



Public-Private Wage Differentials: Evidence from Pakistan

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Abstract: Compensation structures of public sector employees have significant implications for public service delivery and employment. If public sector employees get relatively lower pay, then the government can face difficulties in retaining trained and qualified workers. However, if public sector employees receive higher salaries it is possible that younger people may prefer to join the public sector. If this is accompanied by limited job absorption capacity in the public sector, it is possible for there to be substantial unemployment. This study has analysed the wage differentials by using the data from the Pakistan Labour Force Survey 2020-21. Blinder-Oaxaca decomposition suggests that at the executive level, public sector workers are facing wage penalties, while other occupational groups in the public sector are enjoying wage premiums. The highest wage premiums are for clerical staff followed by unskilled workers, services, technician, professionals and agricultural workers.

Keywords: Wages, employment, public sector, private sector.

JEL Classification: J31, E24, J45, L32.

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1. Introduction

The abilities of public servants and the associated incentives can determine the capability of the state in executing government policies efficiently. Governments have to make important decisions regarding the size of their public sectors and remuneration of public sector employees. If public sector employees are paid less in comparison to employees at comparatively similar positions in the private sector, then the state can face difficulties in recruiting and retaining qualified and efficient workers (Gindling et al., 2020). It has been argued that public servants must be given salaries that can compete with those in the private sector, and in monetary remuneration (Dixit, 1997). Offering higher wages may result in a reduction in the levels of corruption in countries where employees in the public sector faces relatively compressed wages (Demirgüç-Kunt et al., 2021). Low wages in public sector may also result in higher inequality in the private sector (Garibaldiet al., 2021). It is worth noting that colonial empires had historically paid public sector employees relatively well and this was accompanied by high levels of public sector performance (Hill, 2007).

On the other hand, if government employees are paid significantly higher than private sector employees, then there is the concern that wage premiums will encourage young people entering the workforce to focus on public sector jobs, which when accompanied by the limited absorptive capacity of the public sector, may lead to an increase in youth unemployment. High unemployment rates in the public sector also has negative implications for the employment in private sector (Behar & Mok, 2019). Moreover, workers may decide to queue for public jobs instead of joining the private sector which may hinder economic growth (Katz and Krueger, 1991). However, nepotism in hiring of public-sector employees may discourage workers from applying for public-sector jobs (Chassamboulli & Gomes, 2021). It has also been argued that due to high wages, highly skilled workers join the public sector and private sector employment is crowded out (Hyder & Reilly, 2005), which in turn can discourage the private sector from making investments to create jobs, which leads to higher unemployment and lower GDP growth (Geromichalos & Kospentaris, 2022). Moreover, higher public expenditure on salaries can result in the crowding-out of pro-poor expenditures in developing countries (Zouhar, 2012). High wage premia also creates social

inequalities especially if social transfers are limited (IMF, 2018). It is pertinent to mention that wages are determined keeping in view political and budgetary considerations, and market forces can play a very limited role (Depalo et al., 2015). In a very recent study, Chassamboulli & Gomes (2023) concluded that owing to high wages in the public sector, many unemployed workers queue for public-sector jobs. On the other hand, if wages are low in the public sector then the government faces recruitment problems.

In brief, the pay structure of public sector employees can have a significant impact on labour market competitiveness and fiscal sustainability (Depalo et al., 2018). A better understating of wage differentials in the public and private sector can also have significant implications for economic development.

High wage premiums in the public sector can help attract and retain skilled employees, improve service delivery, and, in theory, reduce corruption. However, it can also pose financial challenges and can run the risk of creating inequities and negative perceptions among the public. Striking the right balance and ensuring a fair and transparent compensation system is essential.

The provision of public sector jobs has always been on the agenda of successive governments in Pakistan. After its independence in 1947, Pakistan inherited an agrarian economy, with the process of industrialization beginning after the 1960; before this, Pakistan's economy was unable to generate adequate jobs in the private sector. During this period, the government became a model employer, in terms of providing a living wage and job security. Over time, public sector employees were provided free medical care, housing and (in certain organizations) ownership of land at the time of retirement. Furthermore, the policy of nationalization during the 1970s increased the size of the public sector in Pakistan. Public entities like Pakistan International Airlines (PIA) and the Pakistan Railways have always employed a large number of civil servants but are always operating at a loss, which implies that public servants are less productive in comparison to the private sector. After the 1990s, successive governments attempted to privatize public sector entities, but the process remainly very slow, owing to unions and political pressure.

Job structures in Pakistan's public and private sectors differ in several ways, with wage differentials possibly explained by the hedonic theory of wages (Rosen, 1974). The primary difference between private and

public sector employment in Pakistan is in regards to pension schemes. Public sector employees receive higher pension benefits in comparison to private sector employees. Furthermore, they have more stable jobs and can only be dismissed in very rare cases. So, public sector jobs remain attractive for two reasons: job security and pension.

