

The **KENYA INSTITUTE** for **PUBLIC**  
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## Gender Wage Differentials between Public and Private Sectors in Kenya

Daniel Omanyó

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THE KENYA INSTITUTE FOR PUBLIC POLICY  
RESEARCH AND ANALYSIS (KIPPRA)

# **Gender Wage Differentials between Public and Private Sectors in Kenya**

*Daniel Omanyo*

Kenya Institute for Public Policy  
Research and Analysis

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© Kenya Institute for Public Policy Research and Analysis

Bishops Garden Towers, Bishops Road

PO Box 56445-00200 Nairobi, Kenya

tel: +254 20 2719933/4; fax: +254 20 2719951

email: [admin@kippra.or.ke](mailto:admin@kippra.or.ke)

website: <http://www.kippra.org>

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## Abstract

*An aspect of gender wage gap that is often neglected is the wage differentials between the public sector and the private sector. Cognizant of the fact that the Kenyan labour market is segregated into public and private sectors, entry into the labour market therefore differ significantly by gender and so is the wage. Using microdata from the 2015/16 Kenya Integrated Household Budget Survey (KIHBS), this study analyses the gender wage gap in the private and public sectors, considering the whole wage distribution with the assumption that the decision to work in a sector is a prior process which is determined endogenously in the model. Therefore, the usual Ordinary Least Square technique of estimation is inconsistent, and it is necessary to use alternative techniques. The study employs the Recentered Influence Function (RIF) Oaxaca-Blinder decomposition to calculate how much of the gap is due to differences in returns between men and women and sectors, considering the sample selection bias. We find that the size of the gap attributed to different returns varies substantially across the wage distribution. Public sector employees in Kenya are paid higher wages, on average, than their counterparts in the private sector, and the gap is wider for women. Moreover, the proportion of the gender wage gap explained (by different characteristics) tends to be wider for workers who are at the top of the wage distribution in both sectors. Looking at the whole wage distribution reveals that discrimination in the gender wage gap is typically higher at its bottom than at its top, suggesting that sticky floors are more prevalent than glass ceilings. A very important contribution of this study is evaluation of covariates that widen gender wage gap along the wage distribution. The study finds that education and unionization are key characteristics in lowering the gender wage gap. Further, wage gap due to discrimination is widely spread across industries to the disadvantage of women save for community service industries. Conversely, occupations such as clerical services, administrative, professionals, technicians and elementary occupation reveal lower wage gap for women. The study recommends introduction of women friendly working environment particularly in private sectors. Moreover, to mitigate gender wage inequality increasing acquisition of higher education skills especially for women is instrumental. This should be accompanied by legislation and compulsory implementation of workplace gender equality plans or policies in all organizations and ensuring strict enforcement of a mandatory minimum wage to alleviate lower wages for women across the wage distribution.*

## **Abbreviations and Acronyms**

BO	Blinder-Oaxaca
FBOs	Faith-Based Organizations
GGGI	Global Gender Gap Index
GWG	Gender Wage Gap
KIHBS	Kenya Integrated Household Budget Survey
KIPPRA	Kenya Institute for Public Policy Research and Analysis
KNBS	Kenya National Bureau of Statistics
NGAAF	National Government Affirmative Action Fund
NGOs	Non-Governmental Organizations
OLS	Ordinary Least Square
OLS	Ordinary Least Squares
PLWDs	People Living With Disabilities
RIF	Re-centred Influence Function
SDGs	Sustainable Development Goals
WEF	World Economic Forum
WEF-K	Women Enterprise Fund- Kenya
YEDF	Youth Enterprise Development Fund

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## 1. Introduction

Gender-based differences in the labour market have been a concern for debate for policy makers and researchers across the globe. In western industrialized countries, this has resulted in the push for development and implementation of legal and policy frameworks to govern equal pay and access to economic opportunities by all. In developing countries, the debate intensified in the past two decades resulting into institutionalization of policies that empower women through Acts of Parliaments, Affirmative Action Initiatives and Constitutions.

For Kenya, the government has over the years instituted laws and policies to enhance empowerment of women. In 2010 for example, the country promulgated the Constitution of Kenya 2010, which among other things brought in recognition of women's rights as human rights particularly dignity, economic, social, and cultural rights. The Constitution set up a legal and policy space that provides commitment to enhancing women empowerment together with affirmative action. Other government initiatives to promote women empowerment and involvement in economic activity include Free Primary and free Day Secondary Education, Women Enterprise Fund-Kenya (WEF-K), Youth Enterprise Development Fund (YEDF), Uwezo Fund, National Government Affirmative Action Fund (NGAAF) among others.

In part, government initiatives have resulted in an improvement of women empowerment. This can be seen in the Global Gender Gap Index (GGGI)<sup>1</sup> by the World Economic Forum (WEF) which shows that over the years, the gender gap has been narrowing for Kenya with key aspects such as educational attainment, health and survival approaching the equality line of 1 (Figure 1). Overall, the gender gap in Kenya has been oscillating between 0.649 and 0.700 during the 2006-2020 period. The economic participation and opportunity index which concerns with issues of employment and wage disparities among men and women has over the years been on an upward trajectory from 0.657 in 2006 to 0.81 in 2014.

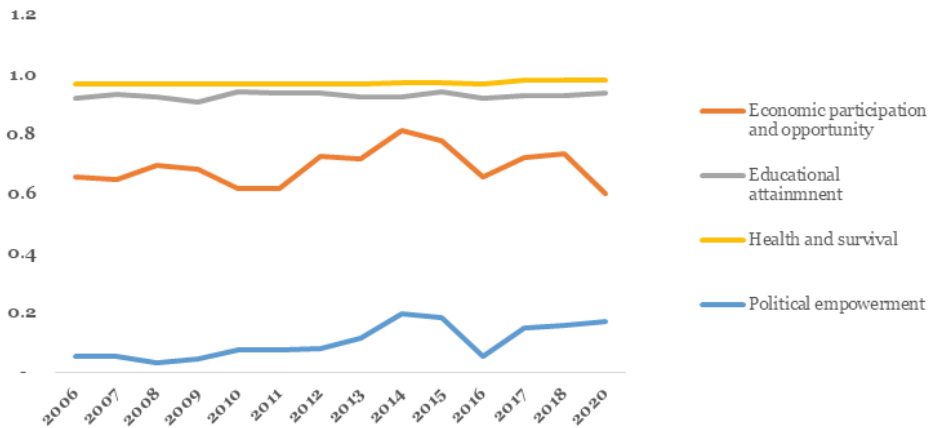
As depicted in Figure 1, after 2014, the economic empowerment and opportunity index took a downward trend coming from 0.778 in 2015 to 0.598 in 2020. This indicates widening of the gender gap. However, this gap needs to be closed as we move towards equality. Suda (2002) points out that continued gender disparities in employment leads to increased unemployment, under-employment, poverty, and powerlessness among many women. Even though the sub-index on wage equality for similar work and sub-index for labour force participation shows that we are on the path towards equality, information on labour force participation and Gender Wage Gap (GWG) disaggregated by sectors of employment is absent or inadequate even though this is crucial for policy analysis and decision making.

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<sup>1</sup> The Global Gender Gap Index benchmarks the evolution of gender-based gaps among four key dimensions (Economic Participation and Opportunity, Educational Attainment, Health and Survival, and Political Empowerment) and tracks progress towards closing these gaps over time. <https://www.weforum.org/reports/global-gender-gap-report-2021>



**Figure 1: Evolution of gender gap in Kenya, 2006-2020**



Source of Data: World Economic Forum (Various), Global Gender Gap Reports

Nyaga (2010) notes that the level of participation in employment and the differences in wages paid, largely depend on the institutional and economic factors in each sector. The sector level and individual labour market factors are thus useful in informing policy and intervention needed for improving labour market outcomes.

The labour market in Kenya is categorized into public and private sectors and further disaggregated by gender. According to the 2015/16 Kenya Integrated Household Budget Survey (KIHBS), there are 24955,500 people in the working age population in Kenya where 49.0 per cent are men and 51.0 per cent are women. Labour force participation rate is 77.4 per cent with women labour force participation rate standing at 75.6 per cent while for men, 79.2 per cent. This clearly shows that despite the huge number of women available to offer labour, men dominate in terms of active population in the labour market.

In terms of wage employment, statistics from Economic Survey indicate that in 2000, the number of women in wage employment was 494,000 constituting 29.5 per cent of the total wage employment while the number for men was 1,182,600 representing 70.5 per cent. Not so much had changed after 17 years. In 2017, the number of women in wage employment was 1,040,200 accounting for 35.5 per cent of the total wage employment while men were 1,888,100 accounting for 64.5 per cent. This presents yet another huge disparity that disfavours women in the labour market. US President Barack Obama in a speech, during a visit to Kenya in 2015 noted that “...imagine if you have a team and you don’t let half of the team play. That’s stupid... evidence shows that communities that give their daughters the same opportunities as their sons ... are more prosperous, they develop faster...” It is thus evident that concerted effort to reduce inequality within the labour market, and labour market outcomes is key to shared prosperity.

Bargain and Melly (2008) note that women face a myriad of constraints when making job and sector-choice decisions. Some of these constraints are self-

imposed while others are system-imposed. Self-imposed constraints include skill-set and human capital qualities and location of spouse's workplace. System-imposed constraints that women face include mother or family-friendly policies, work culture, regional presence of the organization, among others. The system-imposed constraints have been established to influence married women's decision about jobs and sector choices (Cunningham, 2001; Guven-Lisaniler et al., 2018).

As depicted in Figure 1, women's educational attainment in Kenya remains high even though overall gender gap is seen to be widening. Further, statistics have shown that despite the large number of women available for work, their labour force participation rate still lags that of men. It is surprising that the higher educational attainment levels have not commensurately resulted in the closing of the GWG as seen in economic participation and opportunity index in Figure 1.

Kenya's economic blueprint, Vision 2030 (Government of Kenya, 2008), the Constitution (2010) as well as the global Sustainable Development Goals (SDGs) emphasize on inclusivity, equality, and fairness in access to economic opportunities. The clarion call of SDG 8 target 8.5 is the achievement of full and productive employment and decent work for all women and men including the youth and people living with disabilities (PLWDs) and equal pay for work of equal value. As Kenya treads the path of achieving inclusivity, equality, and fairness in access to economic opportunities, it is important that two policy questions are answered. These are: What factors influence women participation choice into the labour market? What drives GWG in Kenya's public and private sectors?

This is the focus of this paper. The aim is to provide estimates and the decomposition of Kenya's GWG in 2015/16. The period after promulgation of the new Constitution was marked by increased reforms and initiatives to enhance equality of men and women. This study thus adds to the handful literature on this topic available in Kenya and other developing countries. Related studies in Kenya focused on mean GWG in public and private sectors (Kabubo-Mariara, 2003) and distributional GWG in Kenya (Agesa et al., 2013)

## **2. Literature Review**

In both developed and developing countries, gender differences in access to opportunities have increasingly dominated public discourse. Today, narrowing gender gap forms part of the United Nations Sustainable Development Goals. It is however worth noting that the discussion on gender gap has in the recent past been skewed towards political representation, advocacy for equal pay for similar work and disaggregated gender gaps particularly with distributional issues. This section presents a review of theories of gender wage differentials, empirical results, and methodologies on GWG.

### **2.1 Theories of Wage Gap**

#### **The Human Capital Theory**

Studies on wage gap have traditionally focused on human capital theory and segmented labour market theory to explain wage differentials among individuals. The human capital theory provides a convincing exposition of the effect of training on earnings. The theory holds that human capital is acquired through education, and training gained on the job. Consequently, earnings are positively related to human capital. Mincer (1958) developed a model for examining the nature and causes of differences in personal incomes. He asserted that training and skilled human capital significantly influenced personal income dispersions. The model uses education and work experience as measures of acquired human capital. A worker's age is used to derive potential experience.

