

Overpaid Clerks, Underpaid Managers: Estimates of Public-Private Sector Wage Gap in the Philippines

Rosechin Olfindo^a

Ateneo School of Government, Ateneo de Manila University, Philippines

Abstract

Public sector employment is often viewed as a good job—well-paid and secure. Most studies find that public sector employees enjoy a wage premium over their private sector counterparts. Using data from the Philippines, this article differentiates employees into managers and administrative employees, and finds that the public sector wage premium is largest among administrative workers in the highest pay scale, followed by managers in the middle pay scale. The estimates are derived using the most common techniques in the literature. While the magnitude of the wage premium varies depending on the method used, the order of who benefits the most from public sector employment remains consistent across methodologies. These findings imply that managers are likely to leave the public sector after they have reached the middle pay scale, while the administrative employees are likely to remain longer to reach the highest pay scale and enjoy the largest wage premium.

Keywords: public-private wage gap; wage differentials; civil service; developing countries; Philippines

JEL Classification: H10, J31, J45

1. Introduction

The effectiveness of government in carrying out its responsibilities primarily depends on the quality of its human resources. The government is required to make complex decisions that affect not only the entire economy, but also the socio-economic well-being of its constituents. In developing countries, governments are required to respond to a wide range of issues such as poverty, illiteracy, unemployment, disaster risks, among others, with much less resources at their disposal than those in developed countries. Also in developing countries, the ability of the governments to make policy decisions is constrained by inadequate and unreliable information, weak institutional structures, poor governance, and many other factors that intensify uncertainties. These make policy decisions even more complex, and the question that arises is whether or not there is enough capacity among the personnel who operate the government bureaucracy.

Too often, the most capable individuals have high reservation wages that the public sector, with a limited budget, may not be able to accommodate. Competing development priorities—such as wider access to education or better infrastructure—puts tremendous strain on the budget, making it difficult for a government agency to justify increases in salaries of its employees. On the other hand, the public sector cannot lower the salaries of its employees as it also aims to conform to labor regulations, such as the payment of the minimum wage, which tends to be higher than the market-clearing wage, particularly in economies with a large informal sector. Because of these parameters, the wage structure in the public sector tends to be more compressed than that of the private sector, which leads to the notion that an average public sector employee enjoys a wage premium over his or her private sector counterpart.

Studies on public-private sector wage gap are voluminous. Most studies use data from developed countries, but recently many studies in developing countries have emerged. In general, the public sector wage premium is found to be positive and significant (for reviews, see Ehrenberg and Schwarz, 1986; Bender, 1998; Gregory and Borland, 1999; Lausev, 2014). The wage premium is high at the low-end of the wage distribution and low at the top-end of the wage distribution (for instance, Disney and Gosling, 1998; Jürges, 2002; Melly, 2005; Lucifora and Meurs, 2006; Glinskaya and Lokshin, 2007;

San and Polat, 2012; Azam and Prakash, 2015; Morikawa, 2016). Most studies find similar patterns on who enjoys the wage premium and the estimates of the wage premium have been found to be higher in developing countries (for instance, Adamchik and Bedi, 2000; Skyt Nielsen and Rosholm, 2001; Christofides and Pashardes, 2002; Aslam and Kingdon, 2009; Hyder and Reilly, 2005).

Several explanations have been put forward about the positive public sector wage premium. One of them is the non-competitive wage determination process in the public sector, which is mainly based on maximization of benefits of its employees subject to the public budget and to the voter response (Fogel and Lewin, 1974). Another explanation is the egalitarian role of the government, which tends to overpay unskilled workers and underpays skilled ones. Moreover, the systemic bureaucracy embedded in the public sector—such as long procedures and checks-and-balances—contribute to the rigidity in the wage structure that no longer reflects the competitive rates as in the private sector. The large organized groups within the public sector can also prevent changes in the existing wage structure, especially if the wage structure benefits the members of the organized groups. Furthermore, even if the public sector is budget-constrained, any deficit due to higher wage bill can be passed on to taxpayers (Mueller, 1998; Borjas, 2000).

