

# Analyzing Structural Heterogeneity of Informal Sector Employment in Kenya

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## **Abstract**

The informal sector accounts for 83 per cent of total employment in Kenya. This study sought to understand duality and its driving factors to inform policy on enhancing decent work in the informal sector in Kenya. Using a multinomial logit analysis, the study established that workers are motivated to engage in more than one job in the informal sector due to its structure, to get more earnings and to meet the standard of living. Indeed, employees with low skills, less income and those residing in rural areas are likely to have two jobs in the informal sector. Further, workers in formal full-time employment are less likely to engage in duality compared to their counterparts who have no contract. Women and youth are more likely than men to work on multiple jobs in the informal sector.

Key recommendations include implementation of policies and strategies to improve terms of employment in the informal sector; sensitization of workers and employers and development of regulations to foster participation of informal sector workers in trade unions; improve access to post skills training, in service training, recognition and certification of prior learning and apprenticeship among informal sector workers. It is also important to increase job creation in the formal sector; and improve official data, statistics and documentation of informal sector. It is important that the government with support from private sector improves the productivity of the informal sector with a well-balanced mix of economic and social policies that will make a remarkable contribution to enhancing quality of informal sector jobs. There is also need for policies that will protect women against social risks and vulnerabilities, such as unemployment, potential lay-off during maternity, old age and ill health. There is need for the government with support from stakeholders to create more innovative opportunities and give incentives to private providers of employment services while improving the quality of jobs in the informal sector.

**Keywords:** Structural Heterogeneity, Informal Sector, Employment

## **1 INTRODUCTION**

In developing countries, the informal sector serves as a source of employment and income for a significant population. According to the International Labour Organization (ILO) and World Trade Organization (2019<sup>1</sup>) report, informal sector accounted for an average of 65 per cent of employment in developing countries. This large proportion highlights the sector's critical importance for job creation and income growth in the country. While the informal sector is important, little attention has been paid to heterogeneity

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<sup>1</sup> ILO and WTO, 2019- Globalization and informal jobs in developing countries.

nature of the sector. Understanding structural heterogeneity<sup>2</sup> of the informal sector and its impact on decent work on economic prosperity of a country as well as addressing productivity in the informal sector employment. Further, there is dearth empirical evidence on structural heterogeneity of the informal sector, probably because detailed information on the informal sector structure, especially its heterogeneous nature has not been adequately documented. Studies on this in Kenya are limited save for Neitzert (1996) who focused on multiple job holding in Nairobi based on employment contract in one economic sector. Structural heterogeneity entails workers simultaneously being involved in two or more formal and/or informal jobs (ILO 1982; Bangasser, 2000). Structural heterogeneity is a prevalent employment arrangement impacting on decent<sup>3</sup> work therefore this study sheds light on an important and understudied topic for research and practice alike.

Assessment of structural heterogeneity in informal sector employment was adopted as an important aspect of labor market in the thirteenth International Conference of Labor Statisticians (ILO, 1982). This provides for classifications of persons according to workers exclusively employed in the informal sector, those whose main job is both in the informal sector and persons whose secondary job is in the informal sector. Similarly, the fifteenth International Conference of Labour Statisticians on definition of the informal sector led to its inclusion in the international System of National Accounts to quantify the contribution of the sector to the gross domestic product (ILO 1993). The inclusion was based on the sector's critical importance in job creation and income growth (ILO 1970; ILO, 1982; De Soto 1989; Harts 1973; Bangasser, 2000).

Consistent with broader literature the informal sector activities have claimed a significant share of the labor market and absorbs majority of workforce which is estimated at about 60 per cent to 90 per cent of employment in developing countries which contributes a third of gross domestic product in developing economies (ILO 2002: 2009; 2018 and World Bank, 2019). In the same breadth, the informal sector in Kenya accounted for 83 per cent of employment and 18 per cent of the GDP in Kenya (KNBS 2021). This trend has been consistent for the last decade. Given its importance in job creation, the sector also has significant structural heterogeneity. However, little is known about structural heterogeneity and its impact on decent work in Kenya. Therefore, this study aims to add to the dearth body of literature as well as provided evidence towards addressing productivity in the informal sector.

The related existing studies in Kenya have focused on various aspects of informal sector. Earlier studies for instance, the KIPPRA discussion papers in 2019 (Nyaware; Agwaya and Mairura Mwami and Matwere; Shitero and Malot; Kyalo and Waithaka; Mwiti and Kimunge; Njuguna and Mugambi) focused on the theme of informal sector in Kenya as follows: determinants of informality; Technology Acquisition and Innovations; Gender Productivity Gap; Assessment of Institutional Structures Governing the Informal Sector; Informal Sector's Response to Shocks; Effect of Business Environment on Productivity of Informal Manufacturing Enterprises in Kenya; and Factors that Determine Choice of Products Market for Businesses in the Informal Sector in Kenya.

Other studies have focused on its definition, reasons underlying the emergence of the informal economy, the productivity of the informal sector, and why firms remain informal. However, little attention has been paid to heterogeneity in the informal sector. Understanding this heterogeneity is crucial to the design of appropriate evidence-based policies. Even though Neitzert (1996) analyzed determinants of the contract-

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<sup>2</sup> The paper uses the terms structural heterogeneity and duality interchangeably.

<sup>3</sup> Decent work is productive work that delivers a fair income, secure form of employment and safe working conditions.

allocation process in productivity, there have been major policy reforms towards decent employment. For instance, the sustainable development goal (SDG) number 8 aims to attain decent work and economic growth for all workers<sup>4</sup>. The International Labor Organization (ILO) also emphasizes on the provision of quality and decent work. Thus, it will be important to analyze whether duality has an impact on decent work.

Despite the contribution of the informal sector in employment, the sector is faced with various challenges including poor regulations, low wages, low skills, lack of safe working environment, lack of security of tenure, health insurance and social security. These challenges compromise the country's ability to provide decent work to majority of its citizens.

Inadequate job creation in the formal sector has led to employees seeking work in the informal sector. However, detailed information on the structure of informal sector employment, especially its heterogeneous nature has not been documented in Kenya. The study aims to fill this gap by advancing literature and data. The implications and consequences of structural heterogeneity are multiple, in both economic and social terms.

They include wage gaps between labor market segments, differences in access to training and social security, working conditions and tenure. Moreover, segmentation implies limited transitions to better jobs. Knowledge of duality and its effect on decent work will inform public policies.

Further, there is a significant proportion of workers engaged in employment in the informal sector<sup>5</sup> doing informal jobs outside the informal sector (Tokman 2001 and La Porta and Shliefer, 2014). In this regard, understanding the structure of the informal sectors particularly simultaneous involvement in two or more sectors by Kenyan workers is necessary to implement strategies that will facilitate improved access to decent jobs, transition of workers and economic enterprises to the formal economy.

The study is timely given the momentum created by the inclusion of structural heterogeneity in the systems of national accounts by the thirteenth International Classification of Labour Statistics (ICLS). The specific objectives of the study are to:

1. Analyze structural heterogeneity in the informal sector employment in Kenya.
2. Determine the factors that influence structural heterogeneity in the informal sector.
3. Propose policy recommendations for informal sector in Kenya.