Polacheck (2004) however notes that one's need to acquire human capital largely depends on one's expected lifetime work in years. Therefore, getting married, having children, and spacing children determines one's level of participation in the labour force and in turn affects the length in one's lifetime, that is, available for offering their labour and the returns of the efforts. For women, the tendency to opt out of the labour market increases due to family roles such as child rearing that force them to stay at home. On the other hand, for men, family roles raise the duration of work life as they fend for their families. As a result of these differences, women tend to have lower lifetime wages or earnings than men.

#### **Theory of Discrimination**

Economists have generally attributed the part of the pay gap that is not due to gender differences in human capital characteristics (such as education, training, experience, and other qualifications) to discrimination within the labour market. This theory is largely anchored in the work of Gary Becker on economics of discrimination. Grybaite (2006) asserts that economic discrimination occurs when otherwise workers with similar skills receive different pay yet they do a similar job or the chances of employment or promotion differ. It is the discrimination of offering different pay for workers with the same capability just because of their gender; male or female, that is of concern.

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Models of economic discrimination are categorized in two: competitive models based on utility maximization and profit maximization behaviour of individuals and firms respectively; and collective models where groups mutually act against each other. Autor (2003) notes that almost all economic analyses of GWG have focused on competitive models; these models are further divided into taste and statistical discrimination. Becker (1971) focuses on taste discrimination models where employers are perceived to hold a 'taste for discrimination.' This implies that they derive disutility in employing minority workers like women.

Thus, in the instance that these minority workers are employed they are forced to 'compensate' employers by being more productive at a given wage or, equivalently, by accepting a lower wage for equal productivity. According to Becker, in addition to employer discrimination, co-workers and customers may discriminate against certain types of workers, for example women. As a result of this, the firm may suffer profit loss. Therefore, employers are forced to discriminate against such workers to maximize their profits (Grybaite, 2006).

Another model that is widely used in GWG literature is the statistical discrimination model. Advanced by Phelps (1972) and Arrow (1973), this theory holds that firms have limited information about the skills of the job applicant. Therefore, they have the incentive to use easily observable characteristics such as race and gender to infer the expected productivity of the applicants. These characteristics are correlated with productivity.

Thus, if the employer holds the view that women are less productive; and they are likely to quit their job to go and raise children, or to move with the husband as the latter changes their job location, then this may result in statistical discrimination against individual women. These assertions are supported by Jellal and Nordman (2009). They add to the competitive labour market model, the uncertainty of women labour productivity. Their assertion is that firms are likely to offer lower wages to women given their high uncertainty such as frequent disruptions in a woman's career caused by possibility of quitting job to raise children, care for elderly persons, or move with their husbands when the latter changes job location.

### **The crowding/occupational segregation hypothesis**

This theory holds that wages are modelled on differences in structure or type of occupation. As used by Bergmann (1974), this hypothesis holds that some occupations are traditionally left for women. In contrast, men have the freedom to choose whichever occupation suits their interests. The supply of female workers in jobs that are orthodoxly perceived as being for women grows as women are pushed to specific jobs. In line with the labour supply-demand analysis, increased labour supply relative to demand results into depressed women's wages. This hypothesis is often referred to as the "crowding hypothesis", because women are crowded into a smaller number of occupations. Occupational segregation is consistent with both a lower wage rate for women and a concentration of women in the low skill and low productivity jobs (Polacheck, 1987; Sweetland, 1996; Grybaite, 2006).

## **2.2 Empirical Literature on GWG between Public and Private Sectors**

The empirical evidence on GWG between the public and private sectors has diverse findings for developing and developed countries. While literature for developing countries is sparse, that of developed countries is big. In the recent times, the literature has focused on examining the nature of GWG at the bottom, middle and top of the wage distribution. Aderemi and Alley (2019) note that when the gender wage differential at the top is larger compared to the bottom, then the condition is referred to as glass ceiling. But if the wage differential is larger at the bottom of the distribution compared to the top, then the condition is referred to as sticky floor.

Using data from Portugal between 1986 and 2005, Machado and Mata (2005) use the standard Oaxaca decomposition method to decompose wages at the mean and at various quantiles of the wage distribution. Wage gap is decomposed to changes because of the constants and changes in the covariates (observed attributes of individuals). The findings show that changes in individual attributes and returns to these attributes contributed in the same direction to the observable widening of inequalities in wages. The findings also affirm that increasing levels of education do not translate into a more equal wage for both genders.

Hyder and Reilly (2005) investigate the magnitude of public-private sector wage differentials in Pakistan. Employing quantile regression, the study finds that employment in the public sector is more lucrative than employment in the private sector due to factors such as pay and better working conditions, pension, and medical schemes. They also find that the GWG is in favour of males. However, it is considerably lower in the public sector (16%) compared to the private sector (53%) across all chosen quantiles of the conditional wage distribution.

In a similar vein, Nielsen and Rosholm (2002) examined the public-private sector wage gap in Zambia in the 1990s. Using the quantile regression technique, the study found that women receive lower wages in the private sector compared to their male counterparts. But that is not the case in the public sector. The study revealed that return to education is higher in the private sector than the public sector. The study establishes that in Zambia, wages in the large and strongly regulated public sector are higher than in the private sector.

Navarro and Selman (2014) investigated GWG in the public and private sectors in Chile. They found out that the average wage gap disappears when observable and unobservable characteristics of the workers are controlled. These results are consistent with the findings of Bargain and Melly (2008) for France, who used longitudinal data from 1990 to 2002. Using mean and quantile regressions, the study demonstrated that by inclusion of sectors of employment and controlling for endogeneity, GWG in public sector was statistically negligible. Further, the study demonstrated that after controlling for selectivity bias, the GWG at the extreme ends of the distribution disappears. These findings show that it is important to conduct selectivity and correct for it. Similar results are reported by Mizala et al., (2011) for Chile.

Castagnetti and Giorgetti (2019) analyze gender-based wage gap in Italy in the public and private sectors for the years 2005-2010. The results reveal a substantially higher level of the GWG in the private sector, relative to the public sector. By controlling for the unobserved individual heterogeneity, the results show a decrease in the GWG and in the slope of the wage curve in both sectors. The sticky-floor effect in the private sector vanishes, while the public sector still shows a glass-ceiling effect. However, both sectors have a significant unexplained GWG whose weight is larger in the public sector throughout the wage distribution.

In India, Azam and Prakash (2010) established that irrespective of the gender, wages in the public sector are above those in public sectors, notwithstanding the position in the wage distribution. Urban employees earn better than their rural counterparts. Quantile regression results show that the discrimination effect explains the advantage enjoyed by the public sector compared to the private sector. Kwenda and Ntuli (2018), found that wages favour female workers in private sector compared to the public sector.

In Nigeria, Aderemi and Alley (2019) did a study on the gender pay gap between public and private sectors. The findings point to a smaller gender pay gap in the public sector compared to the private sector. This is because of the better educational qualifications and higher income stream arising from the longer stay in the workforce. Discrimination accounts for a significant portion of GWG, although it is larger in the private sector. Women selection bias is a prominent factor in the private sector. However, it is not much of a concern in the public sector.

In Kenya, there are sparse studies on GWG. KIPPRA (2013) conducted a comparative study on wage differentials between the public and private sectors in Kenya. The study found out that the wage premiums were in favour of the public sector. On comparison of public sector basic salary and that of the private sector, it was established that the wage premium is in favour of the private sector.

This study however did not look at gender perspectives of wage differentials. Kabubo-Mariara (2003) decomposes the GWG between the public and private sector. Findings show that favouritism exists towards men, even though the study finds no evidence of discrimination against women. The wage gap is found to be larger in private sector.

Another study by Agesa et al. (2013) uses re-centred influence function regression to investigate the sources of GWG along the earnings distribution. The study finds that industry, occupation, higher education, and regions are the primary determinants of the gender pay gap. The study however does not examine GWG between public and private sectors.

Several econometric techniques have been applied in investigating the subject of GWG between public and private sector. The most used wage gap decomposition method in literature is the Blinder-Oaxaca decomposition method. This approach involves estimating the average wage gap without consideration of the variations along the distribution.

While other studies examined the average wage gap (Navarro and Selman 2014; Kabubo-Mariara, 2003), recent literature has shifted to examining the evolution of the wage gap along the wage distribution (Aderemi and Alley 2019; Castagnetti and Giorgetti 2019; Kwenda and Ntuli 2018; Agesa et al., 2013; Azam and Prakash 2010; Machado and Mata 2005; Nielsen and Rosholm 2002). The argument for quantile regression is that it allows for analysis along the wage distribution. This is important for public policy because policies could have different effects at different quintiles of the wage distribution.

This study deviates from the previous studies in Kenya by considering the GWG between public and private sectors using quantile approach. The purpose is to see the distribution of GWG across different income levels for both public and private sectors.

### **3. Data and Methodology**

#### **3.1 The Data**

To explain wage differentials across the public and private sectors and analyze the underlying drivers of the wage gap in Kenya, this study draws upon the Kenya Integrated Household Survey (KIHBS) 2015/16 data collected by the Kenya National Bureau of Statistics (KNBS). KIHBS is designed to monitor the socio-economic situation of the economically active population as well as the implementation of government development initiatives.

KIHBS is a nationally representative survey. It provides rich information on labour characteristics and demographic profiles of the respondents. Some of the specific information from the survey that is relevant to this study include information on wages/salaries per month, level of education attainment, household headship, marital status, occupation, work pattern, among others. This presents a good opportunity for our analysis. However, it is important to note that the weakness of this data is that it is usually collected over a 12-month period. This makes the data sensitive to seasonality issues.

We restricted the sample to workers aged 16-64 as this is taken as the working age in Kenya. Further, the lower bound age coincides with the age of children who no one should employ (Employment Act, 2007). However, the upper bound is consistent with the mandatory retirement age in Kenya. Our study therefore leaves out people in full-time study and retirees.

The individuals under this age bracket are 6,888 (Female – 2,522; Male – 4,366). In this study, we have excluded individuals who are self-employed, unpaid family workers, and small-scale agricultural workers and pastoralists. This is because of the volatile nature of their incomes and to avoid potential biases due to self-selection and the difficulty in evaluating their wages.

Therefore, after data cleaning we are left with a final sample of 6,888 workers (Public – 2,299; Private-formal – 3,345; and Private-informal – 1,244). A public sector worker is defined as one employed in the civil service. The specific sections include ministries, judiciary, parliament, independent commissions, state-owned agencies and parastatals and the county governments.

The private sector (formal) worker is defined as one employed in private business excluding “Jua-Kali”, non-governmental organizations (NGOs), and faith-based organizations (FBOs). The private sector (informal) comprises of all individuals employed in the informal private enterprises known as “Jua-Kali”. In this study, the term “wages” refers to income from paid employment or self-employment. This encompasses wages, salaries and other earnings received both in kind and in cash on regular basis.

