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Gender Earning Difference between Public and Private Sector of Pakistan

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Abstract

The study is an attempt to observe the earning differences between male and female of the public and private sector in Pakistan by employing nationally representative Pakistan Labor Force Survey (PLFS) data for the period 2006 - 2021. In order to perform a detailed comparative analysis of the earning difference, the private sector is further segregated into formal and informal sectors. Empirical evidences acquired by employing Pseudo panel technique, ascertain that earning differences in the public sector are low compared to the private sector. Public sector is performing a fair role in reducing gender earning difference in Pakistan. It is concluded that the female employees of informal sector are more exploited compared to the formal sector in both public and private sector because of the female vulnerability. Migration from rural to urban areas contributes significantly in reducing wage differential across genders.

Keywords: Gender Wage Gap, Public-Private Sector, Formal-Informal Sector, Pakistan.

تلخیص

یہ مطالعہ پاکستان میں ۲۰۰۶ سے ۲۰۲۱ کی مدت کے لیے قومی سطح پر نمائندہ پاکستان لیبر فورس سروے (PLFS) ڈیٹا کواستعمال کرتے ہوئے سرکاری اور نجی شعبے کے مرد اور خواتین کے درمیان کمائی کے فرق کو دیکھنے کی کوشش ہے۔ کمائی کے فرق کا تفصیلی تقابلی تجزیہ کرنے کے لیے نجی شعبے کو مزید رسمی اور غیر رسمی شعبوں میں الگ کر دیا گیا ہے۔ سیوڈو پینل تکنیک کو استعمال کرتے ہوئے حاصل کیے گئے تجرباتی ثبوت، اس بات کی تصدیق کرتے ہیں کہ نجی شعبے کے مقابلے پبلک سیکٹر میں کمائی میں فرق کم ہے۔ پاکستان میں صنفی کمائی کے فرق کو کم کرنے میں پبلک سیکٹر ایک منصفانہ کردار ادا کر رہا ہے۔ یہ نتیجہ اخذ کیا گیا ہے کہ خواتین کے کمزور ہونے کی وجہ سے سرکاری اور نجی دونوں شعبوں میں رسمی شعبے کے مقابلے غیر رسمی شعبے کی خواتین ملازمین کا زیادہ استحصال ہوتا ہے۔ دیہی سے شہری علاقوں کی طرف ہجرت جنسوں کے درمیان اجرتوں کے فرق کو کم کرنے میں اہم کردار ادا کرتی ہے۔

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کلیدی الفاظ: صنفی اجرت کا فرق، نجی و سرکاری شعبہ، رسمی و غیر رسمی شعبہ، پاکستان

Introduction

Differential in wage is always being an important issue that need to be addressed by the policy makers. Therefore, over the time, this issue has gained attention of many economists of the developing countries who then attempt to develop different theories in order to find the possible reasons for the differentials occurring in wages across populations. Empirical evidence has suggested that earnings may differ due to differentials in labor market conditions, public and private sectors, institutional settings, occupational segregation, variations among industries, also for the reasons of dissimilarities in gender, age, and levels of education and productivity. Amongst these factors, wage differential across public and private sectors has shown substantial heterogeneity by gender.

In many developing countries, public sector employment constitutes significantly larger share of total employment and it plays a vital role in economic performance. The procedure of wage determination within the two sectors (public and private) differs markedly between two comparable workers and thus has the capability to become a major reason of wage disparities in pay earnings. The private and the public sector earnings differentials can be explained by a number of reasons, for example; public sector is mainly subjected to political compulsions while private sector is constrained by profit levels. Further, issues pertaining to equity are more profound in governmental market than in economic market. Moreover, government being an ideal employer is often under pressure for not paying low wages and government employees are considered to be overpaid in general. At the same time, qualified senior managers are shifting to private sector for more generous compensations.[1]

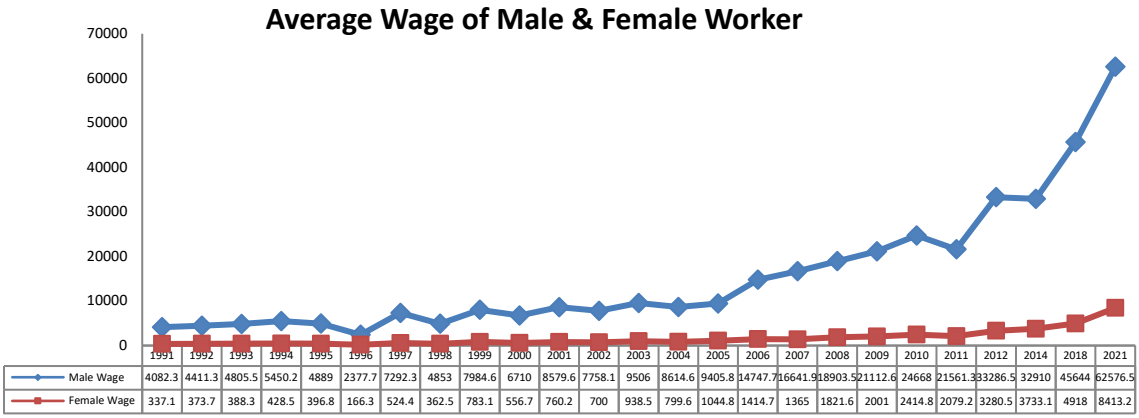
Given these differences, in the wage setting procedures, various researchers have undertaken investigations, analyzing the wages of employees of public sector with that of private sector. Nevertheless, there is growing concern that this difference in the wages between both the genders is widening.[2] Thus reducing differential treatment of different sex employees can be regarded as being a key objective in cultures where gender inequality is profound. Among developing nations, Pakistan's ranking on the basis of gender development and disparity index is inadequate, and female population persist to be a major vulnerable population.[3]Many women in Pakistan face socio-cultural challenges within and outside the household that constraints their participation in employment and access to productive assets. Consequently, their productive potentials remains underutilized. Female labor force participation rate in Pakistan continues to stay substantially lower (25%) Further, gender gap in earnings broadly leads to socio-economic inequality. Moreover, Pakistani women are usually unpaid