## 2 OVERVIEW OF INFORMAL SECTOR EMPLOYMENT

According to the International Labor Organization, informal employment covers both self- employed and wage employment remuneration that is not registered, regulated or protected by existing regulatory frameworks as well as all non-remunerative work undertaken in an income producing enterprise (ILO, 1982). From the literature (Portes et al 1989; ILO 1972; Harts 1973; Bangasser, 2000; ILO 1972; ILO 2003), the informal sector is characterized by: irregular work outside legal sanction; small scale activities by Micro, Small and Medium Enterprises (MSMEs); ease of entry and exit into the market due to fewer regulations; workers lack secure employment contracts, workers' benefits, social protection, or workers' representation; low skills level and less capital investment. The formal sector is taken to mean wage labor in permanent employment, such as that which is characteristic of industrial enterprises, government offices

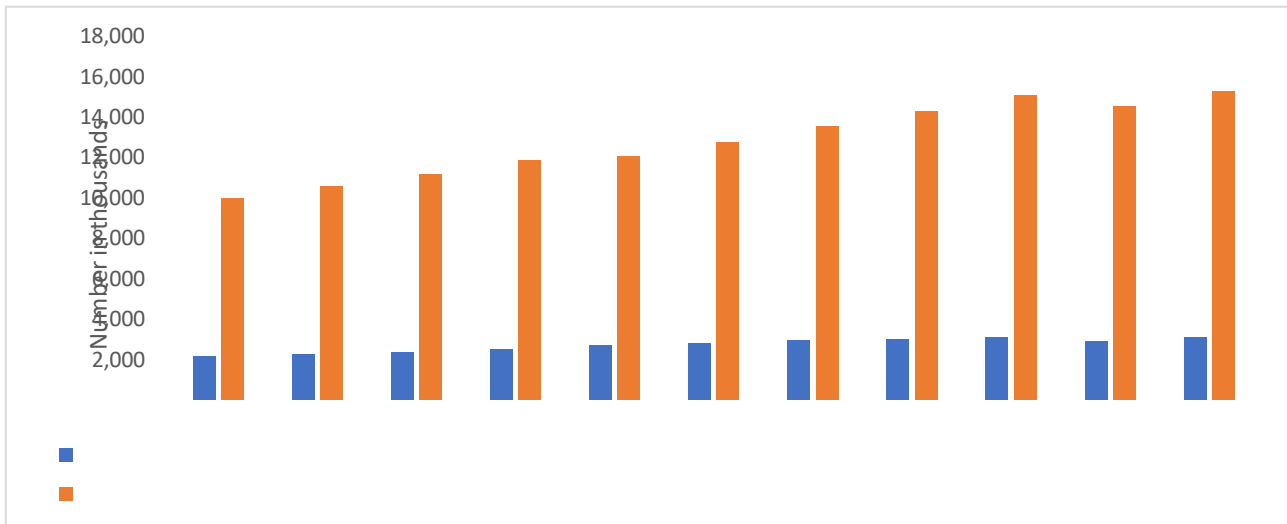
<sup>4</sup> <https://www.refworld.org/docid/57b6e3e44.html>

<sup>5</sup>Employment in the informal sector comprises of summation of employment in the informal sector and informal employment which is outside the informal sector.

and other large-scale establishments.

The total employment in Kenya grew by 5.5 percent to 18.3 million people in 2021 (figure 1) when compared to 17.4 million in 2020. Out of which 15.3 million people were in the informal sector an equivalent of 83 percent of total employment (KNBS 2022). During the same period, the number of new jobs created in the informal sector were registered as 753,800 in 2021 while formal jobs created were only 18 percent of the total jobs created. In the past 10 years alone, informal-sector employment has grown by approximately 7 million: only 1 million for formal. The growth rates in informal sector employment in Kenya have also been significantly higher than in formal sector employment. Many of the jobs created in recent years have been in the informal sector. This makes the informal sector an important driver of jobs in the economy.

Figure 1: Trends in Total Estimated Employment in thousands (2011- 2021)



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Formal	2,158	2,233	2,367	2,473	2,722	2,816	2,932	3,012	3,091	2,897	3,071
Informal	9,958	10,549	11,175	11,846	12,037	12,750	13,540	14,284	15,052	14,508	15,262

Source: KNBS Economic surveys various years

Rural population accounts for the majority of employment in the informal sector. In 2021, majority of informal employment in rural areas accounted for about 60 per cent persons (KNBS 2022).

The working-age population<sup>6</sup> (persons aged 15-64 years) in Kenya was estimated at 28 million persons in 2021 constituting slightly above 70 percent of the total population (KNBS National Census 2019). Labor force participation<sup>7</sup> rate was 74.56 per cent in the year 2020. Rural areas accounted for majority of employment. In 2021, majority of informal employment in rural areas accounted for nine million persons whereas urban areas employment was recorded as 6.2 million (Economic Survey 2022).

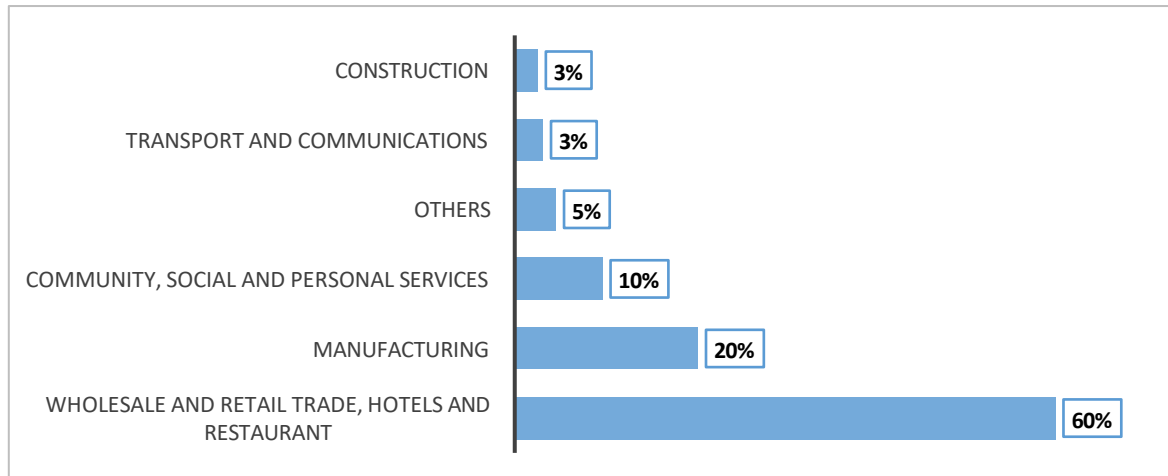
In 2021, the economic sectors that accounted for the highest formal employment in the private sector were: manufacturing; agriculture, forestry, and fishing; and wholesale and retail trade and repair of motor

<sup>6</sup> A threshold of 15 years and above is commonly used as stipulated in the ILO No. 138 on Minimum Age of Employment (1973). The lower age limit may not coincide with the minimum legal working age established in Kenya.