Table 1 presents the descriptive statistics of observable characteristics of male and female workers in Kenya’s public and private sectors. Relative to men, women are younger and are less likely to be married. Important differences also emerge in terms of educational qualification between men and women. A look at the middle level education (secondary and college) reveals that whereas 64%, 51% and 46%



Table 1: Average of sample variables

	All			Females			Males		
	Public	Private Formal	Private Informal	Public	Private Formal	Private Informal	Public	Private Formal	Private Informal
Raw Wages	26,430.3	16,138.9	10,259.4	22,742.5	11,304.3	7,538.3	28,472.5	19,390.7	11,350.8
Age	39.90	33.82	31.51	37.90	32.77	30.79	41.01	34.52	31.80
Single	0.12	0.29	0.28	0.16	0.30	0.31	0.09	0.27	0.27
Separated	0.06	0.08	0.08	0.12	0.14	0.15	0.03	0.04	0.05
Married	0.82	0.63	0.64	0.71	0.56	0.53	0.88	0.69	0.68
Primary	0.20	0.39	0.54	0.18	0.41	0.51	0.21	0.38	0.56
Post-primary	0.01	0.01	0.02	0.00	0.01	0.02	0.01	0.02	0.02
Secondary	0.29	0.35	0.38	0.23	0.32	0.41	0.33	0.37	0.37
College	0.31	0.18	0.05	0.41	0.19	0.05	0.26	0.17	0.05
First degree	0.16	0.06	0.01	0.16	0.06	0.01	0.16	0.06	0.00
Higher degree	0.03	0.01	0.00	0.02	0.01	-	0.04	0.01	0.00
Other	0.01	0.00	0.00	0.00	0.00	-	0.02	0.00	0.00
Administrative	0.05	0.03	0.01	0.03	0.02	0.02	0.05	0.04	0.01
Professional	0.14	0.06	0.00	0.15	0.06	0.00	0.13	0.06	0.00
Technicians	0.37	0.12	0.03	0.40	0.13	0.02	0.35	0.11	0.03
Clerical	0.06	0.06	0.00	0.10	0.08	0.01	0.04	0.05	0.00
Service	0.16	0.14	0.20	0.23	0.16	0.40	0.12	0.13	0.13
Farm	0.01	0.22	0.01	0.01	0.31	0.01	0.01	0.16	0.01
Craftsmen	0.01	0.06	0.15	0.01	0.03	0.10	0.01	0.08	0.16

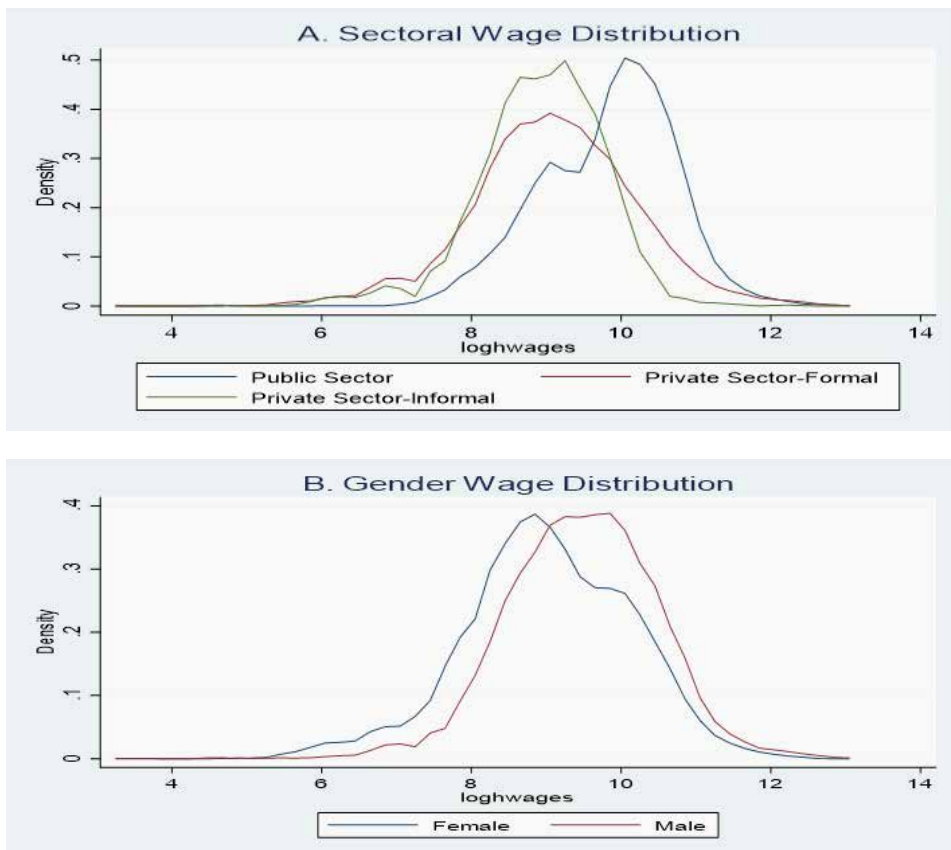
Machine ops.	0.03	0.09	0.20	0.01	0.01	0.01	0.04	0.14	0.27
Elementary oc.	0.17	0.22	0.40	0.08	0.20	0.42	0.22	0.24	0.40
Agriculture	0.05	0.41	0.04	0.03	0.51	0.06	0.06	0.35	0.03
Mining	0.01	0.02	0.01	0.00	0.01	0.01	0.01	0.03	0.02
Manufacturing	0.03	0.02	0.02	0.02	0.01	0.00	0.03	0.03	0.02
Utilities	0.08	0.23	0.78	0.07	0.12	0.67	0.08	0.29	0.81
Construction	0.16	0.11	0.07	0.24	0.12	0.08	0.12	0.10	0.06
Wholesale	0.02	0.06	0.01	0.03	0.07	0.01	0.02	0.05	0.00
Transport	0.02	0.03	0.00	0.02	0.01	-	0.02	0.04	0.00
Finance	0.57	0.11	0.04	0.56	0.13	0.06	0.58	0.10	0.03
Community	0.06	0.02	0.05	0.03	0.03	0.12	0.07	0.02	0.03
Union	0.43	0.11	0.02	0.45	0.08	0.01	0.42	0.12	0.03
Rural	0.42	0.41	0.43	0.39	0.45	0.39	0.43	0.38	0.45
Urban	0.45	0.46	0.43	0.48	0.43	0.50	0.43	0.49	0.41
Peri-urban	0.14	0.13	0.14	0.13	0.12	0.11	0.14	0.13	0.15
Household head	0.74	0.60	0.62	0.42	0.33	0.30	0.91	0.78	0.74
Potential exp.	20.25	15.78	14.59	18.05	14.78	13.72	21.48	16.45	14.94
N	2,299	3,345	1,244	820	1,346	356	1,479	1,999	888

*Data Source: Author's computation using Data from KHBS 2015/16*

of women in the public, private-formal and private-informal sectors were in these categories. For men, this number stood at 59%, 54% and 42%, respectively. This indicates that on average, females have a higher educational attainment than males. However, wage differences seem to indicate that on average, males have a wage premium over females in both public and private (formal and informal) sectors. Generally, wages are higher in the public sector compared to the private sector, and in favour of men.

To fully describe the public-private sector wage differentials, the study also conducted non-parametric kernel density estimation for the distribution of logarithm of hourly wages in each sector as presented in Figure 2. The graph reveals that average hourly wages are higher in the public sector compared to the other sectors. This is evidenced by the position of the curve. It has higher level kurtosis and is mostly to the right. However, the spread is also wider, indicating a wider distribution. Similarly, the wage distribution indicates that males earn higher wages than their female counterparts yet again depicting the gender differences.

**Figure 2: Kernel density estimates of log hourly wages by sector and gender**



Data Source: Author's computation using KIHBS 2015/16

### 3.2 Empirical Framework

The aim of this study is to estimate the GWG in public and private sector, and the differences along the wage distribution. The study focuses on the aggregate Kenyan labour market exploring workers, based on their sectors of employment. We look at the public sector, private (formal) sector and private (informal) sector commonly referred to as "Jua-Kali" sector in Kenya.

The focus of the analysis is all employees aged 16-64 years and earn a wage from their primary job as per the KIHBS 2015/16 data. The study utilizes a framework integrating gender differences in human capital characteristics (the endowment effect) and labour market discrimination (the discrimination effect). In this context discrimination refers to individuals with identical human capital characteristics or productive endowments being paid differently because of their gender.

Given the differences in observable and unobservable characteristics of workers, they enter the labour force differently and have differing attitudes for wage employment. As a result, there is automatically a bias in sample selection. To correct this biasness, one way is to employ the Heckman's (1979) two-step procedure. The first step is to estimate the inverse Mill's ratio (or Lambda) denoted by  $\lambda$  from a multinomial logit regression equation estimating the likelihood for  $i$ th will participate in wage employment in  $j$  sectors. We do this by estimating the following multinomial logit:

$$E_{ij} = Z_{ij} \gamma_j + \mu_{ij} \quad i=1, \dots, n; j=\text{alternative sector} \quad (1)$$

In the above equation  $i$  denotes the individual, and  $j$  represents the alternative sector that the individual is likely to participate in. Wage employment status is represented by  $E_{ij}$ , (where  $E_{ij} = 1$  if the individual is in wage employment and 0 if otherwise). We denote vector of wage employment determinants by  $Z_{ij}$ . By estimating equation (1) above, we obtain the inverse Mill's ratio (or Lambda) which is then added into the wage equation (2) as a regressor. Equation (1) is known as the selection equation.

The second stage involves estimating an augmented version log hourly wage equation separately for the three sectors of employment using standard ordinary least squares (OLS) method. The equation takes the form:

$$\ln W_{is} = X_{is} \beta_{is} + \lambda_{is} \theta_{is} + \varepsilon_s \quad i=i \dots n; s \in [1,3] \quad (2)$$

where the subscript  $s \in [1,3]$  represents the three employment sectors (public, private-formal, and private-informal);  $w$  is the hourly wages in the main occupation of the individual  $i$  observed only for wage employees; and  $X$  is a vector of explanatory variables. These include gender, education attainment, experience

and its square, working pattern of the job, unionization, and the occupation of the individual and the industry of employment.

The residual captures all unobservable factors that may influence individual hourly wages. The main limitation of our study is that due to data challenges, we did not control for firm-level characteristics and training of individuals which might influence wages. This is a fertile ground for future studies on the subject matter.

### **The Blinder-Oaxaca (BO) decomposition**

This is a relatively advanced approach to investigating GWG. It was originally developed by Blinder (1973) and Oaxaca (1973). It is a procedure for identifying the underlying causes of GWGs. We perform BO decomposition at the mean. Let represent the raw differences of expected value of male and female wages at a given time. This difference D is obtained by estimating equation (2) separately for men and women and then deriving the difference. The derived difference D can be decomposed into two components; (i) raw difference that can be attributed to differences in observed characteristics or endowments of individual i and (ii) differences in coefficients, as in equation (3) below:

$$D = \Delta \ln W = \ln W_m - \ln W_f = (\bar{X}_m - \bar{X}_f)' \widehat{\beta}_m + \bar{X}_f' (\widehat{\beta}_m - \widehat{\beta}_f) + (\widehat{\theta}_m \bar{\lambda}_m - \widehat{\theta}_f \bar{\lambda}_f) \dots (3)$$

Here is the estimated value of . In the above equation, the first term in the right-hand side represents the explained component of the wage gap resulting from the differences in observed productive characteristics of the individuals. This is also referred to as the endowment effect, and in our case is weighted by coefficients attributable to men i.e.,  $\widehat{\beta}_m$ .

The second term in the right-hand side of equation (3) is the unexplained component. It often measures the wage difference resulting from differential reward for equal characteristics and unobservable variables that influence productivity. It is the measure of actual labour market discrimination effect.

The third term in the equation represents the contribution of differences in the average selectivity bias and can be interpreted to imply difference in unobservable characteristics which affect the wage received.