household workers in the agriculture sector. However as their education progresses so do their job opportunities grow in both manufacturing and services sectors.[4] Despite of disturbing effects of such gender wage gap, this subject has not received a great deal of attention in our local setting. Thus, our study attempts to explore the issue of gender wage differential across public and private sectors. The central question addressed in this study is: Do public private sector wage gap exist for female workers in major cities of Pakistan? Computations have been made over the period of 2006 till 2021 by using data from Labor Force Survey of Pakistan.

This paper is organized as follows. Section 2 provides background analysis of gender wage differential in Pakistan. The literature review appears in section 3. The data description and the empirical specification are provided in Section 4. Section 5 reports the estimated results. Conclusions are given in Section 6.

Section 2: Analysis of Wages Differential in Pakistan

Figure 1 depicts the difference in the mean earnings of male and female workers in Pakistan. It can be observed that during the entire period of analysis (1991 to 2022) mean earnings of females are lesser than the mean earnings of males. It is also observable from the figure that over the time, mean wage of males is almost ten times higher than females. During the post 2005 period the absolute difference of mean earnings of males and females are widening.

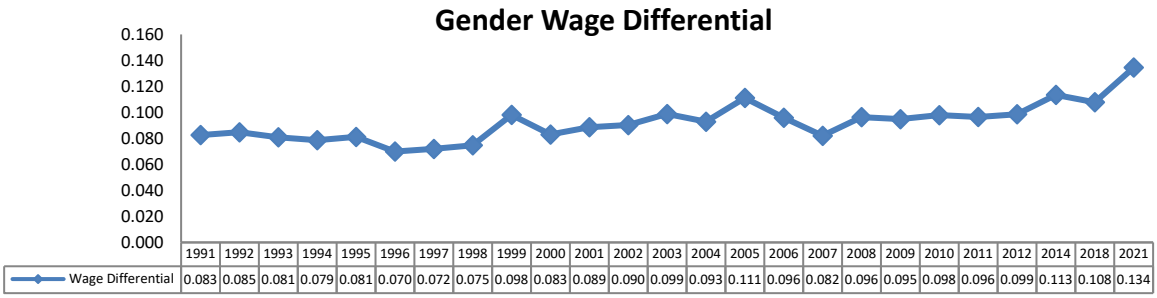


	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2014	2018	2021
Male Wage	4082.3	4411.3	4805.5	5450.2	4889	2377.7	7292.3	4853	7984.6	6710	8579.6	7758.1	9506	8614.6	9405.8	14747.7	16641.9	18903.5	21112.6	24668	21561.3	33286.5	32910	45644	62576.5
Female Wage	337.1	373.7	388.3	428.5	396.8	166.3	524.4	362.5	783.1	556.7	760.2	700	938.5	799.6	1044.8	1414.7	1365	1821.6	2001	2414.8	2079.2	3280.5	3733.1	4918	8413.2

Fig.1 Average wage of Male and Female
Authors' calculation using Labor force Survey of Pakistan various issues

Figure 2 explains the mean earning differences between males and females in Pakistan which is computed by dividing the mean earning of female with the mean earnings of male. If the mean earning differential is closer to one, it indicates that the difference

between mean earnings of females and males is lowbut if it is closer to zero it depicts that mean earning difference is high. It can be observed that the mean earning differential is very low during the entire period of analysis signifying that earning difference between male and female is very high in Pakistan.