<sup>7</sup> The ratio of total labor force to the working-age population

vehicles at 15.8, 15.1 and 13.5 per cent, respectively. Whereas in the informal sector, Wholesale and Retail Trade, Hotels and Restaurants was the predominant industry within the sector which accounted for 60 percent of the total informal employment jobs. The manufacturing industry had the second highest number of people engaged in the informal sector accounting for 20 percent followed by Community, Social and Personal Services accounting for about 10 percent as presented in figure 2.

**Figure 2: Share of informal employment per the economic sectors**



Source: KNBS Economic survey 2022

A key outstanding feature in the labor market relates to the division of the labor market into separate segments, distinguished by different characteristics and behavioral features. The distinction may arise from terms of employment such as contractual arrangements (permanent versus temporary employment), their enforcement (and the resulting informality), skills required, difference in earnings and work conditions, as well as types of workers concerned among others.

These structural distinctions, in particular the structure of the informal sector exposes employees to a myriad of challenges. For example, because of weak regulation, informal sector employees are likely not to be protected by existing labor regulations. Some of the issues faced by employees in the informal sector include lack of safe working environment, security of tenure, health insurance and social security and non-participation in organized workers' unions. The consequences of this is that employees are exposed to work related injuries, arbitrary layoffs, overworked, poor access to healthcare. Employees are not cushioned for retirement plan including through social protection. Non-participation in organized trade unions weakens the collective bargaining of employees exposing them to exploitation. This leads to low wages, denial of worker rights and other benefits that come with worker representation. Other possible challenges in the informal employment due to weak regulations include child labor, sexual abuse and exploitation, unpaid work.

In this context and as part of promoting decent work, Kenya Vision 2030 recognizes the contribution of the informal sector to the economy thus advocates for the sector to be supported to increase productivity. Improved productivity can be realized through strengthening of wholesale and retail trade by investing in infrastructure, training, and linkages to local and global markets.

### 3 LITERATURE REVIEW

#### 3.1 Theoretical Literature

Structural heterogeneity is a situation where two sectors of the economy are existing alongside each other. Early on in his seminal work in 1942 on social dualism, Boeke (1942) theorized that a society in the economic sense is categorized into three features: social spirit; organizational form and the types of techniques dominating the society and if these three features are uniform across all economic sectors, the society is referred to as homogeneous but if the features are diverse then social dualism exists in these structures of the economy. The underlying principle of this theory was that structural heterogeneity in the employment sectors occurs whereby the economy has been exposed to the influence of modernization on one part (formal sector) and there is a dominant segment belonging to the backward indigenous or subsistence economy on the other part (informal sector). According to Boeke (1942), workers engage in dual employment for self-sufficiency to supplement their wages. There is also an emerging category where formal sector workers with relatively high income engage in the informal sector activities such as small or medium size enterprises that use capital and hire labor (Fields, 1990).

Successive theory shows that wages are a key link between structural heterogeneity and income inequality. The efficiency wage theory posits for paying workers higher wages than the market wage to stimulate productivity gains. According to Akerlof and Yellen (1986)<sup>1</sup> and (Weiss, 1990) higher pay motivates workers thus increasing labor productivity. This implies that there is a direct increasing relation between the wage paid by firms and the effort provided by workers. Thus, labor productivity depends on worker's abilities, firm's investment in capital and wage rate. There are a number of reasons firms may find it profitable to set wages above market-equilibrium wage level. These include reduced worker turnover, reduced training costs, increased worker quality and increased worker effort, contentment, or retention. Firms are concerned that workers may shirk knowing that they can simply move to another job if identified. In this regard, firms make shirking costly by paying workers above the prevailing market wage level. This gives workers an incentive not to shirk.

Shapiro-Stiglitz (1984) posited that workers with a higher wage will work at an effort level which involves no shirking. When all firms behave this way, an equilibrium is reached where there are unemployed workers willing to work at prevailing wages thus resulting to the existence of involuntary unemployment<sup>8</sup>. In the model, workers are in one of three states which include being employed and doing their job, being employed but shirking (exerting zero effort,) or being unemployed. These possibilities govern the transition of workers between formal and informal employment. The only decision that workers make is whether to work or to shirk when they are employed in their primary job, which could be in the formal or informal sector. While encompassing shirking, the assumption is that workers may opt to engage a secondary job thus allowing them to simultaneously be involved in two jobs/duality in either sector of employment.

The economic theory of rural urban migration is associated with Harris-Todaro (1970). The theory is based on wages in two sectors of the economy: the rural wage (WR) and the urban wage (WU). The rural wage sector is characterized by farming/ subsistence Agriculture as the economic activity, ease entry and exit thus wage rates are low/unprotected whereas the urban sector (Manufacturing) is characterized by unionization, worker permits and minimum wage rules or other regulations. According to Haris and

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<sup>8</sup> *Involuntary unemployment occurs when a person is willing and able to work at the prevailing wage, yet he/she is not getting a job*

Todaro (1970), the migrant rational decision depends on expected return rather than actual wage differentials.

The potent migrant decides to migrate from rural region to urban region based on the expected returns that  $W_U > W_R$ . The migrant decision is based on the expectation of getting a formal job in the urban sector. However, the probability of obtaining an urban job is inversely related to the urban unemployment rate. Other factors include the number of newly created jobs in the modern sector, size of the population of the urban employed and length of migrant has been in the urban area. In the event the migrant does not get a job in the urban region (formal sector). They opt to wait resulting in an increase in the involuntary unemployment in the urban sector. During the wait unemployment, the migrant may engage in the informal sector as a last resort to unemployment. In essence, the informal sector plays a key role by assimilating workers during a transition period while they seek higher wages in the formal sector. Workers could opt for jobs in the informal sector during wait unemployment period as they queue for formal jobs (Hall, 1975).

The theoretical literature highlights many features of the heterogeneity in the informal sector, namely; queuing for formal employment, involuntary wage labor and voluntary self-employment. A point of convergence for both dualistic, shirking and wage theories is that structural heterogeneity is influenced by individual attributes, wages, level of education and location whether rural or urban. These attributes provide the theoretical framework upon which this study is hinged on. These theoretical foundations have laid ground for understanding duality in employment and its attributes suggesting that workers opt to engage in duality to boost their wages, as a means of investment to improve their livelihood, as a resort as they are in wait employment among others. Understanding this heterogeneity that characterizes the informal sector therefore has significant implications for any strategy and policy interventions aiming to alleviate poverty and improve productivity.

### 3.2 Empirical literature

The growth of the informal sector employment is attributed to its potential to absorb the excess labor supply occasioned by the failure of formal wage employment to expand at a pace that would absorb the expanding labor force. The low growth of job creation in the formal sector has been attributed to implications of the implementation of Structural Adjustment Programmes (SAPs) in the 1980's and 1990's. During this period, the formal sector restructured and rationalized its labor force. A substantial number of formal sector workers were laid-off or retrenched and a majority joined the informal sector (ILO 1995<sup>9</sup>). Further, the reforms suppressed the creation of new jobs in the formal sector of the economy. Nonetheless, the informal sector continued to create new jobs in the economy given easy entry and exit into the sector. (Chen 2002; Charnes 2000 and ILO 2018).