### **Examining GWG along the earnings distribution**

In the above-mentioned framework, GWG is measured at the mean. The study further analyses the GWG at some specific quantiles (q=0.10, 0.25, 0.50, 0.75 and 0.90). The analysis of GWG along the earnings distribution is conducted using Re-centred Influence Function (RIF) regression as developed by Firpo, Fortin and Lemieux (2009), and as used in Ahmed and McGillivray (2015) and Agesa et al., (2013). The use of RIF regression is preferred because it highlights the fundamental sources of wage differences at various quantiles as opposed to the

conditional mean analysis. This is too general and highly likely to overlook the underlying drivers of wage gap between men and women. In this way, it is possible to examine whether GWG is wider, either at the top or at the bottom of the wage distribution.

Two stages are involved in this procedure. First, RIF regression is estimated (separately for men and women) to provide unconditional quantile regression estimates. This is key because it provides the marginal effects of the change in the distribution of the independent variables on the targeted quantiles of the unconditional distribution of the outcome variable. In the second stage, the hourly wage equation is decomposed into endowment effect (explained component) and the discrimination effect (unexplained component) across the given quantiles.

The specific GWG equation at a given quantile  $q$  is decomposed as:

$$D(q) = (\bar{X}_m - \bar{X}_f)' \widehat{\beta}_m(q) + \bar{X}_f' (\widehat{\beta}_m(q) - \widehat{\beta}_f(q)) \dots \dots \dots (4)$$

Where  $\bar{X}_j$  represents the vector of individual worker characteristics. The first term on the right-hand side is the explained component (endowment effect) at  $q$ th quantile and the second term represents the discrimination effect of the labour market at  $q$ th quantile.

## **4. Empirical Results and Discussion**

### **4.1 Multinomial Logit Regressions**

We estimated three multinomial logit models from equation (1). Table 2(a) shows the results for the whole sample while Table 2(b) presents the results for male and female samples disaggregated by employment sector. The private-informal sector is the base category in all cases. The Wald test which tests the null hypothesis for equality of coefficients between any pair of employment sectors was rejected at the 1% significance level indicating that Kenya's labour market is heterogeneous and thus it is justifiable to decompose the labour market into public, private-formal and private-informal sectors.

Marginal effects of each variable are reported in Tables 2(a) and 2(b). Table 2(a) reports the main factors that determine participation in public and private-formal sectors relative to the private-informal sector. All variables included in the estimation produced the expected signs.

Education raises the probability of participating in employment with very high chances the in public sector jobs. For example, having a Bachelor's degree (first degree) increases chances of participating in paid employment with a probability of 41.7 per cent and 16.3 per cent respectively for public and private-formal sectors.

A second degree or higher degree increases chances of participation by 38.4 per cent in the public sector and 12.6 per cent in the private-informal sector. The results also show that chances of participation are higher in the public sector compared to the private-formal sectors, relative to the private-informal sector. The vitality of education as a determinant of employment in Kenya is well articulated (see for instance Kabubo-Mariara, 2003; Nyaga, 2010; and Ages et al., 2013).

The results for education and participation closely mirror findings by Nyaga (2010). Nyaga shows that secondary education increases chances of participation by 38 per cent, undergraduate education, 75 per cent, while post-graduate education, 69 per cent. In our case, we found that, 11.6 per cent, 41.7 per cent and 38.4 per cent in secondary, undergraduate (first degree) and postgraduate (higher degree), respectively, show similar trend in the marginal effects o.

Demographic variables such as gender, age and marital status also play a pivotal role in allocation of workers to employment sectors. The age and age-squared variables, for instance, are significant at 1 per cent across the sectors. The probability to participate in all employment sectors increases with age in all the sectors of employment. The negative sign on the square of age variable shows that probability of participation increases at a declining rate. As one gets much older, the likelihood of participation decreases.

In terms of gender, the results emphasize that males are more likely to participate in wage employment than females. This is given by the negative sign of female dummy showing that women are disadvantaged relative to men. However, the likelihood participation of females is higher in public sectors compared to private-formal sectors. The higher the likelihood of male participation is explained by

the gender roles in the society. These tend to limit female participation in formal employment.

The results also show that being married is associated with a higher probability of participation in both public and private-formal sectors, relative to private-informal sectors. This is probably explained by the need to fend for your family once married. Similar results are emphasized in Kabubo-Mariara (2003) and Nyaga (2010).

**Table 2(a): Multinomial logit results and marginal effects for participation in wage employment (the whole sample)**

	<b>Public Sector</b>		<b>Private Sector (Formal)</b>	
	Coefficient	Marginal Effects	Coefficient	Marginal Effects
Age	0.121*** (4.16)	0.023	0.012*** (4.49)	0.020
Age square	-0.001 (-1.39)	0.000	-0.001* (-1.82)	0.000
Female	-0.653*** (-6.41)	0.040	-0.535*** (-6.30)	0.035
Post-primary vocational education	0.298 (0.87)	0.042	0.035 (0.13)	0.023
Secondary	0.873*** (9.47)	0.116	0.249*** (3.33)	0.044
College	2.763*** (18.42)	0.292	1.504*** (10.52)	0.077
First degree	4.400*** (11.27)	0.417	2.626*** (6.74)	0.163
Higher degree	4.629*** (4.57)	0.384	3.027*** (2.98)	0.126
Separated/divorced/widowed	0.434** (2.29)	0.018	0.398*** (2.58)	0.038
Married	0.175** (2.18)	0.071	0.282*** (2.98)	0.093
Full-time	1.222*** (7.31)	0.170	0.331*** (3.2)	0.093
Urban	0.338*** (3.81)	0.051	0.060* (1.78)	0.033
Peri-urban	0.035 (0.29)	0.005	0.009 (0.08)	0.003
Head of household	0.285*** (2.67)	0.054	0.022 (0.25)	0.045



Constant	-5.546*** (-10.46)		0.155 (0.39)	
Number of observations	6,888			
Pseudo R <sup>2</sup>	0.26			
Lr- chi <sup>2</sup> (28)	1894.48			
L-Likelihood	-6120.65			

z-statistic in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

It is worth noting that the marginal effects show that higher wage is associated with 2.3 per cent and 2.0 per cent chance of participating in wage employment in public and private-formal sectors respectively. Being female on the other hand increases the likelihood of participating in the public sector by 4.0 per cent compared to 3.5 per cent in private-formal sector indicating that it is more likely to for females participate in public sector compared to private-formal sector. In contrast, married individuals have a 7.1 per cent chance of being employed in public sector and 9.3 per cent chance of labouring in the private-formal sector.

**Table 2(b): Multinomial logit results and marginal effects for participation in wage employment (by gender and by sector)**

	Male				Female			
	Public Sector		Private Sector (Formal)		Public Sector		Private Sector (Formal)	
	Coefficient	Marginal Effects	Coefficient	Marginal Effects	Coefficient	Marginal Effects	Coefficient	Marginal Effects
Age	0.146*** (3.97)	0.026	0.012** (2.06)	0.020	0.103** (2.06)	0.020	0.017** (2.04)	0.019
Age square	-0.001 (-1.59)	-0.000	-0.001 (1.31)	-0.000	-0.001 (-0.76)	-0.000	-0.000 (-0.81)	-0.000
Post- primary vocational	0.416 (1.05)	0.038	0.253 (0.79)	0.018	0.133 (0.19)	0.034	0.522 (0.98)	0.112
Secondary	0.921*** (8.34)	0.119	0.331*** (3.65)	0.027	0.726*** (4.29)	0.108	0.049*** (2.36)	0.077
College	2.547*** (14.08)	0.256	1.516*** (8.81)	0.021	3.092*** (11.39)	0.331	1.539*** (5.94)	0.158
First degree	4.859*** (8.24)	0.427	3.121*** (5.3)	0.135	3.817*** (7.21)	0.398	1.983*** (3.78)	0.210

Higher degree	4.431*** (4.36)	0.419	2.719** (2.66)	0.132	5.445** (2.03)	0.305	4.078*** (3.03)	0.097
Separated/ divorced/ widowed	0.732*** (2.55)	0.042	0.600** (2.68)	0.051	0.106 (0.41)	0.013	0.217 (1.00)	0.036
Married	0.049* (1.70)	0.156	0.459*** (3.43)	0.103	0.016*** (2.94)	0.106	0.056* (1.65)	0.096
Full-time	1.081*** (5.07)	0.163	0.217* (1.62)	0.095	1.453*** (5.36)	0.164	0.596*** (3.59)	0.075
Urban	0.294** (2.72)	0.076	0.181** (1.92)	0.083	0.525*** (3.28)	0.008	0.563*** (4.07)	0.054
Peri-urban	0.039 (0.27)	0.005	0.093 (0.73)	0.016	0.017 (0.07)	0.022	0.122 (0.59)	0.030
Head of Household	0.218** (1.98)	0.039	0.003** (2.02)	0.030	0.510*** (2.87)	0.068	0.139* (1.88)	0.043
Constant	-5.758*** (8.55)		-0.045 (-0.09)		-4.802*** (-5.41)		0.879 (1.29)	
Number of observations	4,366				2,522			
LR chi2(26)	1,225.28				683.46			
Prob > chi2	0.00				0.00			
Pseudo R2	0.2339				0.2487			
Log likelihood	-3,964.22				-2,121.72			

z-statistic in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

Table 2(b) presents results on the determinants of participation in wage employment for females and males by sector. The private-informal sector is the base sector. The results reveal that across all the sectors and for both genders, age increases the likelihood of participating in paid employment. The negative coefficient on the square of the age variable shows that the likelihood increases at a decreasing speed. The chance of participation is higher in public sector.

Increased educational attainment increases the probability of participating in wage employment at all level of education for both genders. It is also evident that the effects of education are much larger for females compared to males when it comes to college education. For instance, women with collage education have a 33.1 probability of being in public sector employment compared to male counterparts with similar level of education in public sector, which is at 25.6 per cent. Nonetheless, education strongly increases chances of employment in all the sectors for all the genders. The coefficients are significant for all the sectors at 1 per cent at all the levels of education. Similar findings by the following reinforce these results; Nyaga (2010), Dayioğlu and Kırdar (2010), Agesa et al., (2013),

Ahmed and McGillivray (2015) and Taşseven et al., (2016).

Being married increases the probability of one being in wage employment. However, for males, the probability is higher relative to women. These findings are in harmony with Kabubo-Mariara (2003) and Agesa et al., (2013) and Lopez-Acevedo et al., (2021). These studies found out that married males are at an advantage of participating in labour market. This is because gender roles in the family suppress the likelihood of females to participate.

The findings are however inconsistent with those of Ahmed and McGillivray (2015). The studies found out that for women in Bangladesh, being married reduces the probability of being in employment. Being head of the household increases the probability of participating in wage employment for both men and women. Women who are head of households and cater for the family have a higher probability of participating in wage employment. This is in contrast with women who are not heads of households. Further, the probability of women being heads of households is higher than that of men. These findings are consistent with those of Ahmed and McGillivray (2015) and Lopez-Acevedo et al., (2021).

These findings also show that urbanization increases participation of the labour force. However, for females, the likelihood is lower compared to males. Dayıoğlu and Kırdar (2010) support these finding arguing that women are mostly employed in the agriculture sector. Therefore, this explains the lower response to participation; it is caused by urbanization.

## **4.2 Wage Regressions**

The OLS regressions were conducted for all sectors with female dummy variable as one of the covariates following equation (2). Panel A of Table 3 presents the OLS estimates unadjusted for sample selection bias. Panel B presents these estimates adjusted for sample selection bias.

In all the regressions, the probability of F-statistics is highly significant at all conventional levels implying that the models fit the data better than an intercept only model. Across the various estimations, the R-squared are relatively low. The private-informal sector model has an explanatory power of only 25 per cent while the explanatory power of public sector and private-sector formal models is above 55 per cent.