	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2014	2018	2021
Wage Differential	0.083	0.085	0.081	0.079	0.081	0.070	0.072	0.075	0.098	0.083	0.089	0.090	0.099	0.093	0.111	0.096	0.082	0.096	0.095	0.098	0.096	0.099	0.113	0.108	0.134

Fig.2 Gender Wage Differential
Authors' calculation using Labor force Survey of Pakistan various issues

Analysis of Gender Wage Differential by Sectors

The information on the type of sectors in which workers are employed is also provided by Labor Force Survey of Pakistan. This study defines the employment in government organizations as public sector employment and this way it classifies it as standing apart from the private sector or formal employment. Keeping in view the definition of public sector, people that work in Federal, Provincial and Local Bodies Governments and other Public Enterprises are defined as government or public sector employees. Similarly, the remaining workers in all other enterprises, such as, private limited companies and public limited companies, cooperative societies, and an individual's own or partnership businesses are categorized as private sector entities. So, the data by and large shows an increase in the share of public sector from 17 percent to 18 percent during the periods of 2005-06 to 2020-21.Simultaneously, the data shows a shrink in share of the private sector from 83 percent to 82 percent for the same span of time.

The wage structure, according to the type of sector, is classified in a multi-facetted manner in order to determine the indications of wide wage differentials. During the years1990-91 to 1993-94, the private sector turns out to be paying higher wages than the public sector; but since then the public sector manipulates higher wages. The private sector suffered a relative decline in wages during Musharaf's era, due to reasons mentioned above in the text. Currently, the private sector employees earn only 54 percent of wages, in comparison to the wages earned by the public sector employees, and still represents now a fall of 71 percent since 1997-98 continuously.

Table: 1
Wage differential by public and private sector in Pakistan

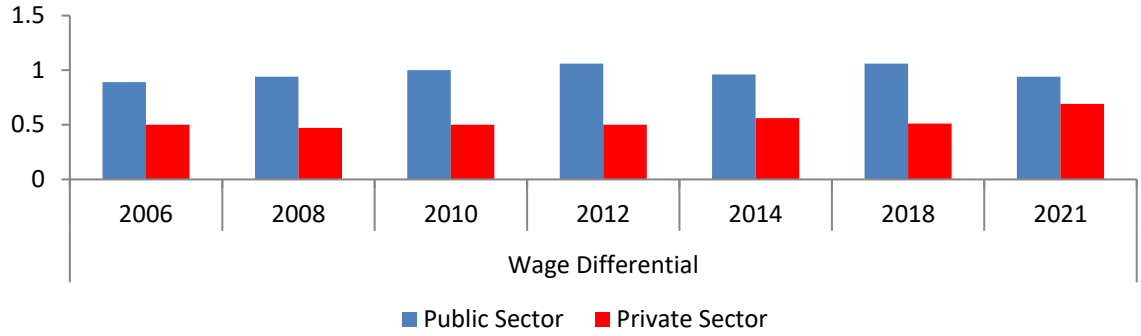
Public/ Private Sector	Wage Differential						
	2006	2008	2010	2012	2014	2018	2021
Public Sector	0.89	0.94	1	1.06	0.96	1.06	0.94
Private Sector	0.5	0.47	0.5	0.5	0.56	0.51	0.69

Source: Authors' Calculations based on Labor Force Survey of Pakistan various issues

The wage differential in public and private sectors over the time is reported in Table 1. It is observed that wage differential in private sector is higher than in public sector and is still in the reducing process in the public sector over the time. It is also observed that females are earning more than males in later periods, whereas wage differential is consistent during the entire period of analysis within the private sector.

Although public sector is paying same salary and allowances within the given scale as the private sector, but the reason behind the lower wage differential in the private sector lags when increments are granted on yearly basis during tenure of services, by the public sector. The private sector considers many factors, such as education, experience, efficiency, productivity, etc. prior to the determination of wages for their employees.

Figure: Wage Differential by Public / Private Sector in Pakistan



Source: Authors' Calculations based on Labor Force Survey of Pakistan various issues

Moreover, differential in wages are broadly responsible for socio-economic inequality. Wage differential often creates disparities in earnings that exist in the form of ownership of assets, consumption, health services utilization and educational attainments.

Cities Wise Wage Differential Analysis for Public and Private Sector

Mean gender wage differential by major cities in each province is reported in Table 2. Within Punjab the mean wage differential is minimum in Sarghoda followed by Lahore and Rawalpindi then Bahawalpur. The wage differential is highest in Multan followed by Faisalabad then Islamabad. The reason behind decrease in wage differential in the major cities over time may include the changing cultural trend or social attitudes towards the participation of female in workforce. Within Sindh the wage differential between men and women is highest in Sukkur while it is minimum in Karachi. As Karachi is the most urbanized city of Sindh and tendency towards female participation in jobs is much high while Sukkur is surrounded by the rural areas where less opportunities for women are available further the cultural restriction on female working is observed in Sukkur. Although data for entire province is not available given the availability of the data only Peshawar and Quetta are considered for analysis from KPK and Balochistan respectively. The mean wage differential in Peshawar is better than the mean wage differential in Punjab and Sindh. Whereas, mean wage differential in Quetta is almost similar to the mean wage differential in Pakistan.