In Pakistan, it is often claimed that public sector employees are underpaid. If so, then the question arises: Why they are unwilling to leave their jobs? Why is the demand for public-sector employment still so high? In this paper, we try to analyse the wage differential between the public and private sectors and to find out the reasons behind this wage differential, by using data from the Pakistan Labour Force Survey 2020-21. Wage differentials have been calculated by using the Blinder–Oaxaca (1973) decomposition method.

Our results suggest that both male and female public sector employees enjoy wage premiums. In comparison to male workers, the wage premium is higher for female workers. The study has further found that public sector executives are facing wage penalties, whereas other occupational groups in the public sector are benefitting from wage premiums. The highest wage premiums are for clerical staff, followed by unskilled workers, services, technicians, professionals and agricultural workers. The wage premium is high at the lower end of the wage distribution and has a decreasing trend with wages. It even becomes a penalty at the top of the wage distribution. These results imply that some action may need to be undertaken to ensure that minimum wages be provided in the private sector. Public sector employees should be given wages according to their efficiency and value addition. One of the main policy implications that emerged from this study is that the introduction of reforms in civil service is necessary.

The paper has been structured as follows: Section 2 presents a detailed review of the literature related to present study. Section 3 explains the data, methodology and the estimation technique adopted. In section 4, the results of descriptive analysis are summarized. The results of the estimations are discussed in section 5. The last section concludes the study and provide some recommendations for policymaking.

2. Literature Review

Over the years, a number of studies have analyzed the issue of wage differentials. A brief overview of a selection of those studies is presented in the section.

Most of the relevant studies found that there exists a significant wage premium for public sector workers in high-income countries such as Australia (Cai & Liu, 2011), Italy (Carlo et al., 2005; Depalo & Giordano, 2011) and Ireland (Foley & O'Callaghan, 2011). Elliott et al. (2007) found that France is facing recruitment and retention problems for highly skilled workers, with the result that wages in the public sector are high. The studies also been found that the centralized public sector pay systems of Italy and Spain act as a regional policy to boost consumption in poorer areas of the south.

Similarly, a number of studies also confirm the existence of wage premiums in low and middle-income countries, such as Brazil (Emilio et al., 2012), Greece (Papapetrou, 2006), India (Azam & Prakash, 2015), Pakistan (Nasir, 2000; Hyder, 2002; Hyder & Reilly, 2005; Aslam & Kingdon, 2009), Indonesia (Filmer & Lindauer, 2001) and Romania (Voinea & Mihaescu, 2012). Glinskaya and Lokshin (2007) estimated that the public sector wage premium is between 62-102 percent when compared to the private sector in India. Tansel et al. (2018) found that in Egypt there exist wage penalties against public sector for men, but wage premiums for women. Panizza (2001) also finds public sector premiums for female workers in 13 Latin American countries. Mizala et al. (2011) find a wage premium for public sector employees in a panel of Latin American countries. Finan et al. (2015) estimated public sector wage differentials for 32 countries. It has been found that there exists a wage premium for the public sector in almost every country, although it tends to be higher in low-income countries.

Bender & Heywood (2010) explained that employee unions in the public sector are very successful in raising the wages of low-paid employees. Furthermore, the existence of legislative measures against the exploitation of workers in the public sector results in higher wages.

On the other hand, in many countries like Estonia (Leping, 2006), Poland (Adamchik & Bedi, 2000), France (Giordano et al., 2011) and Germany (Dustmann & van Soest, 1998) the bias appears to run in the opposite direction, i.e. there exists a public wage penalty or private wage

premium. Lausev (2014) is of the view that there is a wage penalty for public sector employees in eastern European countries that transitioned from state socialism to the free-market during the 1990s. Coppola & Calvo-Gonzalez (2011) found that there is a wage premium in the public sector in Peru, if all compensation (bonuses and in-kind payments) are factored in. However, if we exclude the compensation, then the wage premium turns into a wage penalty. Blackaby et al. (2017) found that in London and South-Eastern parts of England public sector workers are facing wage penalties, whereas in other areas in England public sector workers are enjoying wage premiums.

Christofides & Michael (2013) concluded a wage premium for public sector employees in 27 European states. Luxembourg, Cyprus, Greece, Hungary and Estonia have the highest premium while Belgium, Germany and Norway have some wage penalties. Similarly, Giordano et al. (2011) also find that Greece, Ireland, Italy, Portugal and Spain exhibit a wage premium for public sector whereas in France there is a wage penalty for public sector employees.