It is evident that GWG exists in both the public and private sectors as shown by the negative and statistically significant coefficient of the female dummy variable. After considering the observable characteristics, the gender wage penalty to the disadvantage of women is larger in the private than the public sector. More penalties are evident in public informal sectors. These findings are in line with those of Kabubo-Mariara (2003) and Agesa et al., (2013) for Kenya. They are also consistent with those of Kwenda and Ntuli (2018) in South Africa and Aderemi and Alley (2019) in Nigeria.

Union membership yields a wage premium in both the private and public sectors. However, the advantage is more pronounced in private-formal sector compared to the public sector. The positive returns from unionization are in line with the findings by Kwenda and Ntuli (2018). But they are inconsistent in those of Kwenda and Ntuli (2018), who found that the returns are more pronounced in public sector. Working full-time earns better wages compared to part-time. This is true for all sectors and more pronounced in the public sector.

The results for experience show the usual positive but declining effect on wages. These findings are in line with those of Kabubo-Mariara (2003), Kagundu and Pavlov (2007), Agesa et al., (2013), Kwenda and Ntuli (2018) and Aderemi and Alley (2019).

Returns to education are positive and significant across the sectors in line with the human capital theory as formalized in Mincer (1974). While returns to lower and middle level education is stronger for public sector, relative to private-formal sector, returns to education are relatively higher for middle level to higher education for private-formal sector compared to the public sector. Holding other factors constant, employees with first degree and higher degree earn 126 and 176 per cent respectively in the private-formal sector compared to the public sector where employees with similar education attainment earn 118 and 147 per cent, respectively. Returns to education are relatively lower in private-informal sector perhaps due to less demand for highly educated persons. These results are consistent with Kabubo-Mariara (2003), Kagundu and Pavlova (2007) and Agesa et al., (2013).

The findings expose considerable sector-based differentials in returns to occupation and industry. The case for all occupations shows higher returns for white-collar occupations compared to blue-collar jobs, the magnitude of the returns highly varies. On industry of employment the results are mixed with manufacturing, transport, construction, and utilities giving higher returns. Findings are consistent with Agesa et al., (2013) for Kenya, and Kwenda and Ntuli (2018) for South Africa.

As mentioned earlier in the paper, we use the standard Heckman two-step correction procedure to control for selection into the wage employment. The Mill's ratio ( $\lambda$ ) as shown in Table 3 is statistically significant in public and private-informal sector but statistically insignificant in private-formal sector. Nonetheless, across the three sectors, Mill's ratio is negative, indicating presence of selection bias in the labour market and underestimated wages.

The sample selection bias correction results show that most of the estimated coefficients change marginally. However, the signs remain unchanged. Accounting for selection bias indeed reveals that GWG declines and female wages increases marginally. Without selectivity correction, GWG stands at 0.30 for the full sample, 0.18 in public sector, 0.29 in private-formal sector and 0.43 in private-informal sector.

This indicates that the GWG is wider in private sector, especially private-informal sector. When selectivity bias is corrected, the marginal changes improve women

wages thereby reducing the GWG to 0.18 for the full sample; 0.09 for public sector; 0.20 for private-formal sector; and 0.37 in the private-informal sector.

**Table 3: Hourly wage equation estimates adjusted and unadjusted for sample selection bias by sector**

	Panel A: OLS				Panel B: Selectivity Corrected			
	All	Public Sector	Private Sector (Formal)	Private Sector (Informal)	All	Public Sector	Private Sector (Formal)	Private Sector (Informal)
Female	-0.30*** (0.022)	-0.18*** (0.039)	-0.29*** (0.029)	-0.43*** (0.053)	-0.18*** (0.041)	-0.09 (0.065)	-0.20*** (0.056)	-0.37*** (0.126)
Full-time	0.43*** (0.033)	0.62*** (0.091)	0.43*** (0.044)	0.28*** (0.061)	0.40*** (0.034)	0.59*** (0.093)	0.40*** (0.045)	0.27*** (0.065)
Unionized	0.32*** (0.030)	0.24*** (0.042)	0.37*** (0.044)	-0.21 (0.142)	0.32*** (0.030)	0.24*** (0.042)	0.37*** (0.044)	-0.21 (0.142)
Urban	0.32*** (0.023)	0.24*** (0.039)	0.34*** (0.035)	0.32*** (0.046)	0.31*** (0.023)	0.22*** (0.039)	0.33*** (0.035)	0.32*** (0.049)
Peri-urban	0.11*** (0.030)	0.12** (0.054)	0.08* (0.042)	0.15** (0.065)	0.10*** (0.030)	0.11** (0.054)	0.07 (0.042)	0.15** (0.065)
Experience	0.04*** (0.003)	0.03*** (0.006)	0.04*** (0.004)	0.05*** (0.007)	0.04*** (0.003)	0.03*** (0.006)	0.04*** (0.004)	0.05*** (0.007)
Experience squared	-0.00*** (0.000)	-0.00*** (0.000)	-0.00*** (0.000)	-0.00*** (0.000)	-0.00*** (0.000)	-0.00*** (0.000)	-0.00*** (0.000)	-0.00*** (0.000)
Post-primary	0.09 (0.084)	0.13 (0.175)	0.12 (0.114)	-0.02 (0.168)	0.10 (0.084)	0.12 (0.175)	0.13 (0.115)	-0.02 (0.168)
Secondary	0.31*** (0.023)	0.40*** (0.047)	0.29*** (0.032)	0.20*** (0.047)	0.29*** (0.024)	0.38*** (0.048)	0.28*** (0.033)	0.20*** (0.048)
College	0.70*** (0.035)	0.71*** (0.061)	0.69*** (0.049)	0.39*** (0.101)	0.66*** (0.037)	0.66*** (0.066)	0.66*** (0.052)	0.38*** (0.103)
First degree	1.22*** (0.052)	1.18*** (0.079)	1.26*** (0.073)	0.56* (0.328)	1.18*** (0.053)	1.14*** (0.082)	1.22*** (0.075)	0.54 (0.330)
Higher degree	1.60*** (0.090)	1.47*** (0.125)	1.76*** (0.128)	1.06 (0.722)	1.57*** (0.091)	1.45*** (0.125)	1.73*** (0.129)	1.05 (0.723)
Administra- tion	0.31** (0.136)	0.46*** (0.143)	0.98 (0.299)	0.25 (0.748)	0.32** (0.136)	0.46*** (0.143)	0.97 (0.299)	0.26 (0.749)
Professional	0.38*** (0.134)	0.51*** (0.142)	0.65 (0.296)	0.11 (0.881)	0.39*** (0.134)	0.52*** (0.142)	0.64 (0.296)	0.12 (0.881)
Technician	0.56*** (0.131)	0.69*** (0.134)	0.02 (0.295)	0.74 (0.731)	0.56*** (0.131)	0.69*** (0.134)	0.00 (0.295)	0.74 (0.731)

Clerical	0.62***	0.73***	0.15	0.56	0.64***	0.74***	0.16	0.56
	(0.133)	(0.140)	(0.295)	(0.806)	(0.133)	(0.140)	(0.295)	(0.806)
Service worker	-1.01***	-1.22***	-0.48	0.55	-1.01***	-1.21***	-0.47	0.55
	(0.130)	(0.142)	(0.292)	(0.722)	(0.130)	(0.142)	(0.292)	(0.722)
Skilled farm	-1.27***	-0.77***	-0.77***	0.74	-1.26***	-0.78***	-0.76**	0.74
	(0.133)	(0.187)	(0.294)	(0.763)	(0.133)	(0.187)	(0.294)	(0.763)
Craftsmen	-0.81***	-0.62***	-0.25	0.76	-0.82***	-0.62***	-0.24	0.76
	(0.133)	(0.218)	(0.296)	(0.721)	(0.133)	(0.218)	(0.296)	(0.722)
Machine operators	0.67***	0.71***	0.11	0.83	0.68***	0.71***	0.11	0.83
	(0.132)	(0.160)	(0.294)	(0.720)	(0.131)	(0.160)	(0.294)	(0.721)
Elementary	-1.05***	-1.22***	-0.52*	0.53	-1.06***	-1.23***	-0.52*	0.52
	(0.129)	(0.132)	(0.292)	(0.720)	(0.129)	(0.132)	(0.292)	(0.720)
Extractives	0.31***	0.22	0.36***	-0.06	0.31***	0.23	0.35***	-0.06
	(0.081)	(0.183)	(0.101)	(0.219)	(0.081)	(0.183)	(0.101)	(0.219)
Manufacturing	0.55***	0.34***	0.54***	0.57***	0.55***	0.35***	0.54***	0.57***
	(0.072)	(0.128)	(0.100)	(0.205)	(0.072)	(0.128)	(0.100)	(0.205)
Utilities	0.34***	0.15	0.44***	0.50***	0.34***	0.16*	0.44***	0.49***
	(0.034)	(0.098)	(0.048)	(0.120)	(0.034)	(0.098)	(0.048)	(0.120)
Construction	0.29***	0.07	0.28***	0.48***	0.28***	0.07	0.27***	0.48***
	(0.044)	(0.095)	(0.058)	(0.144)	(0.044)	(0.095)	(0.058)	(0.144)
Wholesale	0.38***	0.47***	0.31***	0.27	0.38***	0.48***	0.31***	0.25
	(0.061)	(0.138)	(0.074)	(0.317)	(0.061)	(0.138)	(0.074)	(0.318)
Transport	0.40***	0.30**	0.34***	-0.06	0.41***	0.31**	0.34***	-0.07
	(0.077)	(0.148)	(0.093)	(0.521)	(0.077)	(0.148)	(0.093)	(0.522)
Finance	0.29***	0.06	0.22***	0.70***	0.29***	0.07	0.22***	0.70***
	(0.037)	(0.081)	(0.056)	(0.160)	(0.037)	(0.081)	(0.056)	(0.161)
Community	0.31***	0.01	0.43***	0.45***	0.31***	0.01	0.43***	0.45***
	(0.057)	(0.103)	(0.094)	(0.153)	(0.057)	(0.103)	(0.094)	(0.153)
Mills Ratio					-0.20***	-0.21*	-0.14*	-0.08
					(0.058)	(0.117)	(0.076)	(0.158)
Constant	8.61***	8.96***	8.10***	6.98***	8.67***	9.03***	8.14***	7.01***
	(0.138)	(0.187)	(0.299)	(0.735)	(0.139)	(0.191)	(0.300)	(0.737)
Observations	5,481	1,351	2,963	1,167	5,481	1,351	2,963	1,167
R-squared	0.57	0.61	0.61	0.25	0.57	0.61	0.61	0.25
<sup>2</sup>	0.57	0.60	0.60	0.23	0.57	0.60	0.60	0.23
Probability>F	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

### 4.3 Gender Wage Decomposition

As outlined in equation 3, we decompose the total wage gap into the ‘endowment effect’ and the ‘discrimination effect’. But in equation 4, we provide decomposition results across the wage distribution. Table 4 provides a summary of the decomposition results while Table A.2 gives detailed decomposition results (see Appendix 2). The results are adjusted for sample selection bias. These results reveal that GWG at mean disfavours women and the penalty is larger in private-formal sector at 61 per cent followed by private-informal sector at 54 per cent. The lowest is in the public sector where it stands at 20 per cent. These findings are similar to those of Hyder and Reilly (2005).

At the mean, discrimination component almost entirely drives gender wage differences in public sector. But in returns to differences in observed productive characteristics reduces the wage gap as shown by the negative coefficient. For private-formal sector, returns to observable characteristics account for 49.2 per cent while the discrimination effect accounts for 50.8 per cent. In private-informal sector, the discrimination effect accounts for 72.2 per cent of GWG while endowment effect only explains 27.8 per cent of the GWG.