Table: 2
Mean gender wage differential by cities

City/Province	2006	2007	2008	2009	2010	2012	2014	Total
Lahore	0.85	0.71	0.90	0.99	1.06	1.03	0.13	0.92
Faisalabad	0.65	0.87	0.56	0.66	0.71	0.91	0.11	0.73
Rawalpindi	0.72	0.82	1.05	0.77	0.78	0.87	0.17	0.84
Multan	0.79	0.52	0.64	0.77	0.70	0.85	0.17	0.71
Gujranwala	0.68	1.06	0.98	0.53	0.51	0.75	0.09	0.75
Sargodha	0.82	1.05	1.28	0.99	0.55	0.94	0.23	0.94
Sialkot	0.63	0.39	0.56	0.75	0.65	1.46	0.12	0.74
Bahawalpur	0.80	0.68	0.87	1.06	0.76	0.79	0.24	0.83
Islamabad	0.76	0.69	0.70	0.79	0.92	0.61		0.75
Punjab	**0.74**	**0.75**	**0.84**	**0.81**	**0.74**	**0.91**	0.24	**0.80**
Karachi	0.86	0.82	0.93	1.08	0.75	0.86	0.08	0.88
Hyderabad	0.71	0.79	0.77	0.74	0.91	0.68	0.09	0.77
Sukkur	0.36	0.87	0.76	0.62	0.69	0.75	0.07	0.67
Sindh	**0.64**	**0.82**	**0.82**	**0.81**	**0.78**	**0.76**	0.08	**0.77**
Peshawar	0.69	0.99	0.64	0.83	1.04	0.77		0.83
Quetta	0.75	0.75	0.79	0.68	0.63	0.75		0.72
Total	**0.72**	**0.79**	**0.82**	**0.80**	**0.76**	**0.86**		**0.79**

Authors' Calculation using Labor Force Survey Data

Section 3: Review of Literature

Pakistan labor market is characterized by; high population growth rate; increased overall labor force participation, however female participation rate remains lower than 30%. In this study our contribution over the existing literature is to consider the potential impact of the public-private sector on gender wage gap. Research linking the wage earnings of public sector and private sector employees date back to at least 5 decades. For instance, a study by Smith's (1974) on wage differentials between employees of private sector and public sector of United States revealed positive wage gap in favor of public sector workers over private sector.[5] After that a substantial body of researchers employed various empirical approaches to address the issue. Likewise, Blanch flower (1996), conducted a study in 12 OECD countries including: United States, United Kingdom, Canada, Australia, Ireland, the Netherlands, Austria, Italy, Japan, Germany, New Zealand and Spain found significant difference in public and private sector wage distributions and presented evidence of a public sector premium.[6]

The empirical evidence undertaken on public sector and private sector wage gap has been modest in developing countries. The earlier studies by Terrel (1993) noted a sizeable public sector wage gap by using bivariate probit analysis in Haiti.[7] Similarly, Skyt-Neilsen and Rosholm (2001) also found relatively large public sector pay gap in favor of public sector employees. However, the author reported that conditional wage distribution converted negative at the upper end for highly educated workers.[8] Nasir (2000)also noted earning advantage for public sector employees in Pakistan. The decomposition of the wage differential results indicated that the earnings benefit for the employees in the public sector was mainly because of to the higher content of the human capital endowments.[9]Very few studies have looked at the issue of wage discrimination against women in low income countries including Pakistan. A study conducted by Javed and Birjees using data from Rawalpindi City identified that the proportion of gender wage gap stems from discrimination and from differences in productivity characteristics across genders.[10] As far to the best of our knowledge, none of the empirical studies have explicitly explored the public sector and private sector wage differential for female employees within Pakistani context.

Section 3: Data and Methodology

All details pertaining to the Pakistan Labor Force Survey (PLFS) are available online. This study reports only the important aspects of methods here. [http://www.pbs.gov.pk/content/labour-force-survey-2012-13-annual-report]

Study Setting

Pakistan is a lower middle income country of Eastern Mediterranean region. This country has a prevailing patriarchal society with traditional social and cultural values and widespread gender related discrepancies. Female labor force participation is low in Pakistan. Pakistani females often stay at home to raise children, withdrawing from the labor market. On the basis of our sample only 11% of public sector employees and about 8% of those in private sector wage deployment are women. Over one-half of waged employees are working in public sector where public sector workers are likely to have higher average pay and education levels compared to their private sector counterparts.

Survey and Data

The study uses secondary data from nationally representative PLFS, 2006-2021; conducted by the Pakistan Bureau of Statistics (PBS). PBS is the national statistical organization responsible for collection, processing, compilation and dissemination of statistics[1]. The data is available online on the PLFS website[2]. The survey aims to collect information related to the socio-demographic, the dimensions of national labor force employment status, occupational health and safety of employed persons and the characteristics of unemployed person.

Survey Sampling Frame

The sampling frame is comprised of the urban and rural areas from the four provinces of Pakistan excluding FATA and military restricted areas. Two stage stratified sample design was used. Federal Bureau of Statistics (FBS) has developed its own sampling frame. In the first stage, FBS identified Primary Sampling Units (PSUs) for both rural and urban domains. At the second stage of sampling, 12 and 16 households were selected as Secondary Sampling Units (SSUs) at each PSU from urban and rural respectively.