The distinction between the formal sector and the informal sector has been studied by various authors over the past decades. Hart (1973) relied on the distinction between wage and nonwage (self-employment) activities to distinguish the two sectors (see also ILO 1972). The divergence between formal and informal structures is prevalent for socio-economic groups that typically enter these labor segment with respect to age, gender, wages, skill level and regional classification (Harris & Todaro, 1970; Stiglitz 1976, Cunningham and Maloney, 2001 and Fields, 1990; 2005a and Emmenegger et al. 2012). The other

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<sup>9</sup> [http://www.ilo.int/wcmsp5/groups/public/@ed\\_emp/documents/publication/wcms\\_123422.pdf](http://www.ilo.int/wcmsp5/groups/public/@ed_emp/documents/publication/wcms_123422.pdf)

distinction is in terms of enterprise characteristics and institutional and legislative framework. Formal sector is dominated with large, capital-intensive efficient firms, benefiting from legality and economies of scale, whilst small firms are prone to operate in the informal sector compromising efficiency but gaining in terms of taxation avoidance (De Soto 1989).

According to Tokman (1978), the informal sector has the following attributes: short term of employment, the sector is huge and absorbs a large pool of labor force. It has extremely low productivity compared to the formal sector, the sector is not regulated and thus there is avoidance of taxes; easy entry and exit; there is no job security; wages are low; the sector is dominated by low or unskilled jobs. In the formal sector, due to effective bargaining and unionization, wages are expected to be above the equilibrium level. Consequently, in the informal sector, workers lack both the protection of trade unions and competition between employers for their services thus workers' wages are regarded to be very low. These attributes are corroborated in literature in terms of entry regulations, working conditions, ownership, labor and capital intensive, skills and types of enterprises among others (Bangasser 2000; Maloney, 2004; Chen 2012; La Porta and Shleifer 2014 and ILO 2015).

A study by Koto (2015) on analyzing the informal sector in Ghana using the 2013 World Bank Enterprise survey data evaluated whether there are linkages with formal sector enterprises, and the determinants of the linkage. The study reveals that the informal sector in Ghana is dominated by people who have low levels of education and undertake economic activities to survival, and not necessarily an attempt to evade compliance with formal sector regulations. This implies that persons who have completed secondary and tertiary education are less likely to be in informal employment as opposed to workers who have either no education or completed primary education. Similarly, Escudero and Mourelo (2013) study used a multinomial logit model with a four-level dependent variable to determine the drivers of the youth labor market in Kenya. They found that boosting tertiary school attendance and providing targeted vocational training to young people (particularly women) would be the most effective measures for improving youth employability in the country.

Empirical evidence shows that workers in informal sector have low skills and they lack opportunities for specific on-the-job training. Youth with low or no educational attainment generally participate in the informal-sector enterprises as waged workers while those with higher educational attainment levels have a greater probability of securing a formal sector job at the beginning of their careers and if they do move into the informal sector it is by choice and not due to the absence of employment opportunities in the formal sector (Maloney, 2004; Bangasser 2000; Chen 2012; and Aguilar et al., 2020).

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Wamuthenya (2010) applied Multinomial logit to model the determinants of employment in the formal and informal sector of the urban areas of Kenya. The findings showed that education, age, and gender had



the strongest impact on the choice of sector employment. It also found that formal unemployment was high amongst women as opposed to males in a similar age bracket. However, women prefer to be in informal employment, as both salaried and self-employed workers as opposed to men. This was attributed by the fact that there is flexibility in the informal employment compared to formal employment. The other attributes include marital status and household-headship, disadvantaged position of women in the labor market. This implies that there is high likelihood for those women who are married and have children to seek informal employment as opposed to formal employment (Maloney, 2004). Empirical evidence show that women are majority in informal employment mainly in the most vulnerable employment category of contributing family workers and under-represented among employers (ILO 2018).

Other studies have cited a number of factors as determinants of duality observed in the informal sector and the related differences in occupations and earnings. The study by Allen et al., (2018) applied a multi-industry general equilibrium model to examine the duality and overlapping productivity distributions between formal and informal firms. They found that duality was higher between formal and informal establishments compared to within enterprises. The higher the enterprise productivity and size, the lower the informality. Workers in the informal sector had a high likelihood of engaging in more than two jobs. Fei–Ranis (1961) applied the concept of dualism to investigate how surplus labor can be transferred from the informal sector to help increase productivity in the formal sector. In their study, the informal sector was characterized by diminishing return to skills and the output was a function of land and labor without capital accumulation. In the same vein, they found that for an economy to grow, a large amount of labor has to be transferred from informal sector in rural areas to formal sector mainly in urban areas where the productivity of labor in the formal sector is higher and rising due to capital accumulation in that sector. A study by Marco & Zheng (2010) on an empirical analysis of the Lewis-Ranis- Fei Theory of Dualistic Economic Development for China found that non-agricultural (industrial and service) sector contributed hugely to the China's economic growth due to the rapid labour migration and capital accumulation.

The SDG 8 on decent work for all, aims to deliver quality jobs along with social protection and respect for rights at work to achieve sustainable, inclusive economic growth, and eliminate poverty. The main pillars of decent work for women and men are in terms of equity in opportunity and treatment for all women and men, job security as well as social protection, freedom for people to express their concerns, fair income and human dignity.

The empirical literature on decent work is not very extensive being a recent concept. A study by Pereira, et al. (2019) on empirical research on decent work reviewed 38 studies on work conditions about decent work deficit and what is necessary for the existence of decent work. Pereira recommended analyzing the determinants of decent work rather than its consequences since there is no study that has considered the impact of decent work on the different spheres of workers' lives (e.g., family, friends) or on society in general.

Workers in formal employment have jobs with good pay and job security, as well as clean and safe working conditions and the potential to be promoted. In addition, they participate in the union, which has a high impact on both the job security and benefits for employees. However, workers in the informal are characterized by low-status jobs, have low-to-minimum wage and have low opportunity for promotion.

### 3.3 Overview of literature review

There are different conclusions by different researchers on why workers simultaneously engage in two or more sectors. According to Maloney (2004), workers opt to be self- employed, or they volunteer to work

informally whereas other studies show that workers choose to engage in the informal sector jobs out of necessity due to lack of job opportunities (involuntary unemployment) in the formal sector (Harris & Todaro, 1970; Stiglitz, 1976; Fields, 2005a; and Koto, 2015). Those studies factored the choice element (voluntary vs. involuntary exits) for engaging in the informal sector. However, recent studies assumes that informal employment is heterogeneous and can consist of both voluntary and involuntary groups (Fields, 2005b, Paulson and Townsend, 2005).