**Table 4: Summary of wage decompositions**

	Mean	10 <sup>th</sup>	25 <sup>th</sup>	50 <sup>th</sup>	75 <sup>th</sup>	90 <sup>th</sup>
<b>Public Sector</b>						
Male	9.77***	8.63***	9.04***	9.80***	10.49***	11.01***
	(0.032)	(0.043)	(0.040)	(0.050)	(0.043)	(0.052)
Female	9.57***	8.36***	8.97***	9.70***	10.38***	10.87***
	(0.049)	(0.083)	(0.060)	(0.073)	(0.067)	(0.070)
Wage gap	0.20***	0.28***	0.08	0.11	0.11	0.13
	(0.058)	(0.093)	(0.072)	(0.088)	(0.080)	(0.087)
Endowment effects	-0.00	-0.02	-0.04	0.02	0.02	0.09
	(0.047)	(0.051)	(0.051)	(0.075)	(0.060)	(0.061)
Discrimination effect	0.20***	0.29***	0.11	0.09	0.09	0.04
	(0.042)	(0.095)	(0.070)	(0.070)	(0.071)	(0.082)
<b>Private Sector (Formal)</b>						
Male	9.31***	8.17***	8.72***	9.27***	9.96***	10.65***
	(0.025)	(0.039)	(0.031)	(0.031)	(0.031)	(0.043)
Female	8.70***	7.34***	8.19***	8.77***	9.33***	10.24***
	(0.034)	(0.092)	(0.042)	(0.035)	(0.044)	(0.062)
Wage gap	0.61***	0.83***	0.53***	0.50***	0.64***	0.41***
	(0.042)	(0.101)	(0.052)	(0.047)	(0.053)	(0.076)
Endowment effects	0.32***	0.37***	0.36***	0.35***	0.21***	0.17***
	(0.033)	(0.046)	(0.035)	(0.037)	(0.035)	(0.048)
Discrimination effect	0.30***	0.47***	0.17***	0.15***	0.42***	0.24***

	(0.032)	(0.107)	(0.051)	(0.039)	(0.042)	(0.059)
<b>Private Sector (Informal)</b>						
Male	9.08***	8.18***	8.76***	9.13***	9.69***	10.03***
	(0.026)	(0.052)	(0.031)	(0.031)	(0.033)	(0.037)
Female	8.54***	7.73***	8.24***	8.65***	9.12***	9.51***
	(0.050)	(0.083)	(0.053)	(0.051)	(0.061)	(0.075)
Wage gap	0.54***	0.45***	0.52***	0.48***	0.57***	0.52***
	(0.056)	(0.098)	(0.061)	(0.060)	(0.069)	(0.084)
Endowment effects	0.15***	0.18**	0.14***	0.17***	0.13***	0.13***
	(0.035)	(0.076)	(0.042)	(0.043)	(0.041)	(0.045)
Discrimination effect	0.39***	0.27**	0.38***	0.31***	0.44***	0.40***
	(0.059)	(0.120)	(0.071)	(0.068)	(0.074)	(0.090)

Oaxaca/Blinder decomposition of differences in log (hourly wage) based on equation (3) in the first column, RIF decompositions based on equation (4) in the other columns. Standard errors in parentheses; \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.10$

Male wage is the reference category. A positive entry indicates advantage in favour of males.

As espoused in Table 4, quantile decomposition of wage gap between male and female employees in public and private sectors was conducted to evaluate the evolution of the wage gap across the wage distribution. The decomposition of the wage gap was carried at selected quantiles (10th, 25th, 50th, 75th, and 90th). The following observations were drawn from Table 4.

First, the wage gap distribution varies markedly across the sectors and along the wage distribution. Generally, the wage gap in all the three sectors depicts a relative decline in wage gap as you move up the wage distribution. This means that the wage gap tends to be smaller in the group of employees with higher wages. The GWG is higher at the lower end of the distribution, reaching 28.0 per cent in public sector, 83.0 per cent in private sector (formal), and 45.0 per cent in private sector (informal) at the 10th quantile.

On the other hand, at the higher end of the distribution, the GWG is lower reaching 13 per cent, 41 per cent and 52 per cent in public sector, private sector (formal), and private sector (informal) respectively at the 90th quantile. These results are consistent with those by Agesa et al., (2013). They point to the presence of a sticky-floor effect for female workers in the wage distribution. Sticky-floor effect refers to the situation where the wage gap disfavouring women is higher at the lower quantiles.

Second, almost everywhere along the wage distribution in public sector and private-informal sector, it is evident that discrimination effects account for most of the GWG. In the private-formal sector, the discrimination effect is stronger at the lower end and the higher end. And the endowment effect dominates the middle of the wage distribution.



Third, the contribution of differences in characteristics (the endowment effect) between men and women, as a proportion of the wage gap indicates that in public sector, the endowment effect is in favour of females. But in both formal and informal private sector, the endowment effect is strongly in favour of men. The decomposition results also corroborate the results shown in the descriptive analysis in Table 1. It is evident that the public sector has the lowest GWG while private-formal sector depicts the highest wage gap.

#### **4.4 Detailed Decomposition of Gender Wage Gap**

Based on equations 3 and 4, the 'endowment' and 'discrimination' effects, are further decomposed to show the contribution of each covariate. Tables A2 and Table A3 (see Appendices 2 and 3) show the respective results of these effects. The 10th percentile represents the lower end of the wage distribution while the 90th percentile represents the upper end.

At the lower end of the wage distribution, results show that in the public sector, endowment effect is -0.02. This shows that endowment favours women. It also works to narrow the wage gap. But the discrimination effect is 0.29. It works to widen GWG in favour of men. This shows that at the lower end of the wage distribution, discrimination is stronger. However, this begs the question, which covariates have the greatest influence on endowment effect and discrimination effect at the lower end of the wage distribution?

Results indicate that covariates that contribute strongly to the endowment effect are undergraduate and postgraduate education, occupations such as clerical services, craftsmen, and elementary occupation (which encompass sales and services, agriculture, fisheries and related labour as well as labour in the mining, construction, and manufacturing sectors).

Industries with reduced wage gap in public sector in the lower wage distribution are agriculture, manufacturing, utilities, and community services. Unionization and full-time jobs also enhance the endowment effect and reduce the wage gap at the lower tail of wage distribution.

In the private-formal sector, the lower tail of wage distribution has a positive wage gap implying that women are disfavoured. The endowment effect is positive and accounts for 44.6 per cent of the wage gap. It however emerges that education, especially post-primary vocational education; secondary, college and undergraduate education cast the endowment effect in favour of women.

Similarly, occupations such as clerical, service workers, and elementary occupations weaken the gender wage gap in favour of women. Furthermore, working in industries such as wholesale and community service strongly narrows the gender wage gap at the lower end of private sector (formal) wage distribution. A strong influencing endowment effect works to the advantage of women.

The discrimination effect at the lower tail of the wage distribution is very strong. For the public sector, secondary and college education and industries strongly increase the discrimination effect. Such industries include finance, transport,

and construction which favour men. In contrast, administrative, professional, technician, clerical and elementary occupations reduce the discrimination effect to the advantage of women. In the private-formal sector, the discrimination effect accounts for 56.6 per cent, with all levels of education and industries. Industries such as transport, finance and construction increase the discrimination effect to the disadvantage of women. The upper tail of wage distribution in the public sector wage gap is narrow. Education, especially college and higher education strongly reinforces the endowment effect in reducing the gender wage gap.

In terms of occupations and industries, it emerges that industries that seem to disadvantage women in terms of endowment, in the lower tail, tend to also strongly contribute to narrowing the wage gap. These include professional occupations and industries such as finance, transport, and construction.

In terms of discrimination effect, in the public sector, all levels of education induce narrowing of the gender wage gap. All occupations, save for armed forces, and all industries, save for craftsmen, narrow the gender wage gap by reducing discrimination against women.

For the private-formal sector, education plays a key role in anchoring endowment effect to favour women and reduce the wage gap. Equally, occupations such as clerical and crafts services, and community services and administrative occupations support the endowment effect in favour of women. Discrimination is strongly propagated in all industries to the advantage of men, save for community service industry which reduces discrimination and lowers gender wage gap.

## **5. Conclusion**

This study investigated the public–private sector gender wage gap using the 2015/16 Kenya Integrated Household Budget Survey (KIHBS) microdata. It sought to provide evidence on the gender wage gap between these sectors in Kenya and the covariates.

Accordingly, a model that corrects for the selectivity bias of the sample, considering the prior process of choosing the sector and additionally switching it by gender, is used. The findings reveal that there is discrimination against women in both the public and private sectors, but less so in the former. Women are paid less than men, even after controlling for the distribution of characteristics in the analysis. This result is consistent with the previous findings of reviews for wage differentials in Kenya’s labour market: Agesa et al., (2013) and KIPPRA (2013).

The size of gender wage gaps attributed to different returns varies substantially across the wage distribution. Nevertheless, the gender wage gap between the public and private sectors narrow as the wage distribution increases. In general, the wage gap estimates suggest that individuals are better off working in the public sector, especially in the lowest percentiles of the distribution. The evidence seems to indicate that there is a sticky-floor effect in pay for women (in the bottom end of the distribution).

An examination of the entire wage distribution provides additional information on covariates that propagate gender wage gap that disfavour women. Higher education skills and membership to unions that advocate for affirmative action yields reduction in gender wage inequality against women. Furthermore, occupations such as administrative services, clerical services, professional services, technical services, and elementary occupation seem to show lower gender wage gap. Similarly, industries such as construction, finance, transport, and insurance tend to disadvantage women while agriculture, wholesale and retail, and community services depict lower gender wage inequalities.

These results have important policy implications: first, the empirical evidence confirms that the public sector is a fair employer. It has lower gender wage gap along the wage distribution than the private sector. But then, governments need to consider how to continue to reduce gender wage gaps in the public sector. Besides, presence of positive public-private wage gap across most of the wage distribution may point to the existence of various allowances paid in the public sector (KIPPRA, 2013). This follows from our definition of wages which encompass all earnings that employees receive in respect of their work.

Second, the wider wage gaps in the private sector are significant. So, policymakers need to adopt measures to achieve equal pay in private organizations. In this regard, this study proposes a policy mix of three options to support reduction gender wage gap and propel the county towards attainment of the United Nations Sustainable Development Goal No. 8 that entrenches equal pay at work places: increasing acquisition of higher education skills especially for women in the lower echelons of wage distribution; legislating and compulsory requirement of implementation of a workplace gender equality plan or policy in all public and

private organizations; and ensuring strict enforcement of mandatory minimum wages to alleviate lower wages for women across the wage distribution.

## References

- Aderemi, T. and Alley, I. (2019), "Gender pay gap in the workplace: The case of public and private sectors in Nigeria". *Journal of Social and Economic Development*, 21(2): 370-391.
- Agesa, R. U., Agesa, J. and Dabalén, A. (2013), "Sources of the persistent GWG along the unconditional earnings distribution: Findings from Kenya". *Oxford Development Studies*, 41(1): 76-103.
- Agesa, R. U., Agesa, J. and Dabalén, A. (2013), "Sources of the persistent GWG along the unconditional earnings distribution: Findings from Kenya". *Oxford Development Studies*, 41(1): 76-103.
- Ahmed, S. and McGillivray, M. (2015), "Human capital, discrimination, and the GWG in Bangladesh". *World Development*, 67: 506-524.
- Arrow, K. (1973), "The theory of discrimination". *Discrimination in Labour Markets*, 3(10), 3-33.
- Autor, D. (2003), *Lecture note: The economics of discrimination*.
- Azam, M. and Prakash, N. (2010), *A distributional analysis of the public-private wage differential in India*.
- Bargain, O. and Melly, B. (2008), *Public sector pay gap in France: New evidence using panel data*. Available at SSRN 1136232.
- Becker, G.S. (1971), *The economics of discrimination*. University of Chicago Press.
- Bergmann, B.R. (1974), "Occupational segregation, wages and profits when employers discriminate by race or sex". *Eastern Economic Journal*, 1(2): 103-110.
- Blank, R.M. (1985), "An analysis of workers' choice between employment in the public and private sectors". *ILR Review*, 38(2): 211-224.
- Castagnetti, C. and Giorgetti, M.L. (2019), "Understanding the gender wage-gap differential between the public and private sectors in Italy: A quantile approach". *Economic Modelling*, 78: 240-261.
- Cunningham, W. (2001), Breadwinner versus caregiver: Labor force participation and sectoral choice over the Mexican business cycle. The economics of gender in Mexico: Work, family, state, and market, 85-132.
- Dayoğlu, M. and Kırdar, M.G. (2010), Determinants of and trends in labour force participation of women in Turkey.
- Firpo, S., Fortin, N.M. and Lemieux, T. (2009), "Unconditional quantile regressions". *Econometrica*, 77(3): 953-973.
- Government of Kenya (2006). National early childhood development policy framework, 2006. Ministry of Education, Nairobi.