Many studies found that public-private wage differentials tend to decrease over the wage distribution. The wage premium in public sector for low-paid employees is high, and wage premium decreases with an increase in wages distribution and turns into a wage penalty for high-paid employees (Papapetrou, 2006; Cai & Liu, 2011; Christofides & Michael, 2013; Foley & O'Callaghan, 2011; Depalo & Giordano, 2011; Mizala et al., 2011; Saha, et al., 2014; Azam & Prakash, 2015). Gindling (2020) analyzed wage differentials for 68 countries by using their national representative surveys, and found that in most countries, public sector workers are receiving wage premiums against the private sector. The wage premium is low for highly skilled workers; in some instances, highly educated and skilled workers faced wage penalties. It has been further concluded that the public sector wage premium is high for workers with less education and skills, and those employed in lower-paid occupations. Miaari (2020) found that in Palestine, workers at bottom of the wage distribution enjoy high wage premiums. However, at the top percentiles of the wage distribution public sector workers face wage penalties. Mancha & Mattos (2020) found that private-sector employees in Brazil get 13 percent lower wages in comparison to their public-sector counterparts. However, for highly skilled employees, those in the private sector get higher wages in comparison to the public sector. Biesenbeek & van der Werff (2019) have concluded that in the Netherlands there is a wage premium for low-paid public sector employees. The wage premium is in favor of private sector employees for high-paid jobs.

Voinea & Mihaescu (2012) found that in Romania, though public sector wage premium increases from the bottom percentiles, it tends to decline for only those in the top percentile of workers. Kwenda & Ntuli (2018) are of the view that in South Africa, the public-private wage differential starts as a penalty for public sector employees at the bottom of the wage distribution. The wage premium premiums increase up to the 80th percentile and afterwards start declining.

Depalo et al. (2015) found that employees who had an hourly wage in the 10th quantile of the wage distribution on average have higher wages in the public sector. The wage premium in the public sector is estimated at 0.015 for Belgium and 0.348 for Greece. Holm-Hadulla et al. (2010) calculated a wage premium of 0.209 in Spain.

Pitts et al. (2011) and Dixit (2002) concluded that job satisfaction, job security and pension are crucial factors in retention in the public sector. However, financial incentives are also needed (Christensen et al., 2017) particularly when the private sector offers lucrative jobs (Esteve et al., 2017). These incentives need not be very lucrative (Pedersen, 2015), however. Makridis (2021) concludes that in the USA, public sector employees are enjoying some wage premium but the government is facing a severe shortage of employees. Due to better management and development opportunities in the private sector, workers prefer the private sector over public sector employment. Feeney (2007) also concluded that red tape, lack of rewards for good work, and other factors matter to a great extent in discouraging skilled professionals from joining the public sector.

Haque et al. (2021) found that in Pakistan public sector employees enjoy hefty benefits and privileges in the form of residences in prime locations (government-owned accommodations have an average market value of PKR 1.45 trillion - approximately USD 9.5 billion - with an annual rental value of PKR 10.75 billion), free medical facilities (in addition to medical allowances, approximately PKR 30 billion per annum is incurred on payment of medical bills), plots of land after retirement, job security, and others. If the monetary value of these perks is added, then the wage of public sector workers is theoretically higher than the employees of the United Nations and other donor agencies working in Pakistan.

It can be summarized that international comparisons regarding wage differentials in public and private sectors can be fraught with difficulties and caveats, as the composition of the public sector, as well as the attributes of workers, can vary dramatically. However, most of the

studies found that public sector employees at lower tiers enjoys wage premiums while at upper tiers public sector employees face wage penalties. In Pakistan very limited studies were carried out on the issue. The present study will make a valuable addition in the existing literature about wage differentials in Pakistan by using the latest data of Pakistan Labour Force Survey.

3. Data and Methodology

This study has attempted to analyze the determinants of wage differentials in Pakistan by using the Pakistan Labour Force Survey 2020-21 (LFS). The Labour Force Survey provides comprehensive information about the employment, wages, migration, and nature of work environment of the active and inactive labor force. The Labour Force Survey 2020-21 consists of a sample of 96,442 households. The working-age population (10 years of age and above) was 403,071. The question related to employment and wages were asked from all the individuals of age 10 and above. The present study has attempted to analyze the wage differentials by using the Blinder–Oaxaca (1973) decomposition method. The method involves the estimation of separate sectoral (public and private) wage equations according to the Mincer (1958, 1974) wage function, in which individuals' wages (logged) depend on education and characteristics like region, occupation, and gender, among others. The functional form of the wage equation that the present study has used is in equation (1):

$$\ln W = \alpha + \beta_1 \text{age} + \beta_2 \text{Education} + \beta_3 \text{region} + \beta_4 \text{Maritalstatus} + \beta_5 \text{natureofwork} + \varepsilon_i \quad (1)$$

The model is estimated separately for male and female workers. After estimation, the average wage differential in private and public sectors will be decomposed into the explained (attributable to the differences in characteristics) and unexplained part (attributable to the differences in the remuneration endowments or wage discrimination) by using the Blinder–Oaxaca (1973) decomposition.