The studies that estimate the public sector wage premium vary in methods used, and there is still no consensus among researchers about which method is preferable. Earlier studies used ordinary least squares (OLS) estimation of the earnings function, wherein a binary variable representing public or private sector employment is included in the equation. The estimated coefficient of this variable represents the wage gap (Smith, 1976; Lindauer, 1983). The OLS method, however, suffers from a potential bias due to the unobserved characteristics of the workers that affect their earnings, such as innate abilities and family background that are not included in the equation. The OLS estimates also assume that the wage structures in the public and private sectors are identical even if the effects on earnings of some of the covariates, such as education and length of work experience, may be different in each sector. Moreover, the choices that were available to the workers—whether wage or non-wage employment and whether public or private sectors—

may be non-random, which could make the two samples of workers in public and private sectors less comparable.

In this regard, various statistical techniques have been employed to correct for the potential sources of biases. Some studies applied correction techniques to account for the biases arising from wage and non-wage employment choice, and from public and private sector choice among the workers (van der Graag and Vijverberg, 1988; Terrel, 1993; Hou, 1993; Lassibille, 1998; Heitmueller, 2006; Glinskaya and Lokshin, 2007; Tiagi, 2010). Other studies applied a matching method, which does not require the estimation of the wage function. The matching method limits the comparison of workers in the public and private sectors only among those who display the same observable characteristics, except their sector choice (Glinskaya and Lokshin, 2007; Mizala et al, 2011). Several studies also estimated the public sector wage premium not only at the mean wage as in OLS, but at different points of the wage distribution (Poterba and Reuben, 1994; Mueller, 1998; Disney and Grosling, 1998; Jürges, 2002; Azam and Prakash, 2015).

Although the literature on the estimates of public sector wage premium is large, most of these studies treat employees as homogenous and do not categorize employees according to the types of task that they perform. In reality, employees can be broadly categorized into two main types: *managers and professionals*, who perform tasks that are technical in nature and involve supervisory responsibilities; and *administrative and support service personnel*, who perform tasks that are non-technical or clerical in nature and do not involve supervisory responsibilities. This paper contributes to the literature by estimating the public sector wage premium separately across these two types of employees. In order to yield robust findings, this paper estimates the wage premium using the following four most common statistical techniques: 1) *OLS method* to estimate the raw wage gap; 2) *Blinder-Oaxaca decomposition method* to identify the part of the wage gap that is not explained by workers' characteristics; 3) *quantile regression method* to investigate how the wage gap varies along the wage distribution; and 4) *propensity score matching method* to validate the estimates.

The analysis in this paper uses the data in the Philippines. The findings indicate that there is positive and substantial public sector wage premium and

this wage premium applies mainly to the administrative and support service personnel, but not to the managers and professionals. The magnitude of the wage premium varies by methods used, which is highest using the OLS and lowest using the matching method, but the estimates in all methods show a consistent pattern—the public sector wage premium is highest among administrative personnel in the highest pay scale, followed by managers in the middle pay scale. These findings imply that the public sector employment is least attractive among the high-skilled managers and professionals, while it is most attractive among high-skilled administrative and support service personnel. Highly capable managers are better off working in the private sector because they do not enjoy the wage premium in the public sector. In contrast, administrative types of workers are likely to queue for public sector jobs.

The following section presents the data, followed by the empirical strategy, and results. The final section presents the conclusion.

2. Data

The sample is drawn from the Philippines' Labor Force Survey (LFS) in April 2015. The LFS is a nationally-representative household survey that is being conducted by the Philippine Statistical Authority. It includes a comprehensive set of questions on the respondent's labor market status (employed, unemployed, or not in the labor force), sector of employment (private or public), basic pay per day, among other information. The complete household survey data set covers a total of 201,495 individuals who belong to 43,270 households. The year 2015 was a relatively stable year, with no major crisis or shocks that could have created significant structural disruptions in the Philippine labor market.

About 70 percent of respondents in the complete dataset belong to the working age population (15 years and older), of whom 60 percent are employed. The employed workers are classified into wage (60 percent) or non-wage workers (40 percent). Wage workers (or employees) are employed in either public (14 percent) or private sector (86 percent). Private sector wage workers are employed in either private establishments (90 percent), private households (9 percent), or family-operated business (1 percent). Non-wage workers include employers in their own businesses (self-employed), or unpaid family workers.