- Grybaite, V. (2006). "Analysis of theoretical approaches to gender pay gap". *Journal of Business Economics and Management*, 7(2): 85-91.
- Güven-Lisaniler, F., Tuna, G. and Nwaka, I.D. (2018), "Sectoral choices and wage differences among Nigerian public, private and self-employees". *International Journal of Manpower*.
- Hyder, A. and Reilly, B. (2005), "The public and private sector pay gap in Pakistan: A quantile regression analysis". *The Pakistan Development Review*, 271-306.
- Jellal, M. and Nordman, C. (2009). A theory of GWG.
- Kabubo-Mariara, J. (2003), Wage determination and the GWG in Kenya: Any evidence of gender discrimination? Research paper/African Economic Research Consortium; 132.
- Kagundu, P. and Pavlova, O. (2007), *Gender wage differentials in Uganda: Evidence from the Uganda national household survey*. Andrew Young School of Policy Studies Research Paper Series, (07-26).
- Kenya Institute for Public Policy Research and Analysis - KIPPRA (2013), *A report on the study of public-private sector wage differentials in Kenya*. KIPPRA Policy Paper No. 5 2013, Nairobi.
- Kolev, A. and Robles, P.S. (2010), Addressing the gender pay gap in Ethiopia: How crucial is the quest for education parity? *Journal of African Economies*, 19(5): 718-767.
- Kwenda, P. and Ntuli, M. (2018), "A detailed decomposition analysis of the public-private sector wage gap in South Africa". *Development Southern Africa*, 35(6), 815-838.
- Lopez-Acevedo, G., Devoto, F., Morales, M. and Roche Rodriguez, J. (2021), *Trends and determinants of female labor force participation in Morocco: An Initial Exploratory Analysis*.
- Machado, J. A. and Mata, J. (2005), "Counterfactual decomposition of changes in wage distributions using quantile regression". *Journal of Applied Econometrics*, 20(4): 445-465.
- Mincer, J. (1958), "Investment in Human Capital and Personal Income Distribution". *Journal of Political Economy*, 66(4): 281-302.
- Mizala, A., Romaguera, P. and Gallegos, S. (2011), "Public-private wage gap in Latin America (1992-2007): A matching approach". *Labour Economics*, 18: S115-S131.
- Navarro, L. and Selman, J. (2014), "Wage differentials between the public and private sectors in Chile: Evidence from longitudinal data". *CEPAL Review*, 2014(112): 89-106.

- Nielsen, H. S. and Rosholm, M. (2002), "The public-private sector wage gap in Zambia in the 1990s: A quantile regression approach". In *Economic Applications of Quantile Regression* (pp. 169-182). Physica, Heidelberg.
- Nyaga, R.K. (2010), *Earnings and employment sector choice in Kenya*. Africa Economic Research Consortium, Research Paper 199.
- Oaxaca, R. (1973), "Male-female wage differentials in urban labour markets". *International Economic Review*, 693-709.
- Phelps, E. S. (1972), "The statistical theory of racism and sexism". *The American Economic Review*, 62(4): 659-661.
- Polachek, S.W. (1987), "Occupational segregation and the GWG". *Population Research and Policy Review*, 6(1): 47-67.
- Polachek, S.W. (2004), How the human capital model explains why the GWG narrowed.
- Suda, C. (2002). Gender disparities in the Kenyan labour market: Implications for poverty reduction. *Nordic journal of African studies*, 11(3), 301-321.
- Sweetland, S. R. (1996). Human capital theory: Foundations of a field of inquiry. *Review of educational research*, 66(3), 341-359.

## Appendices

**Table A1: Definition of variables**

Variable	Definition of variables
Age 15-19	1 if age is between 15 and 19 years
Age 20-24	1 if age is between 20 and 24 years
Age 25-29	1 if age is between 25 and 29 years
Age 30-34	1 if age is between 30 and 34 years
Age 35-39	1 if age is between 35 and 39 years
Age 40-44	1 if age is between 40 and 44 years
Age 45-49	1 if age is between 45 and 49 years
Age 50-54	1 if age is between 50 and 54 years
Age 55-59	1 if age is between 55 and 59 years
Age 60-65	1 if age is between 60 and 65 years
Age	Age of individual (continuous variable)
Single	1 if individual is single or never married
Separated	1 if individual is separated/divorced/widow
Married	1 if individual is married
Primary	1 if individual completed primary education
Post-primary	1 if individual completed post-primary vocational education
Secondary	1 if individual completed secondary education
College	1 if individual completed post-secondary collage education
First degree	1 if individual completed bachelor's degree
Higher degree	1 if individual completed at least post-graduate degree
Administrative	1 if occupation classification is administrative
Professional	1 if occupation classification is professional
Technicians	1 if occupation classification is technicians and associates
Clerical	1 if occupation classification is secretarial, clerical services
Service	1 if occupation classification is service, shop, market sales workers
Farm	1 if occupation classification is skilled farm, fishery, wildlife workers
Craftsmen	1 if occupation classification is craft and related trade workers
Machine operators	1 if occupation classification is plant, machine operators/assemblers
Elementary occupation	1 if occupation classification is elementary occupations
Other occupation	1 if occupation is other including armed forces
Agriculture	1 if industry classification is agriculture and forestry
Extractives	1 if industry classification is mining and quarrying
Manufacturing	1 if industry classification is manufacturing
Utilities	1 if industry classification is electricity and water
Construction	1 if industry classification is construction
Wholesale	1 if industry is wholesale and retail trade, hotels, and restaurants
Transport	1 if industry classification is transport and communication
Finance	1 if industry classification is finance, insurance, real estate, business



Community	1 if industry is classification is community and social services
Union	1 if individual belongs to a labour union
Rural	1 if individual lives in rural areas
Urban	1 if individual lives in urban areas
Peri-urban	1 if individual lives in peri-urban areas
Household head	1 if individual is the head of the household
Potential experience <sup>c</sup>	No. of years of work experience

**Table A2: Detailed decomposition of the public sector wage gap**

	Mean		10 <sup>th</sup>		25 <sup>th</sup>		50 <sup>th</sup>		75 <sup>th</sup>		90 <sup>th</sup>	
	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE
<b>Wage gap</b>	0.20***	(0.058)	0.28***	(0.093)	0.08	(0.072)	0.11	(0.088)	0.11	(0.080)	0.13	(0.087)
<b>Endowment effect</b>	-0.00	(0.047)	-0.02	(0.051)	-0.04	(0.051)	0.02	(0.075)	0.02	(0.060)	0.09	(0.061)
<b>Contribution of:</b>												
Experience <sup>2</sup>	0.12***	(0.037)	0.19**	(0.075)	0.07	(0.051)	0.10**	(0.046)	0.17***	(0.049)	0.15**	(0.066)
Post primary	-0.09***	(0.033)	-0.18**	(0.076)	-0.07	(0.049)	-0.04	(0.042)	-0.11***	(0.041)	-0.10*	(0.056)
Secondary	0.00	(0.001)	0.00	(0.003)	-0.00	(0.003)	0.00	(0.002)	0.00	(0.002)	-0.00	(0.001)
College	0.03***	(0.012)	0.04**	(0.016)	0.04***	(0.016)	0.04***	(0.016)	0.03**	(0.010)	0.02**	(0.009)
First degree	-0.07***	(0.019)	-0.05***	(0.019)	-0.07***	(0.021)	-0.09***	(0.027)	-0.09***	(0.025)	-0.05**	(0.021)
Higher degree	-0.02	(0.021)	-0.01	(0.007)	-0.01	(0.010)	-0.02	(0.021)	-0.02	(0.033)	-0.03	(0.037)
Others occ.	0.02**	(0.011)	0.01	(0.004)	0.01*	(0.005)	0.02**	(0.009)	0.04**	(0.018)	0.05**	(0.026)
Administrative	0.01**	(0.006)	0.00	(0.004)	0.02**	(0.007)	0.01*	(0.007)	0.02**	(0.011)	0.01	(0.012)
Professionals	0.01	(0.008)	0.00	(0.009)	0.02*	(0.013)	0.00	(0.011)	-0.01	(0.014)	0.01	(0.016)
Technicians	-0.01	(0.009)	0.01	(0.009)	-0.02	(0.013)	-0.01	(0.012)	-0.01	(0.016)	-0.02	(0.018)
Clerical	0.00	(0.009)	-0.01	(0.011)	0.02	(0.015)	0.00	(0.013)	-0.01	(0.017)	0.00	(0.015)
Service worker	0.01	(0.022)	0.03	(0.028)	-0.03	(0.032)	0.04	(0.036)	0.05	(0.039)	0.00	(0.039)
Craftsmen	0.08*	(0.042)	0.04	(0.059)	0.01	(0.061)	0.24***	(0.068)	0.10	(0.076)	0.03	(0.066)
Machine ops.	0.00	(0.003)	-0.00	(0.003)	0.01	(0.004)	-0.01	(0.006)	0.00	(0.005)	0.00	(0.006)
Elementary occ.	-0.00	(0.008)	-0.00	(0.008)	0.02	(0.011)	-0.01	(0.013)	-0.01	(0.015)	-0.01	(0.014)
Agriculture	-0.11***	(0.037)	-0.05	(0.043)	-0.07	(0.051)	-0.28***	(0.060)	-0.11*	(0.065)	-0.00	(0.059)
Manufacturing	-0.00	(0.006)	-0.01	(0.007)	-0.01	(0.008)	-0.02	(0.011)	0.00	(0.012)	-0.00	(0.012)
Utilities	0.00	(0.004)	-0.00	(0.003)	-0.01	(0.005)	-0.01	(0.006)	0.01	(0.009)	0.02	(0.013)
Construction	0.02	(0.003)	-0.00	(0.003)	0.08**	(0.036)	0.08**	(0.040)	0.00	(0.007)	0.00	(0.008)
Wholesale	0.00	(0.025)	0.05	(0.032)	0.00	(0.036)	0.08**	(0.040)	-0.02	(0.055)	-0.02	(0.057)
Transport	-0.00	(0.004)	0.00	(0.001)	0.00	(0.003)	0.00	(0.001)	-0.00	(0.005)	-0.00	(0.005)
Finance	-0.00	(0.004)	0.00	(0.001)	0.00	(0.003)	0.00	(0.004)	-0.01	(0.007)	-0.01	(0.007)
Community	-0.00	(0.006)	-0.01	(0.009)	-0.01	(0.015)	-0.01	(0.015)	0.00	(0.010)	-0.01	(0.013)
Fulltime	-0.01	(0.008)	-0.03**	(0.013)	-0.02*	(0.012)	-0.02	(0.013)	0.01	(0.017)	0.00	(0.018)
Union	0.00	(0.005)	0.01	(0.010)	0.00	(0.007)	0.00	(0.009)	0.00	(0.001)	0.00	(0.002)
Part urban	-0.00	(0.006)	-0.00	(0.006)	-0.00	(0.010)	-0.00	(0.007)	-0.00	(0.006)	0.00	(0.002)
Urban	-0.01**	(0.007)	-0.03**	(0.013)	-0.02*	(0.009)	-0.02**	(0.010)	-0.00	(0.005)	0.00	(0.007)
Discrimination effect	-0.00	(0.002)	-0.00	(0.007)	-0.00	(0.004)	-0.00	(0.004)	-0.00	(0.002)	-0.00	(0.002)
	0.20***	(0.042)	0.29***	(0.095)	0.11	(0.070)	0.09	(0.070)	0.09	(0.071)	0.04	(0.082)