A brief overview of the variables used in the present study is summarized below.

Dependent Variables

A worker's total annual wages is our dependent variable. To apply the Blinder–Oaxaca (1973) decomposition, the log form of wages has been

used. It is pertinent to mention here that it does not include non-monetary wages.

Independent Variables

i. Level of education

Numerous studies recognized that education plays a pivotal role in determining household wages. The attainment of education is divided into six categories; that is no education, below secondary, secondary, professional, degree or higher education (not professional) and technical education.

ii. Age of household

The age of the household is another important factor in wage determination it can be considered a proxy for experience.

iii. Marital Status

Marital status is a binary variable, and takes the value of 1 for “ever married” households and zero for unmarried households. We have considered that those who are currently married, widowed or divorced belong to ever married households.

iv. Locality

We constructed a binary variable assigning the value of 1 for urban areas and 0 for rural areas. We are expecting that in urban areas wages are higher.

v. Nature of work

In the survey, the type or manner of work has also been defined. Based on the data the following broad categories of workers have been made 1) Executives, 2) Professionals, 3) Technicians and Operators, 4) Clerical staff, 5) Jobs related to Services, 6) Agriculture workers, and 7) Unskilled workers.

4. Descriptive analysis

Descriptive statistics regarding variables of the present study by gender are provided in Table 1. Furthermore, in Tables 2 and 3 annual

wages at different educational levels and different professional types for males and females are reported.

Table 1: Means of the Variables

Variable	Male		Female	
	Private Sector	Public Sector	Private Sector	Public Sector
Age	33.862 (12.505)	38.854 (10.646)	31.612 (11.599)	35.542 (9.481)
Wage (Annual)	289,137 (309,114)	519,020 (406,274)	225,727 (221,230)	491,190 (359,696)
Region (Urban=1)	0.357	0.409	0.292	0.385
	Education			
No Education	0.255	0.053	0.356	0.025
Below Secondary	0.293	0.122	0.103	0.036
Secondary & Intermediate	0.187	0.377	0.075	0.186
Professional Degree or higher	0.004	0.024	0.007	0.043
Technical Education	0.046	0.299	0.100	0.544
Marital Status (Ever Married=1)	0.215	0.124	0.360	0.166
	Nature of Work			
Executives	0.725	0.865	0.711	0.827
Professionals	0.029	0.060	0.009	0.037
Technicians and operators	0.036	0.252	0.156	0.642
Clerks	0.194	0.170	0.026	0.025
Services, sales and trade	0.009	0.219	0.003	0.226
Agriculture workers	0.481	0.142	0.557	0.030
Unskilled workers	0.001	0.017	..	0.001
	0.250	0.139	0.250	0.040

Source: Author's calculations. Standard Deviations are reported in parentheses.

Table 1 reveals that on average public sector employees are relatively older in comparison to private sector employees, with male workers six years older and female workers four years older, than their private sector counterparts. There are likely more employment opportunities in the private sector in comparison to the public sector for younger people. Furthermore, in comparison to older ones, young people can easily adjust themselves to the changing nature of jobs in private sector. Inadequate skills or outdated education make switching from the public to private sector to older public sector employees very hard.

A greater proportion of employees in the public sector has secondary education or university degrees. The people having no education or below

secondary education are mostly absorbed by private sector. However, workers having technical education also tend to join the private sector. These differences can be explained by the private sector's dominance in trade, and services sectors that do not require very high educational qualifications. It is noteworthy here that individuals with technical education dominate the educational structure. Unfortunately, in Pakistan, non-technical and formal education was encouraged while investment in skills is mostly ignored. There is a need to encourage young people to invest in technical education and more technical institutions should be opened across Pakistan to equip the youth with technical education.

The majority of workers in the public sector are either professionals or clerks, whereas in the private sector the majority of workers belong to the services, sales and trade sectors followed by unskilled workers. The patterns are the same for both male and female workers.

The average wages are higher for public sector workers both male and female. To comprehensively analyze the wage differentials, we reported the wage differentials at a different level of education and among different job types in Table 2 and Table 3 below.

Table 2: Wage differentials at different education levels

	Male				Female			
	Private Sector	Public Sector	Wage differentials	No. of observations	Private Sector	Public Sector	Wage differentials	No. of observations
No education	229,026	337,176	67.9	10,037	79,753	316,583	25.2	1,794
Below Secondary	252,400	358,877	70.3	15,127	112,592	272,700	41.3	607
Secondary & Intermediate	311,321	448,560	69.4	14,761	132,216	383,904	34.4	866
Professional	797,101	1,116,027	71.4	565	678,726	923,385	73.5	129
Degree or higher	490,220	552,872	88.7	6,280	471,064	529,406	89.0	1,823
Technical Education	291,624	327,391	89.1	12,917	397,476	449,188	88.5	2,005

Source: Author's calculations.