Subsample

To measure the proposition of this study, a cross sectional data of total 168 waged female employees were acquired from the nationally representative PLFS which is conducted by Pakistan Bureau of Statistics for male and female wages between public and private sectors over the period of seven years (2006-2012),once missing values and unusable observations are discarded over seven surveys. The participants were female workers, aged between 15 and 65 years from public and private sectors. The public sector includes federal government; provincial government local bodies and other public sector corporations. The private sector included workers employed in private limited

companies; cooperative societies; individual ownership and partnerships. Table 1 defines the basic variables. This includes variables like wages, age, qualification, and productivity characteristics of female workers and other variables used in our descriptive analyses and in the regressions.

Table: 1.1
Definitions

Variable	Definition
Year edu	Average Years of schooling
Marital Status	Share of married female in female employment. 1 for married and zero for single
Working hrs	Average working hours.
Training	Share of females got formal training during employment; 1 for formal training and zero No Training
Age	Average age
Public Private	Share of public or private sector employment among females in job type; 1 for private and zero for public
Informal Sector	Share of informal/formal sector employment among females; 1 for informal and zero otherwise

Dependent Variables

The main dependent variable in our analysis is the monthly wage differential ratio between female and male. It is calculated as the ratio of current average monthly gross wages.

To explore true effect of the gender wage differential in public private sectors, we used Ordinary Least Square(OLS) regression. The important socio-demographic and female productivity-related factors used in this study include:
Marital status: In order to rule out effect of marital status on wage differential, share of married female in female employment was used as confounder, this variable was selected. Response options include: 1 for married and zero for single
Respondents' age: Average age in years was recorded.
Education level: Number of years of education attained was noted. Response option was recorded as average years of schooling.
Training: To rule out the effect of formal training, share of females got formal training during employment was used; Response option was recorded as average years of formal training attained.

Explanatory Variables

We analyze the determinants of the gender wage gap separately for public private sectors employment. The survey questionnaire provides information about gender wage differential in public and private sectors, major occupational groups and then moves to by formal and informal sectors.

Employment Status
Public and Private Sectors

In this study, employment in government organizations is presented as public sector, and in this way, distinguished from the private sector or formal employment.

Formal and Informal Sectors

The Labor Force Survey (LFS) provides information, since 1997/98, on various types of enterprises wherein individuals and workers are employed. In this study, government employment (or public sector) is distinguished from private sector (or formal employment). Consequently, the workers reported to be employed in Federal and Provincial governments, Local Bodies Governments, and Public Sector Corporations, are classified as Government employees. Similarly, the Corporate Sector is distinguished from the formal sector, comprising of 10 or more workers, who are hired to work in unincorporated establishments, whereas the remaining are classified as workers, working in the informal sector.

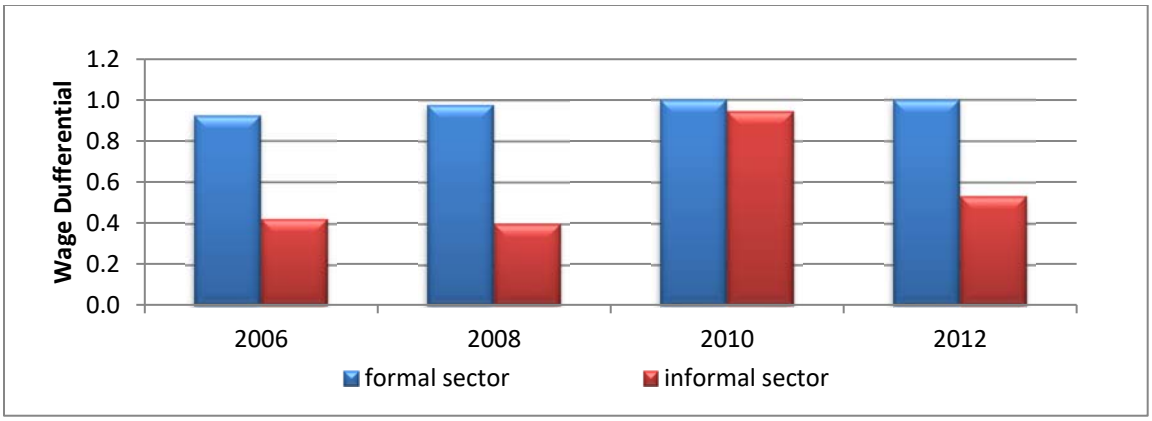
The PLFS data suggests an increase in the share of the informal sector from 52 percent to 58 percent, with a marginal growth in the share of corporate sector from 12.6 percent to 14.8 percent as well, during this relevant period.

Table: 1.2
Wage differential by formal/informal sector in Pakistan

Formal/Informal Sector	Wage Differential			
	2006	2008	2010	2012
Formal Sector	0.9	1.0	1.0	1.0
Informal Sector	0.4	0.4	0.9	0.5

Source: Authors' Calculations based on LFS various issues

Figure: Wage Differential by Formal/Informal Sector in Pakistan



Occupational Segregation

Our measure of occupation is based upon occupational segregation that includes subgroups ranging from: Legislators, senior officials and managers; Professionals; Technicians and associate professionals; Clerks; Service workers and shop and market sales workers; Craft and related trades workers; Plant and machine operators and assemblers; Elementary occupations. It is also viewed from table below, that wage differential by occupational groups in private sector is higher than the public sector, particularly for technicians and associate professionals, and craft related trade workers and elementary occupations. Within the private sector the wage differential is highest for craft related trade workers, followed by elementary occupations. It is surprisingly indicative that females, involved in craft related trade work and elementary occupations earn much less than their male counterparts.