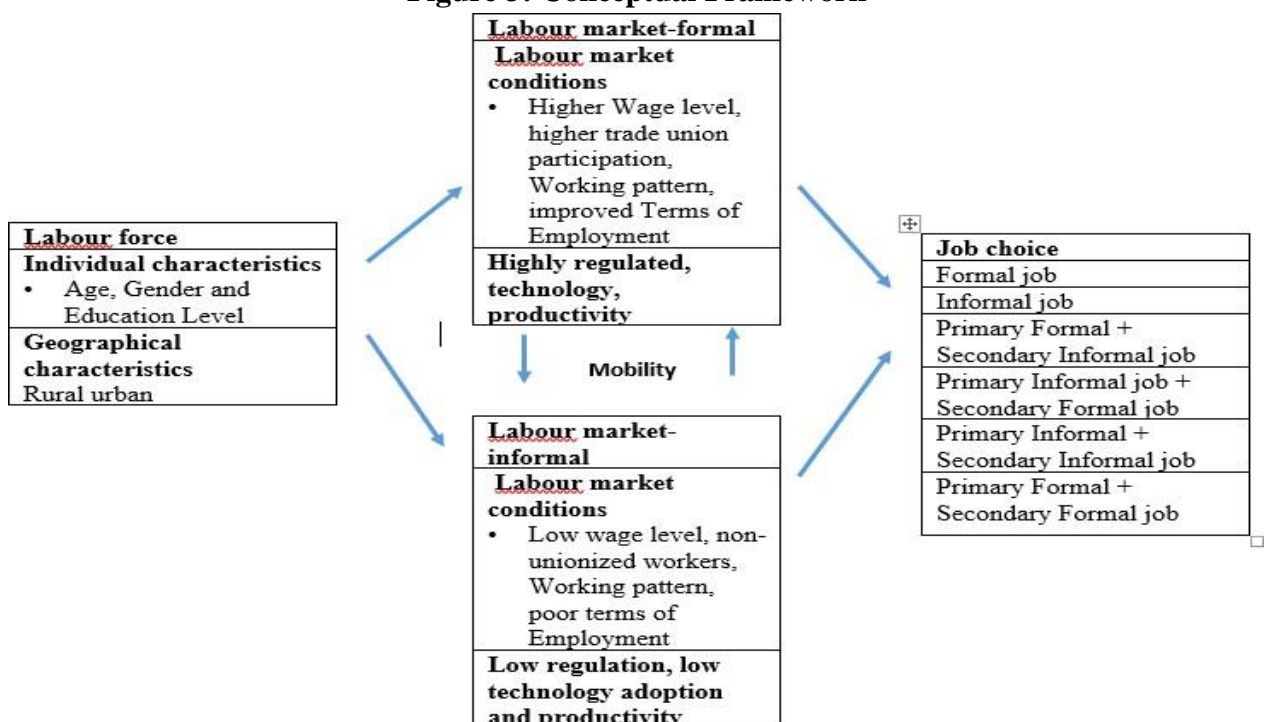
The informal sector has become very important not only because of its expansion in many countries but also because of employment creation and poverty reduction. Informal economic activities have been examined through a range of different theoretical frameworks: policy, legal and institutional.

Despite the discourse on informal sector in Kenya, there has been no study on its structural heterogeneity in relation to decent work. This study makes contribution to the line of research that investigates the nature and structure of informal employment. Further, understanding why a worker chooses to work two or more jobs simultaneously is important in analyzing policies in such an economy. Further, research to evaluate the structural heterogeneity in the informal sector in Kenya is almost non-existent. Therefore, the added value of this research is to fill this gap to inform policy. This study contributes to the research on informal sector policies by focusing on the novel issue of structural heterogeneity. The duality aspect is relevant since workers are more likely to benefit from decent work, as the informal sector in Kenya is over-represented in low-skilled and low-wage employments (Allen et al 2018).

#### 4 METHODOLOGY

The first objective on analyzing structural heterogeneity in the informal sector employment in Kenya, the study used descriptive statistics and conceptual framework. On the second objective of analyzing the factors that influence (duality) or multiple jobs in the informal sectors, the paper adopts multinomial logit model. The methodology is as discussed below.

**Figure 3: Conceptual Framework**



Source: Author’s conceptualization based on literature review

From the literature review, there are two sectors of employment in the economy which are the formal and informal sectors. According to Adam (2008) framework, employment can be classified into two categories: formal sector employment and informal employment. This is dependent on government classification using a given criterion across countries. The criteria can include: size of enterprises, use of registration status; type of economic activities covered such as exclusion of agricultural activities; inclusion or exclusion of paid domestic employees employed by households or producers of goods for own final household use; inclusion or exclusion of persons with secondary job in the informal sector; inclusion or exclusion of persons engaged in professional and technical activities. Informal sector activities are conducted outside the legal framework and reflect the increasing difficulty of complying with framework and reflect the increasing difficulty of complying with complex regulatory procedures. In addition, the informal sector is the result of economic restructuring in a context of excess labor supply which the formal sector cannot absorb, forcing workers into subsistence low-income activities, low capital, technology, and productivity. Employment in the informal economy may refer to the sum of employment in the informal sector and informal employment which is outside the informal sector that is cell 1, 2 and 4 in the table 1 below. Informal employment encompasses cell 2 and 4; Informal sector employment encompasses the sum of Cells 1 and 2. Cell 4 is informal employment outside the informal sector that is employees holding informal jobs in formal sector enterprises.

The term informal employment groups together four status groups: employers and own- account workers have an informal job if their enterprise is not incorporated and not registered in a national register; employees are grouped as informal, if their employment relationship is, in law or in practice, not subject to national labor legislation, income taxation, social protection or entitlement to certain employment benefits (ILO 2003). The main difference between the two sectors is workers in the informal sector do not pay labor income taxes on their earnings, and firms do not have clear regulations. The nature of employment which is the informal versus the formal (defined on the basis of the classification by type of production unit and/or status in employment).

Further drawing on the above literature review regarding the characteristics of informal entrepreneurs and enterprises, as well as the drivers of duality, the conceptual framework below is based on a series of probabilities that to what degree the increase in individual and enterprise characteristics increases the probability of one to participate in two jobs concurrently irrespective of the sector. Duality in our study is a worker having a primary and a secondary job either in the formal and/or in the informal sectors.

**Table 1: Conceptual Framework**

<b>Employment units</b>	<b>Formal jobs</b>	<b>Informal jobs</b>
Informal sector enterprises	1	2
Other units of production (formal sector enterprises & households)	3	4

Source: Authors own formulation

Formal + Informal job= scenario 1 (cell 1 and 4) Informal + Informal job = scenario 2 (cell 2) Formal + Formal job = scenario 3 (cell 3)

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to national labour legislation, income taxation, social protection or entitlement to certain employment benefits (ILO 2003)

#### 4.1 Model specification

On the second objective of analyzing the factors that influence multiple jobs in the informal sector, a multinomial logit model was estimated with a three-level dependent variable adopting the values: 1, for the probability of a worker being employed with a job in the formal and informal sectors; 2, for the probability of a worker being employed in two jobs in the informal sector; and 3, for the probability of a worker being employed in two jobs in the formal sector. The analysis is based on Kenya Integrated Budget and household survey data during the period 2015/16 with the selected sample consisting of 39,123 observations.

The multinomial logit model gives the choice probabilities of each alternative as a function of the systematic portion of the utility of all the alternatives. To evaluate multiple integrals of the normal distribution, the logit model was preferred.

The general expression for the probability of choosing an alternative ‘j’ (j = 1,2 and 3) from a set of the four (J) alternatives is:

$$Pr(i) = \frac{\exp(V_i)}{\sum_{j=1}^J \exp(V_j)} \dots \dots \dots (1)$$

Where: Pr(i) is the probability of the decision-maker choosing alternative i;

$V_j$  is the systematic component of the of alternative.