Table 2 reveals that wages differentials exist at every level of education and public sector workers enjoy wage premiums. Net monthly wages for males in the private sector with no education are 32.1 percent lower than those in the public sector, and for females the difference increases

to 74.8 percent. This huge premium especially for females is noteworthy. It suggests that uneducated female workers are given very small wages in the private sector. Similarly, for workers who have education below the secondary level, male workers in the private sector have 29.7 percent lower wages and female workers have 58.7 percent lower wages in comparison to their public sector counterparts. With education, the wage differentials decrease. For higher education and technical education, the wages differences are relatively small and in the private sector, the workers have wages that are 11 percent less than the wages of comparable public sector workers. The public sector advantage stems from the higher remuneration. However, individuals with a university education and technical education earn relatively more in the private sector.

The wage differentials regarding the different natures of jobs are summarized in Table 3.

Table 3: Wage differentials at different natures of jobs

	Male				Female			
	Private Sector	Public Sector	Wage differentials	No. of observations	Private Sector	Public Sector	Wage differentials	No. of observations
Executives	957,339	953,541	100.4	2,771	716,541	793,324	90.3	141
Professionals	665,604	697,704	95.4	4,881	506,223	543,398	93.2	2,467
Technicians and operators	283,714	489,299	58.0	14,675	216,246	354,957	60.9	578
Clerks	302,068	460,093	65.7	2,111	316,360	440,978	71.7	70
Services, sales and trade	269,682	428,814	62.9	29,337	92,214	390,349	23.6	2,341
Agriculture workers	192,886	337,407	57.2	274	360,000	-	1
Unskilled workers	193,517	330,198	58.6	5,638	76,928	250,299	30.7	1,626

Source: Author's calculations.

Table 3 reveals that at the executive level, male private sector employees receive higher wages in comparison to their public sector counterparts although the wage penalty for public sector executives is very marginal. However female executives in the private sector are paid wages that are 9.7 percent less than executives in the public sector. Similarly, for professionals, male employees in the private sector earn 4.6 percent less than public sector professionals and female professionals in the private sector earn 6.8 percent less than in the public sector. However, in all other job categories, male workers in the private sector earn 34-42 percent less

than the public sector. The highest difference is for clerks wherein clerical staff working in the private sector earn 34.3 percent less than clerical staff working in the public sector. The situation is more concerning among female workers. Female workers in the private sector earn 28-76 percent less than comparable workers in the public sector. Female private sector workers belonging to the services, sales, and trade sectors earn 76 percent less than comparable workers in the public sector. A similar position exists among unskilled female workers where they are paid 69.3 percent less than in the public sector.

5. Estimation Results

The results of wage function of male and female workers in the public and private sectors are reported in Table 4.

Table 4: OLS Estimation Results¹

	Male				Female			
	Private Sector		Public Sector		Private Sector		Public Sector	
	Coefficient	P Value	Coefficient	P Value	Coefficient	P Value	Coefficient	P Value
Education (No Education as baseline)								
Below	-0.4843	0.1627	0.0678	0.3450	-1.2880	0.4210	0.1068	0.3270
Secondary								
Secondary & Intermediate	-0.3162*	0.0000	0.2336*	0.0000	-1.4440*	0.0000	0.2149**	0.0930
Professional	0.6427*	0.0000	0.7519*	0.0000	0.6412*	0.0000	0.9397*	0.0000
Degree or higher	0.6260*	0.0000	0.3880*	0.0000	0.0851*	0.0000	0.3508*	0.0070
Technical Education and Training	0.3672*	0.0000	0.2874*	0.0000	0.5719*	0.0000	0.3580*	0.0060
Age	0.0079*	0.0000	0.0152*	0.0000	0.0133*	0.0000	0.0154*	0.0000
Region (Urban Areas =1)	0.1817*	0.0000	0.0703*	0.0000	0.3536*	0.0000	0.0815*	0.0000
Marital Status (Ever Married=1)	0.1655*	0.0000	0.0058	0.7290	-0.1112*	0.0010	-0.0285	0.3030
Nature of Job (Unskilled workers as baseline)								
Executives	0.4149*	0.0000	0.8654*	0.0000	0.5163*	0.0000	0.4290	0.0000
Professionals	0.5323*	0.0000	0.7937*	0.0000	0.8438*	0.0208	0.2232	0.0019
Technicians and operators	0.3471	0.7840	0.5547*	0.0000	0.0159**	0.0920	0.0710	0.0000

¹ Log wages has been used as dependent variable.

