13	0.18	0.08	0.04	0.12
Components:						
Endowment (Δe)	-0.04	-0.06	0.03	-0.09	-0.07	-0.05
Discrimination (Δd)	0.12	0.19	0.15	0.17	0.11	0.18
Components (%):						
Endowment (Δe)	-20.3	-78.7	14.9	-106.4	-59.9	-99.1
Discrimination (Δd)	120.3	178.7	85.1	206.4	159.9	199.1
Year: 2004						
\bar{w}_m	3.93	3.15	3.95	3.21	3.93	3.09
\bar{w}_f	3.89	3.06	3.92	3.14	3.89	3.01
Wage gap: $\bar{w}_m - \bar{w}_f$	0.04	0.09	0.03	0.07	0.04	0.08
Components:						
Endowment (Δe)	-0.03	-0.07	0.03	-0.08	-0.03	-0.08
Discrimination (Δd)	0.07	0.17	0.00	0.15	0.08	0.16
Components (%):						
Endowment (Δe)	-64.5	-76.0	107.9	-118.3	-75.9	-100.0
Discrimination (Δd)	164.5	176.0	-7.9	218.3	175.9	200.0
Year: 2005						
\bar{w}_m	3.96	3.21	4.01	3.25	3.94	3.14
\bar{w}_f	3.86	3.06	3.86	3.13	3.85	3.02
Wage gap: $\bar{w}_m - \bar{w}_f$	0.10	0.15	0.14	0.13	0.09	0.13
Components:						
Endowment (Δe)	-0.03	-0.08	0.06	-0.10	-0.05	-0.08
Discrimination (Δd)	0.13	0.23	0.08	0.22	0.14	0.21
Components (%):						
Endowment (Δe)	-27.1	-53.4	43.9	-75.9	-57.8	-61.7
Discrimination (Δd)	127.1	153.4	56.1	175.9	157.8	161.7

In 2003, male managers in the manufacturing and construction industries were paid 18 percentage points higher than female managers. Close to one-third of this gender wage gap is explained by differences in observed endowments in favor of the men, and two-thirds of the wage gap capture potential discrimination. This translates to a rewards premium of 13 percentage points for the men's observed characteristics than when they were paid for those characteristics as women. The evidence of wage discrimination is more evident among the rank and file employees where the endowment effect is negative so that the entire positive gender pay gap is attributed to the unexplained or discrimination effect. In 2003, the male non-managers were compensated for their endowment by about 18 percentage points higher than when they faced the same remuneration as women.

The pattern of change in the discrimination component generally follows that of the change in the gender wage gap. The discrimination component of the gender wage gap is more sensitive to economic fluctuations among managers than among the rank and file staff, and more responsive to economic slowdown than to accelerated growth. For the secondary and tertiary sector, the discrimination component of the gender wage gap dropped by 5 percentage points for managers and 2 percentage points for the rank and file staff between 2003 and 2004. And in the period 2004-2005 when economic growth decelerated, the discrimination effect increased by 6 percentage points for both managers and non-managers.

The negative endowment effect is more pronounced for the rank and file employees than for the managers, and increasing over time particularly for the non-managers in the services industries. This indicates that among the rank and file employees, women exhibit higher education than the male workers and increasingly so over time. In the absence of discrimination, women workers should have expected higher remuneration for better human capital attributes. A negative endowment effect enlarges the contribution of the discrimination effect to the total gender wage gap. In 2003, average wages of male rank and file employees in the secondary and tertiary industries were lower by 6 percentage points than when they faced the same returns but possess the human capital attributes of the women. This increased steadily to 9 percentage points in 2006. The endowment effect is more marked among rank and file employees in the services industries indicating that women workers bringing in this sector an increasingly more superior human capital attribute than the male workers.

Table 5 presents the change in the gender wage gap along with changes in the real GDP and labor productivity growth by sector. An inverse relationship between the change in sector labor productivity growth and the change in the gender wage gap was evident. The growth in labor productivity for the manufacturing, construction and services industries increased by an average of 5 percentage points between 2003 and 2004 and decreased by 3 percentage points in the following period 2004-2005. The corresponding figures for the sector GDP growth was an increase of 1.6 percentage points in 2003-2004 and a decrease of 1 percentage point in the following period.

A deceleration in economic growth was associated with a widening of the gender wage gap. The economic expansion observed for the 2003-2004 period was associated with a narrowing down in the gender wage differential by about 4 percentage points for managers and 2 percentage points for the rank and file employees. The pace of growth has accelerated more for the

manufacturing than for the services industries and the closing of the gender wage gap was largest among the managers in the manufacturing and the construction industries. However, the expanded growth in this period had negligible effect on the gender wage gap of the non-managers in the secondary industries. The reverse was true in the services sector where the contraction in the gender wage gap was twice as much for the rank and file employees than for the managers. In the following year, economic growth slowed down while the gender wage gap widened by 5-6 percentage points.