The logit model makes it possible to estimate how individual characteristics influence the probability of appartaining to any of these four categories. A base category is selected from the four probabilities. The selection of the base category does not affect the overall quality or interpretation of the model.

Generally, the model can be described as follows:

$$Pr(i) = f(X_1, X_2 \dots \dots \dots X_n \dots \dots \dots) (2)$$

Where Pr(i) is the probability of duality,  $X_1$ ,  $X_2$  and  $X_n$  are formal/informal characteristics of an entrepreneur’s and enterprises that determine an entrepreneur to participate in two jobs concurrently.

Borrowing from the existing literature, the estimation of the model included the following eight explanatory variables: Gender, age, residence (rural, urban); highest level of education attained, membership to trade union, pattern of working (full time, part time seasonal or casual), terms of employment (Written contract, Verbal Agreement or Non contractual basis) and income.

The gender and age explanatory indicators proxy for individual characteristics in the labour force participation. Age is also a proxy for experience; education is a proxy for skills; income is a proxy for productivity whereas terms of employment, membership to trade union and pattern of working shows the characteristics of employment sectors.

Thus, the model is specified as below:

$$Pr(i) = X_i \beta' + \epsilon_i \dots \dots \dots (3)$$

where, Pr(i) is the unobserved variable,  $X_i$  is a vector of the individuals’ characteristics,  $\beta$  is the vector of coefficients to be estimated and  $\epsilon_i$  is a random error term.

The dependent variable Pr (i) (duality) is proxied by the number of jobs an individual has. Dependent variable: secondary choice—checking the probability that one has a secondary/multiple job in either informal and/or formal employment.

The model for estimating the determinants of duality can therefore be specified as follows.

$$Pr(i) = \beta_0 + \beta_1 G + \beta_2 A + \beta_3 R + \beta_4 T + \beta_5 E + \beta_6 P + \beta_7 Z + \beta_8 I + \varepsilon \dots\dots\dots (4)$$

Where:  $\varepsilon$  is normally independently distributed with mean, zero, and variance  $\delta^2$

Employee characteristics are represented by gender (G) of an employee which is a dummy variable that takes the value of 1 if male and zero for female; age (A) and is a proxy for employee experience measured by the number of years; the highest level of education qualification (E) which is a proxy for skills as a measure of human capital.

Employment sector characteristics that were included were; residence (R) which is dummy variable that takes the value of 1 if urban and zero if urban; (T) is the membership to trade union which takes a dummy variable with the value one if one is a member to trade union and zero if otherwise; (P) is the pattern of working of an employee (full time, part time seasonal or casual) and (Z) represents the pattern of employment/contractual obligation of a worker. Income (I) is the monthly income of a worker as a proxy for productivity.

The study tests for correlation for the specified variables to diagnose multicollinearity. Further the study tests for independence of irrelevant alternatives (IIA) assumption. The ratios of the probabilities for each alternative depend only on the attributes of those alternatives and not on the attributes of the third alternative and would remain the same regardless of whether that third alternative is available or not. The basic approach in the two tests (Hausman and Small-Hsiao test) is to compare the outcomes when some alternatives are included and excluded. This was done using the `mlogtest add on` in stata.

In the estimation:

1. The dependent variable is measured at nominal value;
2. The independent variables are either continuous or categorical;
3. The estimator is that the outcome categories of the model have the property of independence of irrelevant alternative (IIA);
4. There is no multicollinearity; and
5. There is no linear relationship between any continuous independent variables and the logit transformation of the dependent variable.

## 4.2 Data and Variables

Information about the labour market in Kenya comes primarily from labour force surveys. The study uses data from the Kenya Integrated Household Budget Survey (KIHBS) during the period 2015/16 from the Kenya National Bureau of Statistics to analyze the duality of informal sector employment and its impact on decent work in Kenya. The study sample had 39,123 observations in Kenya. The sample was drawn from the fifth National Sample Survey and Evaluation Programme (NASSEP V) household. For this study, the sampling frame is stratified into 92 strata into urban and rural areas within each of the 47 counties and consists of 2,373 clusters. Following the framework proposed by Adams (2008) for the study of skills development in the informal sector of sub-Saharan Africa the working-age population is defined as those 15-65 years old. The sample analyzed excludes full-time students.

The data sets contain information on individual socioeconomic characteristics including employment status as well as information on members operating own businesses (informal sector operators), the business ownership and registration status. The main variables for the study include participation to trade union, working pattern, sector one is working in, highest level of education qualification, age, gender,

income and area of residence (such as rural or urban).

### 4.3 Descriptive statistics

The informal sector in the Kenya is heterogeneous in many ways. Differences are noticeable across the individual characteristics (age and gender), educational attainment, income/wages, job tenure, geographical coverage, distribution of firms and capital. The paper uses the Labour Force Survey (LFS) data sets in Kenya to construct attributes of informal sector following the framework by Adam (2008). Due to lack of alternative employment opportunities in the formal sector, majority of employees seek jobs in the informal sector. In addition, of entrepreneurs who have created their own businesses because of the lack of jobs in the formal sector, 71 per cent operated without license and very few (0.84 percent) were in firms registered with Registrar of companies. Definition 3 in table 3 indicates that incorporating this information on registration, 61 percent of the individuals are in the informal sector and 39 percent in the formal sector. Therefore, there are hardly any individuals in formal sector businesses according to the registration criteria.

It is common to link informal sector with firm size. Usually, workers in firms smaller than 5-10 employees are considered informal. Family members who run own businesses were asked to report the number of working employers, own account workers, unpaid family workers, and wage employees. Based on this information we construct a firm size variable as the sum of these different types of workers. Almost 100 percent work in businesses with less than 10 workers. The findings are in line with other studies reviewed in the literature section above indicating the size of enterprises in the informal sector are relatively smaller, the sector is not regulated and its significant role in job creation (Tokman, 1978; Harts 1983; Potts 2007; Adam 2008; La Porta and Shleifer, 2014; ILO, 2015).

**Table 2: Formal and Informal Sector Employment, 2005/06**

	<i>Freq.</i>	<i>Percent</i>
Definition 1		
Formal	2,946	35.23
Informal	5,417	64.77
<b>Total</b>	<b>8,363</b>	<b>100</b>
Definition 2		
Formal	2,843	34.45
Informal	5,409	65.55
<b>Total</b>	<b>8,252</b>	<b>100</b>
Definition 3		
Formal	2,912	38.91
Informal	4,571	61.09
<b>Total</b>	<b>7,483</b>	<b>100</b>
Definition 4		
Formal	2,845	34.45
Informal	5,413	65.55
<b>Total</b>	<b>8,258</b>	<b>100</b>

Response on firm registration was based on the responses from household head or responsible person in the household who was operating an informal business. Hence in the absence of firm level data, using this variable on registration might be misleading. Self-reported responses on sector one is working in could also be misleading if respondents do not understand the question.

In 2015/16, majority of the labor force was in the informal sector (79 percent) compared to 21 percent in the formal sector. Women are more likely than men to work in the informal sector whereas men are more likely than female to work in the formal sector. The proportion of males (34 percent) was higher than female (30 percent) in the formal sector with a reverse scenario being observed for the informal sector where women accounted for 70 percent employment in the informal sector compared to 66 percent for male.