We used Strata version 11 for data analysis, picked by means of pooled sample of data on all female employees in combination with the standard OLS procedure. This research investigated the wage differentials equation for female employees; over the period of seven years (2006-2021) using ordinary least squares regressions. To assess whether wage differential for females in public private sectors is affected by formal-informal, occupational group variables, female demographic and productivity-related characteristics, the wage ratio between female and male workers is estimated.

Female-Male Wage Differentials

In a perfectly competitive labor market, marginal productivity of labor is the determining factor for equilibrium wage rate, thus two laborers; irrespective of gender difference, are supposed to receive equal wages if they have identical productive characteristics and similar working conditions. This model of labor market assumes that in equilibrium; dissimilarities in the workers' individual characteristics and working environment explicate significant differential in wages. The primary objective of our

study is to develop the adjusted determination coefficients of explanatory variables for full time working female and analyses whether gender wage disparities exist in Pakistan.

In other words, this study attempts to investigate and analyze whether wage discrepancies may be noticed between genders working in various sectors like public-private sectors, occupational sectors or formal informal sectors, comparable from the perspective of their demographic and creative virtues.

Wage Differential Equation for Public & Private Sector

We started with estimating the regression by using two set of determinants. Firstly, those factors that are related to the individual workers' productivity characteristics. Secondly, those elements that is associated with their occupational nature and formal informal sectors. Therefore, for this purpose, we introduced dummy variables for each occupation group into the regression and a dummy for formal informal sector. We focused on wage outcomes for females. The framework for analysis of wage equation is given as below:

$$Wi = Xi'\beta + \delta Gi + Ui$$

Here, w_i represents the ratio of real average monthly wages between females and males where i= 1,……., N; X_i comprises of dummy variables relating to sectoral affiliation of the female workers (1 for public and 0 for private); occupational groups (1 for, 2 for, 3 for , 4 for, and 5 for) and formal-informal sector (1 for formal and 0 for informal). G_i is the vector of the individual and female demographic and productivity attributes (experience, level of education, age, marital status). α is the constant; the β andδ are the parameters to be estimated and $u_i$is an error term.

Results

The data employed for analysis showed that out of the total female employment observed in the fourteen cities of Pakistan; nearly 50 percent are employed in the public sector. From the total female employment in the private sector, the share of formal sector female employment is 67 percent whereas remaining 33 percent of female are employed in the Informal sector. The final data signifies that the formal sector is largest in dimension according to the employment in comparison with the informal private sector. This is noted that usual female hiring is surpassing in the formal sector (both in the public and private sectors).It can be observed from the findings highlighted in table 2.1, the earnings of both males and females in public sector are higher than the earnings in the private sector counterparts. Out of the total female workers, formal training is received by only 9 percent, 52 percent are married workers whereas the average years of schooling are found to be 11 years.

The statistics presented in Table 2.1 reveals the final sample of regular salaried female workers on average earn lower mean salary of Rs.10837 as compared to Rs.12807 for males. Whereas the female workers on average earn 5.5 times higher wages in public sector than in private sector due to the difference in the wage structure of the two sectors, with superior endowments in public sector. In Rupees term, on average public sector employees earn Rs.16098.23 as compared to Rs. 2935.242 in private sector. The finding of the study also highlighted that the earning differential by gender is lower in the public sector in comparison with the private sector indicating that within the private sector whether it is formal or informal, females are earning less than males and their compensations are lower as compared to their counterpart earnings in the public sector.

Table 2.1
Variable definition

Variables	Definition	Mean ± SD
N	Number of Observations	168
Private	Share of private sector female employment	0.50 ± 0.50
Ifs	improper sector (Proportion)	0.33 ± 0.36
Age	Average age in Years	33.96 ± 4.99
Training	Years of formal training (Proportion)	0.09 ± 0.12
Working hours	Average working hours	41.80 ± 3.82
Marital status	Marital Status (Proportion)	0.52 ± 0.21
Education	Average Years of schooling	11.02 ± 3.31
Migration	Rural –Urban	0.40 ± 0.09
White collar jobs	(Proportion)	0.39 ± 0.09

Table 2.2
Multi log regression for public private

Variables	Coef.	P-Value
Private	-2.210	0.083***
Ifs	-0.420	0.016***
Age	0.022	0.001*
Training	-0.367	0.045***
Working hours	0.020	0.001*
Marital status	0.072	0.647
Education(years)	0.072	<0.001*
Migration	0.566	0.026***
White collar jobs	-0.693	0.008**

Note: *, ** and *** indicates level of significance at 1%, 5% and 10% respectively