	Male				Female			
	Private Sector		Public Sector		Private Sector		Public Sector	
	Coefficient	P Value	Coefficient	P Value	Coefficient	P Value	Coefficient	P Value
Clerks	0.1082*	0.0000	0.0898*	0.0000	0.1140	0.4480	0.0619	0.0000
Services, sales and trade	0.0609*	0.0040	0.0638*	0.0000	0.0877*	0.0000	0.1094	0.0030
Agriculture workers	0.1357	0.1930	-0.7818**	0.0954	0.4958	0.5510	0.0842	0.1920
Constant	12.2885*	0.0000	12.6660*	0.0000	13.3503	0.0000	12.1665	0.0000
F- Statistic	463.46	---	338.43	---	201.23	---	28.33	---
P Value of F-Statistic	0.0000	---	0.0000	---	0.0000	---	0.0000	---
R Square	0.2670	---	0.3819	---	0.2935	---	0.3840	---
Number of Observations	49,493		10,194		5,396		1,828	

Source: Author's calculations.

* denotes significance at 5% level

The results in Table 4 indicate that the importance of education varies in the public and private sectors at different levels of education. Except for professional education, the coefficients for different levels of education in public sector are relatively small in comparison to the private sector. Both in the public and private sectors, education below the secondary level does not yield significant wage premiums. However, the wage premium for secondary and intermediate education is 23.4 percent in the public sector and a wage penalty of 31.6 percent in the private sector. But there is exists a large imbalance between demand and supply of jobs for individuals with secondary/intermediate education and even at higher education levels (Farooq, 2011; Qayyum, 2007), driving down private sector wages. Up until 1990, it was argued that in Pakistan a supply of educated labor had been matching the demand of labor force. However, after the 1990s, and due to sluggish economic growth, Pakistan finds itself unable to create demand for its growing labor force (Uzair-ul-Hassan & Noreen, 2013). As a consequence, due to mismatching in the labor market, workers in the private sector with intermediate and secondary education are unable to receive better salaries. As far as those with professional and higher education are concerned, workers in the private sector enjoy a very high premium of more than 60 percent, whereas workers in the public sector with professional education enjoy a wage premium of 75 percent. On the other hand, those with a degree or higher education have a wage premium of a mere 38.8 percent. These results are supported by the

findings of Gindling (2020), who found that public sector wage premiums vary with the level of education.

The results indicate that training and attaining technical education also exhibit a positive impact on wages. In comparison to the public sector, the relative impact is high in the private sector as it yields a premium of 36.7 percent and 57.2 percent for male and female workers respectively, while this premium is 28.7 percent and 35.8 percent for men and women in the public sector. These associated returns with training suggest that after training employees may receive benefits in the form of increments, promotions, or additional allowances.

The estimated coefficient for age (used as a proxy for experience) is significant in both the public as well as in the private sectors. High wages associated with age are in the public sector. It reveals that each year of experience for workers in the public sector yield an addition 2 percent wage premiums. However, in private sector, this premium is almost half. It is worth mentioning here that our results support the human capital theory of wages proposed by Mincer (1974) as education, age, and training have a significant positive impact on wages.

There are factors other than human capital factors that also affect the wages of workers. The results indicate that in urban areas wages are significantly higher than wages in the rural areas. Male workers in urban areas enjoy a wage premium of 18.2 percent in the private sector and 7 percent in the public sector. Female workers belonging to urban areas in the private sector receive a relatively higher wage premium of 35.3 percent while in the public sector it is similar to male workers. The low wage premium in the public sector is because there are very marginal differences in wages between urban and rural area workers. The high wage premium of female workers in the private sector indicates that in rural areas females are paid very little. However, these findings are contradictory to the findings of Blackaby et al. (2017) and Elliott et al. (2007), who find that public sector wages are higher in rural areas in contrast to urban areas.

The wage premium of married male workers in private sector is 16.6 percent. However, for female workers in the private sector instead of a wage premium there is a wage penalty of 11.1 percent. It is possible that female workers face family pressures after marriage leading them to face wage penalties. It has been found that, in the public sector, marriage has no significant impact on wages. These results may be because the public sector in Pakistan puts less emphasis on productivity and efficiency in

determining wages or promotions or because the public sector allows greater flexibility to female workers after marriage.

The coefficients of different occupations suggest that in the private sector, the highest wage premium for male workers is in the worker's groups of professionals (53%), followed by executives (41%) and technicians (34%). Female technicians do not enjoy any wage premium in the private sector. The results also reveal that in public sector highest premium is for executives followed by professionals and technicians. The results also indicate that in both public and private sectors, agricultural workers does not enjoy any wage premium. The high value of R-squared and statistically significant F-statistic indicate the goodness of fit and model specifications.