The survey data was weighted before analysis. Based on the data, this study categorized the informal employment in line with the ILO definition of those forms of unregulated and subcontract work to include Jua Kali (employed), Faith based organization (not registered), informal Self modern, informal Self-employed, Small-scale agriculture (employed), Self- small-scale agriculture, Pastoralist activities (employed), Self-pastoralist activities and Individual/private household.

In terms of sector distribution, 79 percent of workers were employed in the informal sector compared to 21 percent in the formal sector as their main primary job. Similarly, majority (83 percent) of workers with secondary job were in the informal sector whereas 17 percent were engaged in the formal sector. This implies that the informal sector has placed itself as a premier potential source of employment for the Kenyan population when compared to the formal sector. The results are consistent with literature that the informal sector is large, with significant numbers and expanding (Bangasser 2000; Potts 2007; La Porta and Shleifer, 2014; ILO, 2015).

The descriptive statistics (table 3) show that 14 percent of public workers have a second job. Despite the main job in the formal sector with contracts. Self-employed in small scale agriculture, self-pastoralists activities. County government workers, Teacher Service Commission and employees of owned state corporations have the highest proportions of staff with a second job 11 per cent respectively. The possible reason for this situation is supervision aspect for workers in the rural areas as well as low wages for public sector.

**Table 3: Duality in formal and informal employment**

Public workers	Number of public servants with second job	Small scale Agriculture and pastoralist activities	Individual/private household
Civil service	8%	8%	5%
Commissions	1%	1%	0%
State owned enterprise	7%	6%	23%
Teachers service commission	30%	34%	5%
County government	54%	51%	68%

Table 4 presents summary statistics on the variables that were used in the analysis of the study. From the study sample, a total of 39,123 observations analyzed were engaged with a primary job and 4,035 observations were sampled representing those workers who were engaged in more than one primary and/or secondary job. After weighting, these observations as a representation of the population, this is equivalent to slightly above 20 million Kenyans who are participating in the labor market. Out of those employed; 11 per cent hold multiple jobs (about 2 million workers).

**Table 4: Descriptive Statistics Summary**

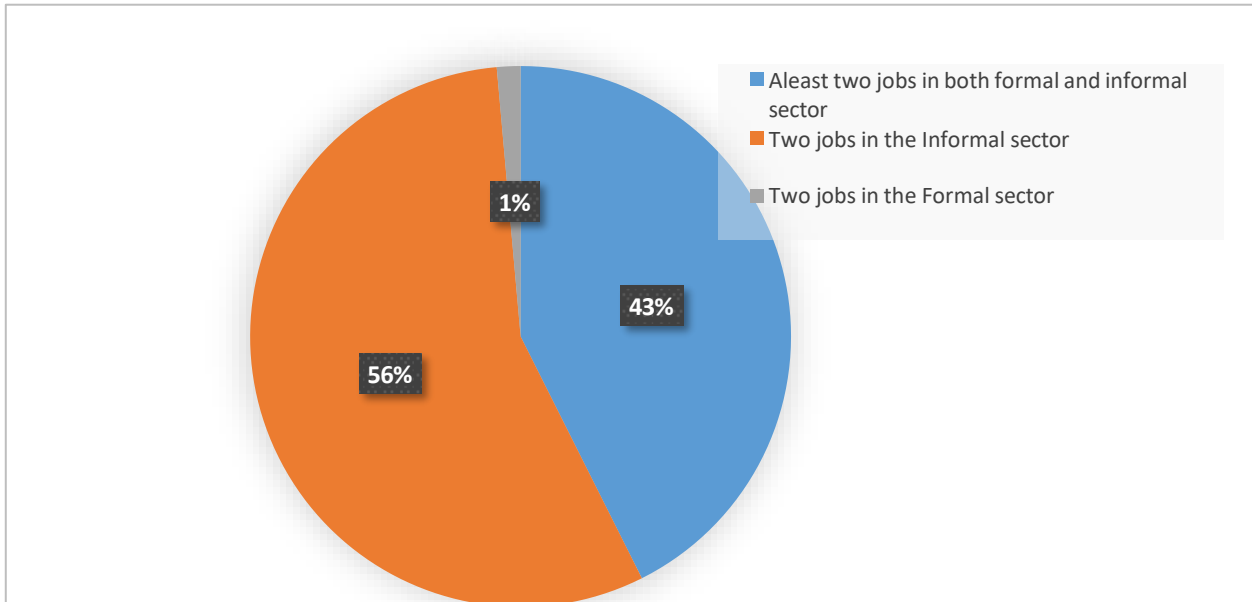
Variable	Observation	Mean	Std. Dev.
<b>Duality (engaging in two jobs)</b>			
At least two jobs in both Formal and Informal sector	4,035	0.426	0.495
Two jobs in the informal sector	4,035	0.560	0.496
Two jobs in the formal sector	4,035	0.014	0.118
<b>Primary Employment</b>			
Informal Sector	39,123	0.791	0.407
Formal Sector	39,123	0.209	0.407
<b>Secondary Employment</b>			
Informal Sector	4,035	0.826	0.380
Formal Sector	4,035	0.174	0.380
<b>Gender observation</b>			
Male	39,123	0.515	0.500
Female	39,123	0.485	0.500
<b>Trade union Membership</b>			
Unionized	39,123	0.049	0.216
Non-unionized	39,123	0.951	0.216
<b>Residence</b>			
Rural	39,123	0.786	0.410
Urban	39,123	0.214	0.410
<b>Terms of employment</b>			
Written Contract	39,123	0.114	0.318
Verbal Agreement	39,123	0.119	0.324
Implied contract	39,123	0.007	0.083
No contract	39,123	0.760	0.427
<b>Level of education</b>			
None	39,123	0.365	0.481
Primary	39,123	0.339	0.473
Secondary	39,123	0.180	0.384
Post-Secondary	39,123	0.117	0.322
<b>Income</b>			
	39,123	6.205	4.015
<b>Working pattern</b>			
Full time	39,123	0.613	0.487
Part time	39,123	0.121	0.326
Seasonal	39,123	0.155	0.362
Casual	39,123	0.100	0.300
Others	39,123	0.010	0.101

Figure 4 shows how the proportion of employed workers who hold more than one job. Multiple jobs is vast for workers in the informal employment accounting for 56 per cent; 43 per cent of workers had a primary and a secondary job in the informal sector; and a mere one per cent of workers have both primary



and secondary job in the formal sector.

**Figure 4: Multiple jobholding Share**



The proportion of young people participating in the labour force is high with the mean age of 38 years. Kenya population structure is comprised of a youth<sup>10</sup> burgeoning, where the youth represent more than 37 percent of the population (KNBS 2020). Majority of the employed population in Kenya are between ages 18 to 60 years accounting for 80.69 percent of the labour force participation. However, descriptive statistics show that child labour is still prevalent in Kenya accounting for 11 percent of the labour force participation for youths aged below 18 years. The key drivers of child labour include family responsibilities and poverty among others.

There is wide variability of labour force employment for male and women in the formal sector. Employment for male (52 percent) is greater than for women (48 percent). Over half of workers in the formal sector comprise of male accounting for 65 percent of total employment in the formal sector. However, majority of women are more employed in the informal employment (52 percent) compared to their male counterparts. This reinforces the finding that, in many developing countries, women are more dominant in the informal sector because they lack access to alternative opportunities (La Porta and Shleifer, 2014).