The assessments of the wage functions for public-private sectors, are given in Table 2.2. Besides the dummy for the public sector the models contain dummy for formal-informal sector, in order to provide different returns to earning, depending on the structure of employment. In general, the gender wage gap estimate suggests that the female workers are better off being in the public sectors compared to private sectors. The table 2.2 decomposes the comparative role of every aspect among the wage differential of the mentioned sectors. The positive sign of the coefficients in this table shows that it is associated with the factor which means that the female workers have the benefit of the income benefit because of that peculiar aspect and that will lead to decrease in wage differential between genders while the negative sign means that male employees are getting elevated payback because of that quality. This is furthermore distinguished that the extent of negative elements is higher than the positive factors. For instance, one unit increase in female employment in private sector will increase wage differential by more than two folds, however this finding is statistically insignificant. On the other hand, one unit increase in employment of the females in informal sector (ifs) will significantly increase the wage differential by 42 percent than formal sector. This suggests that the structural differences of formal sector significantly favor females as compared to the informal private sector.

It is noted that the importance of human capital varies significantly across the two sectors. In accordance with the human capital theory, firstly this research noted that the experience gained in terms of age put significant and positive influence on female earnings, however the magnitude specified is very small (2 percent only). Second important factor that influences significantly and positively on female wages is educational attainment. It is noted that education contributes 7 percent in female wages significantly. Thirdly increase in working hours also impacts positively on gender wage differential. However, marital status did not show any significant wage premium on female wages.

We also assessed how migration has affected the gender wage gap, in addition to the education attainment and work experience of women. The empirical findings showed significant difference on gender wage gap due to migration. The effect of the relative increase in the number of women migrants caused decrease in wage differential by 56%, favoring female employees. However, increase in female participation in white collar jobs showed significant association with gender wage differential.

This study explored the wage differences in Pakistan in public-private sectors female employees. The private sector was additionally divided into the formal and the informal sectors for the purpose of assessment. Using pseudo panel technique, the wages are broken down into two parts, that is, differences due to; female particular distinctiveness; wage structure of the private and public sectors and market characteristics. From these results, different economic implications are in order. Firstly, empirical evidence

confirms that the public sector is a fair employer as compared to private sector, contributing positively in reducing pay differences by gender. Secondly, it is inferred that for the reason of female susceptibility, the workers in the informal sector experience greater mistreatment in comparison to the employees of formal sector of both the public and the private sector. Thirdly, migration from rural to urban areas contributes significantly in reducing wage differential across genders.

Conclusions

The study is an attempt to observe the earning differences between male and female of the public and private sector in Pakistan. In order to perform a detailed comparative analysis of the earning difference, the private sector is further segregated into formal and informal sectors. Empirical evidences acquired by employing Pseudo panel technique, ascertain that earning differences in the public sector are low compared to the private sector. There exist many factors which cause differences in earnings between males and females these include individual characteristics of females, structure of earnings within the private and public sector, and characteristics of the market. From the finding of the study, it can be concluded that the earnings of both males and females in public sector are higher than the earnings in the private sector counterparts. Out of the total female workers, formal training is received by only 9 percent, 52 percent are married workers whereas the average years of schooling are found to be 11 years. Whereas the female workers on average earned 5.5 times higher wages in public sector then in private sector due to the difference in the wage structure of the two sectors, with superior endowments in public sector.

The finding of the study also highlighted that the earning differential by gender is lower in the public sector in comparison with the private sector indicating that within the private sector whether it is formal or informal, females are earning less than males and their compensations are lower as compared to their counterpart earnings in the public sector.

In general, the gender wage gap estimate suggests that the female workers are better off being in the public sectors compared to private sector. This suggests that the structural differences of formal sector significantly favor females more than the informal private sector. It is noted that the experience gained in terms of age put significant and positive influence on female earnings, however the magnitude specified is very small (2 percent only). Important factor that influences significantly and positively on female wages is educational attainment. It is noted that education contributes 7 percent in female wages significantly. An increase in working hours also impacts positively on gender wage differential. The empirical findings showed significant difference on gender wage gap due to migration. The effect of the relative increase in the number of women migrants caused decrease in wage differential by 56 %, favoring female employees. However,

increase in female participation in white collar jobs showed no significant association with gender wage differential.

End Notes

1. http://www.pbs.gov.pk/content/labour-force-survey-2012-13-annual-report
2. http://www.pbs.gov.pk/content/labour-force-statistics

References

Ashraf J, Ashraf B (1993) Estimating the Gender Wage gap in Rawalpindi City. *The Journal of Development Studies*, vol.29:2, pp.365-376.

Aslam, M., & Kingdon, G. (2009). Public–Private Sector Segmentation in the Pakistani Labour Market. *Journal of Asian Economics*, vol.20:1, pp.34-49.

Assaad, R. (1997). The Effects of Public Sector Hiring and Compensation Policies on the Egyptian Labor Market. *The World Bank Economic Review*, vol.11:1, pp.85-118.