Table A3: Detailed decomposition of the private sector (formal) wage gap

	Mean	10 <sup>th</sup>	25 <sup>th</sup>	50 <sup>th</sup>	75 <sup>th</sup>	90 <sup>th</sup>	
Experience	0.05*** (0.020)	0.05*** (0.013)	0.06*** (0.024)	0.06*** (0.017)	0.06*** (0.021)	0.04*** (0.016)	0.04*** (0.020)
Experience <sup>2</sup>	-0.02* (0.013)	-0.02 (0.016)	-0.03* (0.017)	-0.03* (0.014)	-0.01 (0.014)	-0.01 (0.009)	-0.02 (0.012)
Post primary	0.00 (0.006)	-0.00 (0.004)	-0.00 (0.002)	0.00 (0.002)	0.00 (0.007)	0.00 (0.005)	0.00 (0.003)
Secondary	0.02*** (0.011)	0.01** (0.010)	0.02*** (0.007)	0.02*** (0.008)	0.01*** (0.007)	0.01*** (0.013)	0.01** (0.005)
College	0.01 (0.010)	0.00 (0.004)	0.00 (0.007)	0.01 (0.013)	0.01 (0.013)	0.01 (0.013)	0.01 (0.012)
First degree	-0.01 (0.011)	0.00 (0.003)	-0.00 (0.003)	-0.00 (0.009)	-0.01 (0.009)	-0.01 (0.013)	-0.01 (0.025)
Higher degree	0.01 (0.007)	0.00 (0.001)	0.00 (0.002)	0.00 (0.005)	0.01 (0.005)	0.01 (0.007)	0.01 (0.011)
Others occ.	0.00 (0.001)	0.00 (0.002)	0.00 (0.002)	0.00 (0.002)	0.00 (0.003)	0.00 (0.005)	-0.00 (0.001)
Administrative	0.01 (0.006)	0.01 (0.006)	0.00 (0.004)	0.00 (0.004)	0.00 (0.003)	0.01 (0.006)	0.01 (0.011)
Professionals	0.01 (0.006)	0.01 (0.008)	0.01 (0.006)	0.01 (0.008)	0.01 (0.005)	0.01 (0.006)	0.01 (0.010)
Technicians	0.03*** (0.007)	0.04*** (0.011)	0.03*** (0.008)	0.03*** (0.007)	0.03*** (0.007)	0.03*** (0.008)	0.03*** (0.012)
Clerical	-0.02*** (0.007)	-0.04*** (0.012)	-0.03*** (0.008)	-0.03*** (0.009)	-0.02*** (0.009)	-0.02*** (0.008)	-0.00 (0.011)
Service worker	-0.01** (0.004)	-0.04*** (0.015)	-0.02** (0.008)	-0.00 (0.008)	-0.00 (0.005)	0.01** (0.005)	0.01* (0.006)
Craftsmen	0.03*** (0.006)	0.06*** (0.013)	0.04*** (0.013)	0.02*** (0.008)	0.02*** (0.008)	0.01 (0.007)	-0.00 (0.008)
Machine ops.	0.08*** (0.011)	0.13*** (0.024)	0.11*** (0.016)	0.09*** (0.015)	0.03*** (0.015)	0.03*** (0.014)	0.00 (0.015)
Elementary occ.	0.01* (0.004)	0.03** (0.016)	0.01 (0.005)	-0.00 (0.002)	-0.00 (0.002)	-0.00 (0.002)	0.00 (0.002)
Agriculture	0.06*** (0.015)	0.06* (0.033)	0.09*** (0.024)	0.05** (0.025)	0.01 (0.028)	0.03 (0.040)	0.03 (0.040)
Manufacturing	0.00 (0.003)	0.00 (0.005)	0.00 (0.004)	0.00 (0.004)	0.00 (0.005)	0.01 (0.005)	0.00 (0.007)
Utilities	0.03* (0.014)	0.02 (0.027)	0.00 (0.019)	0.06** (0.025)	0.06** (0.025)	0.06* (0.030)	0.01 (0.043)
Construction	0.00 (0.002)	0.00 (0.004)	0.00 (0.004)	0.00 (0.004)	0.00 (0.004)	0.00 (0.005)	0.00 (0.006)
Wholesale	-0.00 (0.001)	-0.00 (0.002)	0.00 (0.002)	0.00 (0.002)	0.00 (0.004)	-0.00 (0.004)	-0.00 (0.005)
Transport	0.00 (0.003)	0.00 (0.004)	-0.00 (0.003)	0.00 (0.003)	0.00 (0.004)	0.01 (0.006)	0.01 (0.010)
Finance	0.00 (0.003)	0.00 (0.006)	0.01 (0.005)	0.00 (0.005)	0.00 (0.005)	-0.01 (0.007)	0.00 (0.009)
Community	0.00 (0.000)	-0.00 (0.001)	0.00 (0.001)	-0.00 (0.001)	-0.00 (0.001)	-0.00 (0.001)	0.00 (0.002)
Fulltime	0.01* (0.004)	0.02* (0.013)	0.01** (0.006)	0.00 (0.002)	0.00 (0.002)	-0.00 (0.002)	-0.00 (0.002)
Union	0.01*** (0.004)	0.01** (0.003)	0.01*** (0.004)	0.02*** (0.004)	0.02*** (0.006)	0.01** (0.005)	0.01* (0.005)
Urban	0.02*** (0.007)	0.02** (0.007)	0.04*** (0.010)	0.04*** (0.010)	0.04*** (0.010)	0.02*** (0.007)	0.01 (0.007)
Peri urban	-0.00 (0.001)	-0.00 (0.002)	0.00 (0.002)	-0.00 (0.002)	-0.00 (0.001)	-0.00 (0.001)	-0.00 (0.002)

<b>Discrimination of:</b>																				
Experience	0.32**	(0.149)	0.02	(0.500)	0.73***	(0.227)	0.57***	(0.182)	0.09	(0.208)	-0.34	(0.293)								
Experience <sup>2</sup>	-0.11	(0.084)	-0.08	(0.274)	-0.32**	(0.130)	-0.22**	(0.102)	0.02	(0.146)	0.17	(0.146)								
Post primary	-0.00	(0.003)	-0.01	(0.011)	-0.00	(0.005)	-0.00	(0.003)	0.00	(0.004)	0.01**	(0.004)								
Secondary	0.04	(0.028)	0.08	(0.105)	0.17***	(0.043)	0.06	(0.038)	-0.06	(0.039)	-0.09*	(0.049)								
College	0.05**	(0.025)	0.09	(0.087)	0.13***	(0.036)	0.14***	(0.033)	-0.01	(0.038)	-0.10*	(0.059)								
First degree	0.02	(0.013)	0.03	(0.038)	0.06***	(0.017)	0.06***	(0.016)	-0.00	(0.019)	-0.09**	(0.037)								
Higher degree	0.00	(0.003)	0.01	(0.007)	0.01**	(0.004)	0.01***	(0.005)	0.00	(0.004)	-0.03**	(0.013)								
Others occ.	-0.00	(0.001)	0.00	(0.001)	0.00	(0.001)	0.00	(0.001)	-0.00	(0.002)	-0.01	(0.006)								
Administrative	-0.01	(0.006)	0.00	(0.010)	-0.00	(0.006)	-0.01	(0.006)	-0.02**	(0.009)	-0.03	(0.020)								
Professionals	-0.02**	(0.009)	-0.01	(0.019)	0.00	(0.010)	-0.01	(0.010)	-0.04***	(0.015)	-0.05*	(0.030)								
Clerical	-0.00	(0.006)	-0.00	(0.013)	0.00	(0.007)	-0.00	(0.007)	-0.02	(0.011)	-0.02	(0.019)								
Service worker	-0.02	(0.014)	-0.02	(0.037)	0.00	(0.019)	-0.01	(0.019)	-0.06**	(0.026)	-0.02	(0.034)								
Machine ops.	-0.03	(0.021)	-0.06	(0.062)	-0.03	(0.034)	-0.05*	(0.032)	-0.08**	(0.034)	-0.04	(0.034)								
Craftsmen	-0.01*	(0.003)	-0.00	(0.006)	-0.00	(0.003)	-0.01**	(0.004)	-0.01	(0.006)	-0.01	(0.008)								
Elementary occ.	0.00	(0.003)	0.01	(0.009)	0.00	(0.004)	0.00	(0.003)	0.00	(0.005)	0.00	(0.002)								
Agriculture	-0.01	(0.021)	-0.06	(0.081)	-0.08**	(0.039)	-0.05**	(0.026)	-0.01	(0.021)	-0.01	(0.018)								
Manufacturing	0.07	(0.113)	0.24	(0.175)	0.05	(0.101)	0.21*	(0.113)	0.03	(0.296)	0.21	(0.392)								
Utilities	0.00	(0.003)	-0.00	(0.004)	0.00	(0.002)	0.00	(0.004)	0.00	(0.005)	0.01	(0.006)								
Construction	0.04	(0.027)	0.03	(0.035)	0.02	(0.021)	0.10***	(0.028)	0.02	(0.072)	0.09	(0.097)								
wholesale	0.02	(0.028)	0.02	(0.045)	-0.01	(0.024)	0.07***	(0.029)	0.04	(0.071)	0.01	(0.097)								
Transport	0.00	(0.004)	0.00	(0.004)	-0.00	(0.003)	0.01**	(0.005)	0.01	(0.009)	0.02	(0.015)								
Finance	0.00	(0.030)	0.01	(0.042)	-0.01	(0.025)	0.09***	(0.031)	0.04	(0.078)	0.06	(0.108)								
Community	-0.00	(0.007)	0.02	(0.013)	0.01	(0.007)	0.01	(0.008)	-0.02	(0.017)	-0.01	(0.024)								
Fulltime	-0.04	(0.112)	-0.70	(0.450)	-0.04	(0.175)	0.11	(0.123)	-0.15	(0.141)	-0.47**	(0.193)								
Urban	-0.02***	(0.007)	-0.04***	(0.013)	-0.01	(0.009)	-0.01	(0.010)	-0.03*	(0.014)	-0.00	(0.021)								
Peri urban	0.01	(0.036)	-0.04	(0.119)	0.14**	(0.054)	0.11**	(0.050)	-0.07	(0.057)	-0.12	(0.075)								
	-0.04***	(0.012)	-0.13***	(0.038)	-0.05***	(0.020)	-0.00	(0.015)	-0.03**	(0.014)	-0.05**	(0.019)								



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**Kenya Institute for Public Policy Research and Analysis  
Bishops Garden Towers, Bishops Road  
PO Box 56445, Nairobi, Kenya  
tel: +254 20 2719933/4, 2714714/5, 2721654, 2721110  
fax: +254 20 2719951  
email: [admin@kippra.or.ke](mailto:admin@kippra.or.ke)  
website: <http://www.kippra.org>**