To estimate the public sector wage premium, the analysis in this paper is limited to wage workers only. It also limits the analysis among wage workers in public sector and those in private establishments, therefore excluding wage workers in private households and in family-operated businesses. This is because of the possibility of these workers receiving non-monetary compensation such as board and lodging, transportation, paid leaves, educational support, and other non-formal modes of payments, all of which may not be accounted for in the survey. Moreover, because of the potential non-random selection of women in the labor force, the analysis is limited to male workers only.

After excluding some observations as described above, the sample is reduced to 22,363 male employees. Table 1 presents the descriptive statistics of the sample. On average, public sector employees earn more than private sector employees. However, the difference in wages varies along the wage distribution and by types of employees. At the top 20 percent of the wage distribution, managers in the public sector earn lower than their private sector counterparts, while it is the opposite among the administrative personnel. In almost every pay scale, administrative personnel in the public sector earn more than similar types of employees in the private sector.

The data also shows that managers in the public sector put in less number of hours at work than managers in the private sector. Moreover, there is a stark contrast in education background between public and private sector employees. In general, public sector employees have higher levels of education compared to private sector employees. Nearly 90 percent of public sector employees in managerial positions completed tertiary level of education or higher, while this proportion is lower in the private sector at about 80 percent. There are about 40 percent of public sector employees holding administrative positions who completed tertiary education, while this proportion is only 10 percent in the private sector.

Table 1. Descriptive statistics of the sample

	Pooled	Public	Private	t-test
<i>Managers</i>				
Hourly wage (pesos)	108	121	100	***
Quintiles of hourly wage (pesos)				
Bottom 20%	40	34	42	***
Q2	67	68	66	*
Q3	94	97	93	***
Q4	121	119	122	***
Top 20%	213	209	216	***
Ave. no. of hours worked per week	38	32	42	***
Age (years)	39	42	37	***
Marital status (% married)	62	68	59	***
Education				
% with complete tertiary or higher	82	88	78	***
% with incomplete tertiary	4	3	5	**
% with complete secondary	9	6	11	***
% with incomplete secondary or lower	3	2	4	**
Location (% in urban areas)	72	57	81	***
No. of observations	1,984	725	1,259	
<i>Administrative</i>				
Hourly wage (pesos)	40	63	38	***
Quintiles of hourly wage (pesos)				
Bottom 20%	19	19	19	***
Q2	30	29	30	**
Q3	36	36	36	***
Q4	46	47	45	***
Top 20%	79	99	74	***
Ave. no. of hours worked per week	41	42	41	
Age (years)	35	40	34	***
Marital status (% married)	60	72	59	***
Education				
% with complete tertiary or higher	10	37	7	***
% with incomplete tertiary	9	16	9	***
% with complete secondary	38	31	38	***
% with incomplete secondary or lower	41	15	44	****
Location (% in urban areas)	51	60	50	
No. of observations	20,379	1,824	18,555	

Note: Two sample t-test of equal variances: difference = mean (public) – mean (private) is not equal to zero at ***1%, **5%, and *10% levels.

Source: Labor Force Survey 2015; Author's calculations.

3. Empirical strategy

To estimate the public sector wage premium, this article employs the four most common econometric methods in the literature. First, it uses the OLS method to estimate the earnings function of the pooled sample of public and private sector employees. In this method, a binary variable that represents sector employment is included in the wage function, whereby the estimated coefficient represents the difference in wages between the public and private sector employees. The purpose of starting with the OLS method is to present the raw wage premium, controlling for some observable characteristics of the workers. However, as indicated in other studies, the OLS estimate tends to be overstated as the wage premium is evaluated at the mean of the independent variables, which is likely to capture the bias arising from the sector choice among the employees.