Blanchflower, D. (1996). The Role and Influence of Trade Unions in the OECD: Centre for Economic Performance, *London School of Economics and Political Science.*

Borjas, George J. (1985). Changes in Cohort Quality, and the Earnings of Immigrants. *Journal of Labor Economics*, vol.3:4, pp.463-489.

Boskin, M. (1974). A Conditional Logit Model of Occupational Choice. *The Journal of Political Economy*, vol.82:2, pp.389-98.

Brown, R., Moon, M. & Zoloth, B. (1980), Incorporating Occupational Attainment in Studies of Male-Female Earnings Differentials. *The Journal of Human Resources*, vol.15:1, pp.3-28.

Cai, L. & Liu, A. Y. C. (2008). Public-Private Wage Gap in Australia: Variation Along the Distribution. CEPR Discussion Paper No 581, *Centre for Economic Policy Research, Research School of Economics*, Australian National University.

Carneiro, F, G, A. & A. Henley (2001) Modeling Formal Vs Informal Employment and Earnings: Microeconometric Evidence for Brazil", *Annals of the XXIX National Meeting of Economics of ANPEC*.

Christofides, L. N. & Pashardes, P. (2002). Self/Paid-Employment, Public/Private Sector

Selection and Wage Differentials. *Labour Economics*, vol.9:6, pp.737-762.

Deaton, A. (1985). Panel Data from Time Series of Cross-Sections. *Journal of Econometrics*, vol.30:1, pp.109-126.

Depalo, D. & Giordano, R. (2010). The Public Sector Pay Gap in Italy. Bank of Italy Retrieved from http://www.idep-fr.org/IMG/pdf/Depalo-Giordano_1.pdf.

Dickerson, A., Green, F. & Arbache, JS. (2001): Trade Liberalization and the Returns to Education: A Pseudo-Panel Approach. In.: *Department of Economics Discussion Paper*, University of Kent.

Gong, X. & Van Soest, A. (2002). Wage Differentials and Mobility in the Urban Labour Market: A Panel Data Analysis for Mexico, *Labour Economics*, vol.9:4, pp.513-529.

Gunderson, M. (1979). Earnings Differentials between the Public and Private Sectors. *The Canadian Journal of Economics*, vol.12:2, pp.228-242.

Gyourko, J. & Tracy, J. (1988). An Analysis of Public-and Private-Sector Wages Allowing for Endogenous Choices of Both Government and Union Status. *Journal of Labor Economics*, vol.6:2, pp.229-253.

Harris, J. & Michael, T. (1970). Migration, Unemployment, and Development: A Two-Sector Analysis. *American Economic Review,* vol.60, pp.126–142.

Isran, S. & Isran, MA. (2012) Low Female Labour Participation in Pakistan: Causes and Consequences. *Pakistan Journal of Social Sciences PJSS*, vol.32:2, pp.453-468.

Jovanovic, B. & Lokshin, M. M. (2004). Wage Differentials between the State and Private Sectors in Moscow. *Review of Income and Wealth*, vol.50:1, pp.107-123.

Jürges, H. (2002). The Distribution of the German Public-Private Wage Gap. *LABOUR*, vol.16:2, pp.347-381.

Labour Force Survey, (Various Issues), *Federal Bureau of Statistics*, Government of Pakistan.

Lagerlöf, NP. (2003). Gender Equality and Long-Run Growth. *Journal of Economic Growth*, vol.8:4, pp.403-426. doi 10.1023/A:1026256917489.

Malik, K. (2014) Sustaining human progress: Reducing vulnerabilities and building resilience.

Melly, B. (2005). Public-Private Sector Wage Differentials in Germany: Evidence from Quantile Regression. *Empirical Economics*, vol.30:2, pp.505-520.

Nasir, ZM. (2000). Earnings Differential between Public and Private Sectors in Pakistan. *The Pakistan Development Review*. 111-130.

Nielsen, HS. & Rosholm, M. (2002). The Public-Private Sector Wage Gap in Zambia in the 1990s: A Quantile Regression Approach. In: *Economic Applications of Quantile Regression.* edn.: pp.169-182.

Roshchin, S. (2003). Gender Equality and Extension of Women Rights in Russia within Millennium Development Goals, *UN Gender Theme Group*, available at: www.owl.ru/rights/undp2003/ eng/index.htm.

Schmidt, P. & Strauss, R. (1975). The Prediction of Occupation Using Multiple Logit Models, *International Economic Review*, vol.16:2, pp.471-86.

Schober, T. & Winter-Ebmer, R. (2011). Gender Wage Inequality and Economic Growth: Is there Really a Puzzle? *World Development*. doi:10.1016/j.worlddev.2011.05.001.

Smith, SP. (1977). Government Wage Differentials. *Journal of Urban Economics*, vol.4:3, pp.248-271.

Tansel, A. (1999). Formal Versus Informal Sector Choice of Wage Earners and their Wages in Turkey, No. 9927, *Working Paper Economic Research Forum Working Paper*. January.

Terrell, K. (1993). Public-Private Wage Differentials in Haiti Do Public Servants Earn a Rent? *Journal of Development Economics*, vol.42:2, pp.293-314.

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