Table 5. Change in gender wage gap and sector GDP growth, by occupation and industry, Philippines

Indicator	Total		Manufacturing and construction industries		Services industry	
	2003-2004	2004-2005	2003-2004	2004-2005	2003-2004	2004-2005
Change in gender wage gap:						
Managers	-0.045	0.056	-0.137	0.113	-0.016	0.038
Rank and file employees	-0.024	0.048	-0.0004	0.053	-0.038	0.044
Change in the discrimination component of the wage gap:						
Managers	-0.059	0.060	-0.142	0.080	-0.041	0.061
Rank and file employees	-0.016	0.053	-0.004	0.057	-0.018	0.042
Change in:						
labor productivity growth	0.052	-0.034	0.085	-0.012	0.040	-0.039
sector real GDP growth	0.016	-0.010	0.019	-0.017	0.014	-0.006
Elasticity of gender wage gap with respect to						
labor productivity growth:						
Managers	-0.871	-1.634	-1.614	-9.662	-0.397	-0.971
Rank and file employees	-0.465	-1.401	-0.005	-4.532	-0.944	-1.124
sector GDP growth:						
Managers	-2.830	-5.538	-9.730	-17.70	-0.860	-2.244
Rank and file employees	-1.509	-4.747	-0.028	-8.303	-2.042	-2.598
Elasticity of the discrimination component of the pay gap with respect to						
labor productivity growth:						
Managers	-1.141	-1.751	-1.675	-6.866	-1.020	-1.550
Rank and file employees	-0.310	-1.533	-0.053	-4.856	-0.449	-1.067
sector GDP growth:						
Managers	-3.708	-5.934	-10.092	-12.578	-2.208	-3.584
Rank and file employees	-1.008	-5.194	-0.317	-8.898	-0.971	-2.467

The negative elasticity of the gender wage gap with respect to either labor productivity growth or sector GDP growth reveals that the pay gap responds more to a slowdown in economic growth than to an accelerated growth. The elasticity of the gender wage gap is greater for managers and for the manufacturing and construction industries. A one-percentage point increase in labor productivity growth reduces the gender pay gap by an average of 0.87 percentage point among managers and 0.47 percentage point among rank and file employees in the secondary and tertiary industries. Whereas a one-percentage point decrease in labor productivity growth increases the gender pay gap by an average of 1.6 percentage points for managers and 1.4 percentage points for rank and file employees. This pattern is magnified in the manufacturing and construction industries and more so for the managers than for the rank and file employees. In the services sector the larger elasticity of the gender wage gap to an economic slowdown persists with stronger effects for the rank and file employees than for the managers.

Much of the gender differential in wages is due to the discrimination effect, and as expected, its elasticity with respect to economic conditions follows the pattern observed for the gender wage gap. Discrimination against women in terms of wages diminishes with accelerated growth but worsens more markedly with an economic slowdown. The negative elasticity of the discrimination component is larger than that of the overall gender wage gap and stronger for managers than for the rank and file employees.

6. CONCLUSIONS

Although Filipino women have surpassed the men in terms of education in the early 21st century and have increased their market participation, they continue to face lower compensation than similarly characterized male workers. There is persistent wage premium for males and for the manufacturing and construction industries. The gender wage gap is more pronounced for rank and file employees than for managers. The results indicate that the pay gap is sensitive to economic conditions – it contracts with accelerated economic growth and widens with a deceleration in growth.

Using the Oaxaca type decomposition technique to evaluate the changes in gender wage gap, the findings reveal that Filipino women workers bring in better human capital attributes to the labor market yet they remained to be disadvantaged in terms of compensation. The discrimination effect takes the lion's share of the gender wage gap. As in the overall wage gap, the discrimination component of the gap also responds to economic fluctuations by narrowing down with economic expansion and widening with economic slack, with the negative elasticity larger during an economic slowdown.

This finding has significant policy implications in view of the increasing economic activity of women in both the domestic and international markets. What benefits women in reducing the gender wage gap is not simply positive growth but accelerated growth. It merits to examine further the determinants of the elasticity of gender wage gap with economic fluctuations and to explore the factors of the unequal returns to endowments between men and women.

References

- Blinder, A. 1974. "Wage Discrimination: Reduced Form and Structural Estimates." *Journal of Human Resources* 8(4): 436-455.
- Cohen, P. and M. Huffman. 2007. Working for the woman? Female managers and the gender wage gap. *American Sociological Review*, 72, 681-704.
- Holtmann, A. G. and T. Idson. 1993. "Counterfactual Decomposition of Changes in Wage Distributions Using Quantile Regression." *Journal of Applied Econometrics* 20(4): 445–65.
- Lazear, E. and S. Rosen. 1990. "Male-Female Wage Differentials in Job Ladders," *Journal of Labor Economics* (8): S106–23.
- Mincer, J. 1974. "Schooling, Experience and Earnings", *National Bureau of Economic Research*. New York: Columbia University Press.
- Oaxaca, R. and M. Ransom. 1994. "On Discrimination and the Decomposition of Wage Differentials." *Journal of Econometrics* 61:5-21.
- Oaxaca, R. 1973. "Male-Female Wage Differentials in Urban Labor Markets". *International Economic Review* 14(3): 693-709.
- World Bank. 2012. *World Development Report 2012: Gender Equality and Development*. Washington, DC: World Bank.