Table 5: Blinder-Oaxaca Decomposition

	Male			Female		
	Coefficient	Standard Error	P Value	Coefficient	Standard Error	P Value
Differential						
Private sector	12.2961*	0.0037	0.0000	11.2259*	0.0140	0.0000
Public sector	13.0257*	0.0048	0.0000	12.5771*	0.0113	0.0000
Difference	-0.7297*	0.0061	0.0000	-1.3512*	0.0180	0.0000
Decomposition						
Endowments	-0.1603*	0.0060	0.0000	-0.2143*	0.0277	0.0000
Coefficients	-0.6616*	0.0079	0.0000	-0.9790*	0.0278	0.0000
Interaction	-0.0077*	0.0079	0.3290	-0.1579*	0.0357	0.0000

Source: Author's calculations.

* denotes significance at 5% level

After estimating the wage equation, the Blinder-Oaxaca decomposition has been carried out the results are summarized in Table 5. The results in Table 5 indicate that, in comparison to the private sector, both male and female public sector employees enjoy wage premiums. The wage premium is high for female workers in comparison to male workers. There is a log difference of 0.72 between the public and private sector employees. This difference is decomposed into an unexplained component, an endowment, and an interaction between the two. It suggests that, for male workers, the majority of variation (77%) is due to the unexplained component. The employee-specific attributes included in the regression (endowment effect) explain 22 percent of the variation in male workers' wages. However, only 1 percent of the variation is explained by the interaction term, that is, differences in the returns of the workers.

For female workers there is a log difference of 1.35 among the public and private sectors. 72.5 percent of the variation is due to the unexplained component, 15.9 percent is due to the endowment effect and 11.7 percent of the variation is accounted for by the returns of the workers.

The results in Table 5 indicate that productivity or returns have almost no role in explaining high wages among male public sector employees. Although female workers' productivity plays an important role in explaining variation in public and private sector employment; yet its share is less than employee-specific characteristics.

The Blinder-Oaxaca decomposition in the wage of the public and private sectors in different types of jobs may be analyzed. The results are summarized in Table 6 below.

Table 6: Blinder-Oaxaca Decomposition of different professions

	Executives	Professionals	Technicians	Clerks	Services	Agricultural Workers	Unskilled workers
Differential							
Private sector	13.629*	12.502*	12.348*	12.210*	12.168*	12.115*	11.562*
Public sector	13.067*	12.977*	12.943*	13.244*	12.898*	12.427*	12.628*
Difference	0.561*	-0.476*	-0.596*	-1.034*	-0.730*	-0.312*	-1.066*
Decomposition							
Endowments	0.143*	-0.092*	-0.092*	-0.217*	-0.124*	-0.037*	-0.170*
Coefficients	0.334*	-0.342*	-0.481*	-0.825*	-0.560*	-0.279*	-0.687*
Interaction	0.085	-0.041*	-0.023	0.008	-0.046*	-0.005*	-0.208*

Source: Author's calculations.

* denotes significance at 5% level

Table 6 reveals that executives working in the public sector are facing wage penalties while in all other types of jobs, public sector employees are getting higher wages in comparison to private sector employees. The highest wage premium is for clerical staff followed by unskilled workers, services, technicians, professionals, and agriculture workers.

6. Discussion and policy implications

Public sector employees play a pivotal role in the economic development of a country. The salary structure in the public sector has implications for the smooth execution of state policies. If public sector employees get less pay in comparison to their private counterparts, then it becomes difficult for the government to recruit and retain trained and

qualified workers. However, if public sector employees get higher salaries than the private sector then these wage premiums will encourage young people to join the public sector. But as the public sector has limited job absorption capacity which could cause unemployment to increase. In Pakistan, the majority of public sector workers are dissatisfied with their pay. It has always been argued that they are underpaid in comparison to the private sector. Surprisingly despite all the complaints about low salary, the majority of public sector employees prefer to remain in the civil service. The present study is an attempt to analyze the wage differentials between public and private sector employees by using data from the Pakistan Labour Force Survey 2020-21.

The results indicate that the relationship of education with wages varies by level of education. In both the public and private sectors, workers with education below the secondary level do not receive significant wage premiums. In the private sector, there is a wage penalty for workers with secondary and intermediate levels of education. However, at all other levels of education, both public and private sector employees enjoy wage premiums.

Experience proxied by age also yields wage premium. However, the public sector premium for experience is almost double that found in the private sector. It has also been concluded that in urban areas, wages are significantly high. The study concludes that there is a wage premium for married male workers in private sector however for females there is a wage penalty. It has also been found that in public sector marriage has no significant impact on wages. The study also reveals that the greatest premium in the private sector is received by professionals while in the public sector, the highest premium is paid to executives.