Second, the analysis uses the Blinder-Oaxaca decomposition (Blinder, 1973; Oaxaca, 1973). This method aims to separate the part of the estimated wage premium that is attributable to differences in workers' characteristics from the part that cannot be explained by such differences, which represents the public sector wage premium. The estimate using the Blinder-Oaxaca decomposition method is expected to be more precise than the OLS estimates as it attempts to eliminate the bias arising from sector selection. However, since this method also involves estimating only at the mean of the independent variables, it does not capture the possible differences in wage premium along the wage distribution. In this regard, the third method is employed—the quantile regression method, which estimates the public sector wage premium at specific points of the wage distribution.

The fourth method is the propensity score matching approach, which does not require the estimation of the wage equation. The matching method limits the comparison of wages only among employees that display the same observable characteristics (Rosenbaum and Rubin, 1983; Nopo, 2008). Specifically, the propensity score matching method estimates the difference between the expected hourly wage of public sector workers and that of private sector workers who have the same likelihood (or propensity) of being employed in the public sector. This latter group of workers serves as the statistical control group, who are selected by estimating their propensity

scores using a logit regression, and by using the nearest-neighbour matching method.

These above four steps are estimated across two groups of male employees: 1) *managers and professionals*; and 2) *administrative personnel*. Other empirical studies that estimated the public sector wage premium treated all employees as similar, whereas this paper recognizes that these two groups of employees are different in terms of skills, education levels, and the tasks that they are required to perform. The remainder of this section discusses the methods in more detail.

3.1 OLS method

The Mincerian wage function is specified in Equation (1) as follows:

$$w_i = \beta_i x_i + u_i \quad (1)$$

where the dependent variable w_i is the natural log of earnings per hour of worker i and the independent variables x_i include the following: a binary variable that takes a value of 1 if worker i is employed in the public sector, 0 otherwise; number of years of experience and its square, marital status, highest education level obtained, and location of employment. The variable u_i represents the error term. A positive and significant estimated coefficient of the binary variable indicates a wage differential in favour of public sector workers. Equation (1) is estimated separately for managers and professionals, and for administrative and support personnel.

The information on worker's experience is computed using by the worker's age less the approximate age that the worker finished schooling. Marital status is represented by a dummy variable that takes a value of 1 for married (not married as reference). The highest education level obtained is represented by three dummy variables: complete tertiary or higher, incomplete tertiary, and complete secondary (incomplete secondary or lower as reference). Location of employment is represented by a dummy variable that takes a value of 1 for urban area (rural area as reference).

3.2 Blinder-Oaxaca decomposition method

To estimate how much of the mean difference in wages between the public and private sector employees is attributable to the part that is explained by the employees' differences in characteristics and to the part that cannot be explained by such differences, this paper uses the Blinder-Oaxaca decomposition method (Blinder, 1973; Oaxaca, 1973). The decomposition is specified in Equation (2) as follows:

$$\bar{w}_{pu} - \bar{w}_{pr} = \beta_{pu} (\bar{x}_{pu} - \bar{x}_{pr}) + (\beta_{pu} - \beta_{pr}) \bar{x}_{pr} \quad (2)$$

where \bar{w}_{pu} and \bar{w}_{pr} are the means of the log hourly wages of public (pu) and private (pr) sector employees, respectively; \bar{x}_{pu} and \bar{x}_{pr} are vectors containing the means of the independent variables; and β_{pu} and β_{pr} are the estimated coefficients.

The term $\beta_{pu} (\bar{x}_{pu} - \bar{x}_{pr})$ is the part of the wage gap that is attributable to the differences in characteristics of employees in public and private sectors such as education and work experience. It measures the expected change in private sector employees' mean outcome if they possess the characteristics of the public sector employees. The term $(\beta_{pu} - \beta_{pr}) \bar{x}_{pr}$ is the part of the wage gap that is attributable to the differences in the coefficients. It measures the expected change in private sector employees' mean outcome if they had the public sector workers' coefficients.

3.3 Quintile regression method

To investigate how the estimated wage gap between the public and private sector employees varies at different points of the conditional wage distribution, Equation (1) is extended to account for the varying quantiles in the conditional wage distribution. The extended equation is specified in Equation (3) as follows:

$$w_i^\theta = \beta_i^\theta x_i^\theta + u_i^\theta \quad (3)$$

where the variables are the same as Equation (1), except that the log hourly wage is evaluated at a specific quantile θ .