The results of Blinder-Oaxaca's decomposition suggest that both male and female public sector employees enjoy wage premiums. The wage premium for male workers is higher than that for female workers. The decomposition further illustrates that the majority of the variation in wages is due to the unexplained component (more than 70%). The employee-specific attributes included in the regression explain 15-20 percent of the variation. However, very limited variation is explained by the interaction term, i.e. differences in returns of the workers. It indicates that productivity or returns have a very limited role in the high wages of public sector employees.

The study has further analyzed wage differentials in different occupations. It has been found that public sector executives are facing wage penalties, while other occupational groups in the public sector are enjoying wage premiums. The highest wage premiums are for clerical staff followed by unskilled workers, services, technicians, professionals, and agricultural workers. It can be concluded that the wage premium varies across the occupational distribution. The wage premium is high at the lower end of wage distribution and is decreasing with the level of wages. This then becomes a penalty at the top of the wage distribution. Many other studies also found that wage premiums in the public sector for low-paid employees are high and wage premiums decrease with an increase in wage distribution, and turn into wage penalties for high-paid employees (Cai & Liu, 2011; Christofides & Michael, 2013; Saha, et al., 2014; Azam & Prakash, 2015; Gindling, 2020).

It is worth mentioning here that the study has certain limitations. The present study has not accounted for perks and privileges given to public sector employees in terms of free residence in prime areas, use of cars (outside car monetization like the use of project cars, for example), free petrol, household staff, free telephones, among other perks. There is a likelihood that if these privileges and subsidies were included then the wage premiums would significantly change. Similarly, the present study has used the data of the labor force 2020-21. In July 2022, the government began to provide an executive allowance to federal employees amounting to 150 percent of their salaries. If this executive allowance and in-kind perks and privileges are included in the salaries of the public sector executives, then it is possible that instead of facing wage penalties, executives working in the public sector will also enjoy wage premiums. Additionally, among the most important features of working for the public sector are job security (and if we account for pensions then financial security may even turn into an inheritance in certain cases) and social status. It adds a lot of value to the public sector but in monetary terms, it becomes very hard to measure.

Based on the results of the present study various policy implications can be drawn. Some of the key takeaways from the present analysis are as under:

- i. The low wages in private sector reflect that workers in the private sector are exploited. There is a dire need that some actions may be taken to ensure that an effective minimum wages be given in the private sector. There is also a need that workers may be educated about

their rights and be given protective cover like old age benefits and health insurance.

- ii. Public sector employees should be given wages according to their efficiency and value addition. If incentives are not given to more productive workers, then the productivity of more productive workers will converge to that of lower productivity workers who get the same salaries.
- iii. High wage premiums to public sector employees have severe consequences for the overall fiscal position of the government. The pay and pension bill in Pakistan has become difficult to sustain and there is a need for reforms. The reduction in government payrolls can be achieved by either reducing the size of the government or reducing wages. It is very hard to make cuts in wages. However, the size of the government can be reduced by cutting unnecessary positions and introducing of E-office management system.
- iv. Besides the associated fiscal burden incurred due to wage premiums to public sector, the issue of equity also emerges. These unequal wages encourage youth to wait for secure public sector jobs instead of joining the comparatively uncertain private sector. Consequently, the young labor force is unable to play its role in economic development. There is a need that awareness campaigns and policies may be launched to promote entrepreneurship and private-sector employment.
- v. The findings of the study hint towards gender base wage discrimination against women in private sector. Gender-based discrimination of any type is a violation of labor laws. It is suggested that strict enforcement of equal wages for male and female workers may be ensured in private the sector; furthermore, awareness may be raised among women about their rights.
- vi. One of the main policy implications that emerged from present study is that whenever reforms in the civil service are introduced, civil servants demand to increase their cash salaries and try to protect the in-kind perk and privileges intact or attempt to increase them (Haque & Din, 2006). Furthermore, they also encourage seniority-based promotions rather than competence or performance-based promotions. There is a need that in-kind perks and privileges may be monetized. For example, the houses given to public sector employees may be discontinued, and all the government accommodations may be

auctioned and these funds may be invested to finance pension bills. However, employees may be given competitive or market-based house rent. Instead of providing medical allowances along with free medical facilities, health insurance may be introduced for the employees. It is suggested that instead of pay and pension reforms holistic evidence-based reforms are needed to bring professionalism and automation in the public sector.

In the wage equation, the present study has tried to control different types of jobs and workers' characteristics and tried to capture the occupational structure, yet many unobserved factors still play a role in the wage differentials of the public and private sectors. It is suggested that future studies may be conducted that may capture the motivation to work, job security, after-retirement benefits, among other factors, in the wage equation. Furthermore, future research can look at the relationship between the wage premium of public sector employees and competency in policy formulation and implementation capacities. Also, one could test to see if high wages in the public sector provide an incentive for higher productivity and if they reduce corruption.

Conflict of interest

The views presented in the paper are personal and do not reflect the views of author's affiliated institution in any respect.

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