So far, the three methodological approaches described above involve the estimation of the wage function, which has been recognized in the literature

to be prone to bias arising from individual heterogeneity. That is, the differences in wages may be due to some unobservable characteristics that are related to workers' productivity, but these effects are not captured by the covariates that are included in the wage equation. Moreover, the estimation of the wage equation has an underlying assumption that the workers in the public and private sectors are comparable when in fact the distributions of the two groups may be very distinct.

3.4 Propensity score matching method

The propensity score matching approach restricts the comparison of employees in the public sector with employees in the private sector that display the same observable characteristics. This method creates a sub-sample of private sector employees that represent a statistical control group, which is used to compare with the public sector employees. While this technique is more frequently used in impact evaluation studies to estimate the average effect of a particular program among the participants, it has also been used in empirical studies that analyse wage differentials as an alternative to the Blinder-Oaxaca decomposition method.

To employ this technique, each observation in the sample is given a propensity score, which represents the employees' likelihood of being employed in the public sector, controlling for some observable characteristics. The propensity score is generated using a logistic regression, which is specified in Equation (4) as follows:

$$\Pr[P_i = 1 | X] = \frac{\exp(x\beta)}{1 + \exp(x\beta)} \quad (4)$$

where the dependent variable is a binary variable that takes a value of 1 if worker i is employed in the public sector, 0 otherwise; and the independent variables are the same as those in Equation (2). The next step is to select the observations in the private sector sub-sample whose propensity scores are "near" the propensity score of an observation in the public sector sub-sample and that fall within a certain range, or the nearest-neighbour matching method. Only the public and private sector employees whose propensity scores fall within the range of common support are included in the propensity score matching.

4. Results

The estimates using the four methods suggest the following two main findings: first, on average, there is a positive public sector wage premium for both categories of employees: managers and professionals, and administrative and service support personnel; second, the public sector wage premium is highest among the administrative and service support personnel in the highest pay scale, and it is followed by managers and professionals in the middle pay scale. These findings imply that the wage structure in the public sector in the Philippines is most attractive among the high-skilled administrative support types of workers, and least attractive among the high-skilled managers and professional types of workers.

Table 2 presents the estimates using the OLS method. The estimated coefficient of the binary variable representing public sector employment is positive and significant for both managers and professionals, as well as for administrative and service support personnel. This finding supports earlier studies on the estimates of the public-private wage gap indicating a positive public sector wage premium. The estimates in Table 2 show that the administrative and service support personnel in the public sector enjoy a slightly higher wage premium than the managers and professionals.

Table 3 presents the decomposition of the wage gap using the Blinder-Oaxaca method, which confirms the positive and significant public sector wage premium as estimated using the OLS method. Among managers and professionals, about 60 percent of the difference in hourly wage between public and private sector workers is attributable to the sector, while only 40 percent is attributable to the characteristics of workers. Among administrative and support service personnel, about 30 percent of the difference in hourly wage between public and private sector workers is attributable to the sector.

Table 2. Results using the OLS method

Variables	Managers and professionals		Administrative support	
	Estimated coefficient	Std. error	Estimated coefficient	Std. error
<i>Constant</i>	3.170 ***	.080	3.008 ***	.010
<i>Public</i>	.105 ***	.027	.130 ***	.012
<i>Experience</i>	.027 ***	.004	.015 ***	.000
<i>Experience² (x100)</i>	-.029 ***	.008	-.022 ***	.001
<i>Married</i>	.044	.030	.110 ***	.007
<i>Complete tertiary or higher</i>	.865 ***	.071	.653 ***	.012
<i>Incomplete tertiary</i>	.320 ***	.088	.304 ***	.011
<i>Complete secondary</i>	.344 ***	.078	.207 ***	.007
<i>Urban location</i>	.154 ***	.029	.229 ***	.006
R-squared	.2053		.2652	
F-test	63.44***		915.81***	
No. of observations	1,974		20,305	

Note: Estimated coefficients are significant at ***1% level; ** 5% level; and * 10% level.

Source: Labor Force Survey 2015; Author's calculations.

Table 3. Results using the Blinder-Oaxaca decomposition method

	Managers and professionals		Administrative support	
	Estimated coefficient	Std. error	Estimated coefficient	Std. error
Differences in est. ln wage	.178 ***	.026	.380 ***	.014
Unexplained	.105 ***	.010	.130 ***	.004
Explained	.072 ***	.030	.249 ***	.015
<i>Explained differences due to:</i>				
<i>Experience</i>	.098 ***	.017	.052 ***	.003
<i>Experience²</i>	-.050 ***	.016	-.030 ***	.002
<i>Married</i>	.002	.001	.012 ***	.000
<i>Complete secondary</i>	-.018 ***	.004	-.019 ***	.000
<i>Incomplete tertiary</i>	-.006 ***	.002	.020 ***	.000
<i>Complete tertiary or higher</i>	.083 ***	.008	.193 ***	.004
<i>Urban location</i>	-.037 ***	.007	.020 ***	.000
No. of observations	1,974		20,305	
Public	721		1,819	
Private	1,253		18,486	

Note: Estimated coefficients are significant at ***1% level; ** 5% level; and * 10% level.

Source: Labor Force Survey 2015; Author's calculations.

Table 4. Results using the quantile regression method

Quantiles of ln wage	Managers and professionals		Administrative support	
	Estimated coefficient	Std. error (x100)	Estimated coefficient	Std. error (x100)
$\theta = .10$	.037 ***	.010	-.055***	.005
$\theta = .20$	.168***	.007	-.002***	.003
$\theta = .40$	.216***	.006	.084***	.002
$\theta = .60$	.167***	.004	.171***	.002
$\theta = .80$	.089***	.005	.259***	.002
$\theta = .90$	.073***	.008	.357***	.003
No. of obs	1,974		20,305	

Note: Estimated coefficients are significant at ***1% level; ** 5% level; and *10% level.

Source: Labor Force Survey 2015; Author's calculations.

Using quantile regression method, the estimates of the public sector wage premium show that they vary along different points of the wage distribution. Table 4 above presents the estimates of the wage gap in 10th, 20th, 40th, 60th, 80th, and 90th quantiles. Among managers and professionals, the average earners (40th quantile) enjoy the highest public sector wage premium, while lowest earners (10th quintile) and the highest earners (40th quintile) enjoy only a lower wage premium over their private sector counterparts. Meanwhile, among the administrative and service support personnel, the highest earners (90th quintile) enjoy the highest public sector wage premium and this wage premium declines with the salary scale. The results also indicate that the lowest earners among administrative and service support personnel suffer a wage penalty.

Table 5 presents the estimates of the public sector wage premium using the propensity score matching method. The columns showing Specification (1) uses the set of independent variables as in the OLS method to calculate the propensity scores, while the columns showing Specification (2) uses fewer variables. Specification (2) is estimated to satisfy the test of balancing property, which is not satisfied among the administrative personnel using Specification (1). Hence, a less restrictive specification of the logit regression is used to ensure that employees that are being compared fall within the range of the common support.

Table 5. Results using the propensity score matching method

Quintiles of ln wage	Managers and professionals		Administrative support	
	Wage premium		Wage premium	
	Specification (1)	Specification (2)	Specification (1)	Specification (2)
<i>Mean</i>	.085 *** (.040)	.194 *** (.033)	.180 *** (.018)	.231 *** (.017)
<i>Q1</i>	-.264 *** (.061)	-.289 *** (.053)	-.045 ** (.025)	-.049 *** (.022)
<i>Q2</i>	.026 *** (.020)	.033 ** (.017)	-.028 *** (.006)	-.032 *** (.006)
<i>Q3</i>	.046 *** (.012)	.044 *** (.011)	-.012 *** (.005)	-.008 ** (.004)
<i>Q4</i>	-.010 *** (.013)	-.024 *** (.010)	.024 *** (.006)	.030 *** (.005)
<i>Q5</i>	-.003 *** (.045)	-.023 (.038)	.192 *** (.018)	.206 *** (.016)
Test of balancing property	Satisfied	Satisfied	Not satisfied	Satisfied

Note: Specification (1) uses the same variables as in the OLS method to estimate the propensity score. Specification (2) uses less variables to satisfy the test of balancing property. Standard errors are in parentheses. Estimated wage premium are significant at *10% level; ** 5% level; and *** 1% level. The tests of balancing property of the propensity score are satisfied for both professionals and administrative groups.

Source: Labor Force Survey 2015; Author's calculations.

The estimates using the matching method shows a positive and significant public sector wage premium, and it is higher among the administrative and support service personnel than among the managers and professionals. The estimates are lower than those derived using other methods, but the pattern on who benefits more from public sector employment remains consistent—the administrative and service support personnel in the highest pay scale enjoy the highest premium, and the premium declines as an employee goes down the pay scale. The managers and professionals in the middle pay scale also enjoy a premium, but to a lesser degree, while those in the tail ends of the pay scale suffer a wage penalty.

5. Conclusions

The estimation results presented in this paper indicate that there is positive and significant wage premium among workers in the public sector in the Philippines. These results are consistent with the findings of other country studies. However, this paper categorizes the employees in the public sector into managers and professionals, and administrative support personnel, and finds a different pattern of who benefits from the public sector wage premium. It finds that the public sector wage premium mainly accrues among the administrative and support service personnel. Those in the highest pay scale enjoy the highest wage premium. Meanwhile, among the managers and professionals, only those in the middle pay scale also enjoy a wage premium, but to a lower degree compared with the administrative and support service personnel. The estimates are robust across four most commonly used statistical techniques in analysing the wage gap between the public and private sector workers.

The findings imply that the incentive structure in the public sector in the Philippines is favourable among the workers who are capable of performing routine and clerical tasks, which are characterized by the administrative and service support personnel. In this category of employees, there is incentive for the low-paid administrative employees to remain longer in the public sector and move up to the higher pay scale because they are likely to earn higher than their private sector counterparts when they reach the top end of the wage distribution. In contrast, among managers and professionals, there is no incentive for the average employees to remain longer in the public sector and move up to the higher pay scale because they are likely to earn less than their private sector counterparts when they reach the top end of the wage distribution.

These findings imply that public sector employees who hold managerial positions are likely to leave the public sector after they reach the middle pay scale. Staying longer in the public sector does not seem attractive option for them as they will no longer enjoy the wage premium once they reach the highest pay scale. Hence, they are better off being employed in the private sector and hold similar positions. Meanwhile, public sector employees who hold administrative positions are likely to remain in the public sector because

the similar positions in the private sector will not give them higher wages. This type of incentive structure of the public sector, in the Philippines in this case, has implications on the quality of individuals that the public sector can attract and retain, and eventually on the quality of public institutions. High-skilled managers and professionals, in particular, have direct impact on the national economy, as they play critical roles in the quality of public service as well as in the regulation of the private sector, which have social and economic consequences.

References

- Adamchik, V. A., & Bedi, A. S. (2000). Wage differentials between the public and the private sectors: Evidence from an economy in transition. *Labour Economics*, 7(2), 203-224.
- Aslam, M., & Kingdon, G. (2009). Public-private sector segmentation in the Pakistani labour market. *Journal of Asian Economics*, 20(1), 34-49.
- Azam, M., & Prakash, N. (2015). A distributional analysis of public-private wage differential in India. *Labour*, 29(4), 394-414.
- Bender, K. A. (1998). The central government-private sector wage differential. *Journal of Economic Surveys*, 12(2), 177-220.
- Blinder, A. S. (1973). Wage discrimination: reduced form and structural estimates. *Journal of Human Resources*, 436-455.
- Christofides, L. N., & Pashardes, P. (2002). Self-paid-employment, public/private sector selection, and wage differentials. *Labour Economics*, 9(6), 737-762.
- Disney, R., & Gosling, A. (1998). Does it pay to work in the public sector?. *Fiscal Studies*, 19(4), 347-374.
- Ehrenberg, R. G., & Schwarz, J. L. (1986). Public-sector labor markets. In O. Ashenfelter, R. Layard & D. Card (Eds.), *Handbook of labor economics*. Netherlands: North Holland Elsevier Publishers.
- Fogel, W., & Lewin, D. (1974). Wage determination in the public sector. *Industrial & Labor Relations (ILR) Review*, 27(3), 410-431.
- Glinskaya, E., & Lokshin, M. (2007). Wage differentials between the public and private sectors in India. *Journal of International Development*, 19(3), 333-355.

- Gregory, R. G., & Borland, J. (1999). Recent developments in public sector labor markets. In O. Ashenfelter, R. Layard & D. Card (Eds.), *Handbook of labor economics*. Netherlands: North Holland Elsevier Publishers.
- Heitmueller, A. (2006). Public-private sector pay differentials in a devolved Scotland. *Journal of Applied Economics*, 9(2), 295.
- Hou, J. W. (1993). Public-private wage comparison: A case study of Taiwan. *Journal of Asian Economics*, 4(2), 347-362.
- Hyder, A., & Reilly, B. (2005). The public and private sector pay gap in Pakistan: A quantile regression analysis. *The Pakistan Development Review*, 44(3), 271-306.
- Jürges, H. (2002). The distribution of the German public-private wage gap. *Labour*, 16(2), 347-381.
- Lassibille, G. (1998). Wage gaps between the public and private sectors in Spain. *Economics of Education Review*, 17(1), 83-92.
- Lausev, J. (2014). What has 20 years of public-private pay gap literature told us? Eastern European transitioning vs. developed economies. *Journal of Economic Surveys*, 28(3), 516-550.
- Lindauer, D. L., & Sabot, R. H. (1983). The public/private wage differential in a poor urban economy. *Journal of Development Economics*, 12(1-2), 137-152.
- Lucifora, C., & Meurs, D. (2006). The public sector pay gap in France, Great Britain and Italy. *Review of Income and Wealth*, 52(1), 43-59.
- Melly, B. (2005). Public-private sector wage differentials in Germany: Evidence from quantile regression. *Empirical Economics*, 30(2), 505-520.
- Mizala, A., Romaguera, P., & Gallegos, S. (2011). Public-private wage gap in Latin America (1992-2007): A matching approach. *Labour Economics*, 18, S115-S131.
- Mueller, R. E. (1998). Public-private sector wage differentials in Canada: evidence from quantile regressions. *Economics Letters*, 60(2), 229-235.
- Morikawa, M. (2016). A comparison of the wage structure between the public and private sectors in Japan. *Journal of the Japanese and International Economies*, 39, 73-90.
- Ñopo, H. (2008). Matching as a tool to decompose wage gaps. *The review of economics and statistics*, 90(2), 290-299.

- Oaxaca, R. (1973). Male-female wage differentials in urban labor markets. *International economic review*, 14(3), 693-709.
- Poterba, J. M., & Rueben, K. S. (1994). *The distribution of public sector wage premia: new evidence using quantile regression methods* (National Bureau of Economic Research No. w4734). Cambridge, Massachusetts: National Bureau of Economic Research.
- Rosenbaum, P. R., & Rubin, D. B. (1983). The central role of the propensity score in observational studies for causal effects. *Biometrika*, 70(1), 41-55.
- San, S., & Polat, Ö. (2012). Estimation of Public–Private Wage Differentials in Turkey with Sample Correction. *The Developing Economies*, 50(3), 285-298.
- Nielsen, H. S., & Rosholm, M. (2002). The public-private sector wage gap in Zambia in the 1990s: A quantile regression approach. In F. Bernd, K. Roger & M. Jose A.F. (Eds.), *Economic applications of quantile regression*. Heidelberg, Germany: Springer-Verlag Berlin and Heidelberg GmbH & Co. KG.
- Smith, S. (1976). *Equal pay in the public sector: fact or fantasy?* Princeton, New Jersey: Princeton University Press.
- Tiagi, R. (2010). Public sector wage premium in Canada: evidence from labour force survey. *Labour*, 24(4), 456-473.
- Terrell, K. (1993). Public-private wage differentials in Haiti Do public servants earn a rent?. *Journal of Development Economics*, 42(2), 293-314.
- Van der Gaag, J., & Vijverberg, W. (1988). A switching regression model for wage determinants in the public and private sectors of a developing country. *The review of economics and statistics*, 70(2), 244-252.