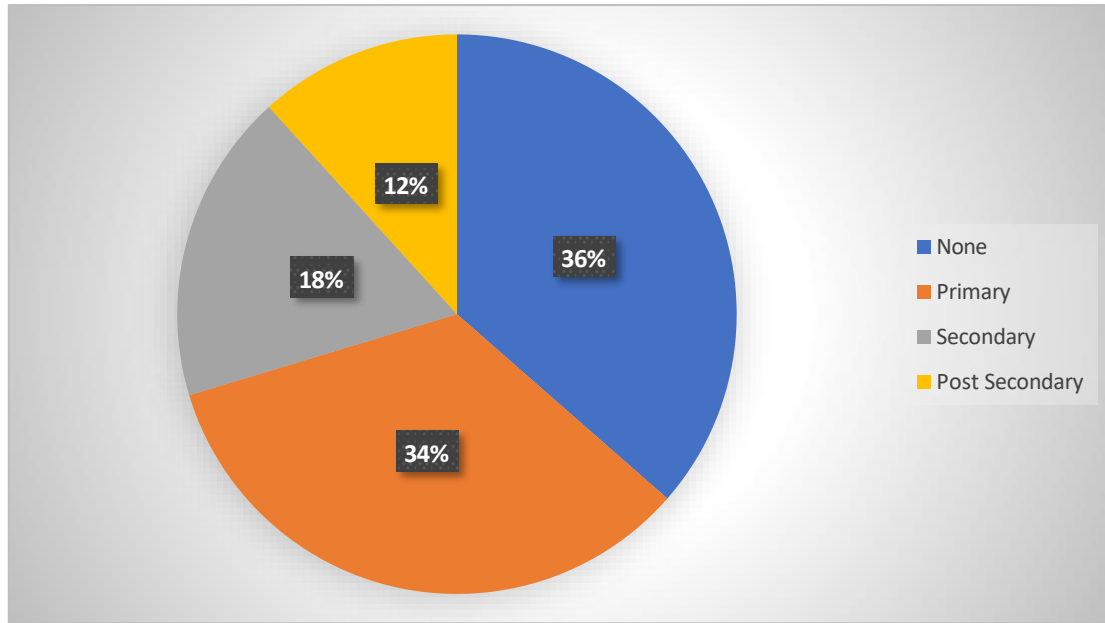
In terms of employment, majority (76 percent) of workers in the labour force are employed without any contractual obligation compared to a mere 12 percent of workers who are engaged based on a written agreement. Based on the descriptive statistics, majority of workers were not unionized accounting for 95 percent which is a key characteristic of workers in the informal sector. Nonparticipation in organized trade unions weakens the collective bargaining of employees exposing them to exploitation. This includes low wages, denial of worker rights and other benefits that come with worker representation.

Out of those employees with multiple jobs, about 55 percent were on full time working pattern basis, 15 percent on part time, 14 percent are seasonal employees and 16 percent are casual workers. Further descriptive analysis indicates that 36 percent of workers in employment have no education qualifications;

<sup>10</sup> The Government of Kenya defines youth as the population between the ages of 18 and 35 years

34 percent have primary education; 18 percent have secondary education and 12 percent have post-secondary education as presented in figure 5.

**Figure 5: Education attainment by level for workers in the labour force 2015/16**



#### 4.4 Correlations between independent variables

Correlation between variables was examined and presented in table 5. From the results, the correlation between independent variables is low suggesting there are no problems of high co-linearity. A negative correlation was found between residence and age and also between terms of employment and education qualification level. There is a positive strong linear relationship between terms of employment and trade union. We expect that if a worker is unionized then they have better terms of employment. This is consistent with the literature reviewed in previous section 2.

The study used the Hausman specification test (Hausman & McFadden, 1984), and established no evidence that the independence of irrelevant alternative (IIA) assumption had been violated and proceeded to estimate equation (4) using multinomial logit. Further tests were done to test the fitness of the model using the chi square that was found to be 0.000 implying that the model is best fit. The study tested the fitness of the model and found that it was a perfect fit.

**Table 5: Correlation analysis**

	Duality	Gender	Education level	Age Squared	Residence	Income	Terms of employment	Trade Union membership	Work pattern
Duality	1								
Gender	0.0666	1							
Education level	-0.1103	-0.0648	1						
Age Squared	-0.0012	0.0218	-0.0655	1					
Residence	-0.0153	-0.0325	0.2506	-0.0861	1				
Income	-0.0818	-0.1431	0.3302	-0.0168	0.2595	1			
Terms of employment	0.0444	0.1365	-0.396	0.1136	-0.2603	-0.3797	1		
Trade union membership	0.2264	0.0639	-0.2948	-0.0091	-0.1115	-0.2088	0.4042	1	
Work pattern	-0.0599	-0.0062	-0.2449	-0.0859	-0.0637	-0.165	0.2279	0.1272	1

## 5 Study Results and Discussions

This section discusses and presents the results of the study. Foremost determinants of duality using a multinomial logit analysis are discussed. Next the study analyses the factors affecting decent employment in the informal sector in Kenya.

### 5.1 Marginal results from the Multinomial Logit regression model

The multinomial logit marginal effects results are presented in the table 5. The table gives the coefficients of the model. There were three predictions of the dependent variable providing the three sets of logistic regression coefficients. The three predictions include:

1. Option one: Predict a worker has two jobs in the formal and informal sector.
2. Option two: Predict a worker has two jobs both in the informal sector.
3. Option three: Predict a worker has two jobs both in the formal sector.

The significance of the results is determined at the 1%, 5% and 10% levels of statistical significance. According to Hensher and Stopher (1979), in the context of multinomial logit models the pseudo  $R^2$  value tend to be considerably lower than the values of  $R^2$  index. If the values of pseudo  $R^2$  is between 0.2 to 0.4, then the model represents excellent fit. From the results of this study, the pseudo  $R^2$  is 0.28 suggesting that the model is an excellent fit.

From the results (table 6), the iteration log shows how quickly the model converged since it uses the maximum likelihood estimation which is an iterative procedure. The log likelihood (-1549.0689) can be used in comparisons of nested models. Further, the p-value  $< 0.0000$  implies that the model as a whole fit significantly. The study applied the margins command to calculate the predicted probability of a worker engaging in two jobs in the formal and/or the informal sector concurrently, holding all other variables in the model at their means.

The results are robust. The estimation is statistically significant, with an acceptable goodness of fit, and most coefficients are highly significant. Moreover, the signs of the variables, and the values of the marginal effects follow expected patterns.

Out of those employed, 11 per cent hold multiple jobs (translating to about 2 million Kenyan population in the labour force) who have more than one job in sectors of employment accounting for structural heterogeneity. Analysis in this section will focus on these workers with multiple jobs in the informal and formal sector.

Duality was higher for workers in the informal sector accounting for 56 percent; 43 percent of workers had two jobs both in the informal and formal sectors, whereas a mere one percent of workers had two jobs in the formal sector. This is consistent with literature given the formal sector is well regulated.

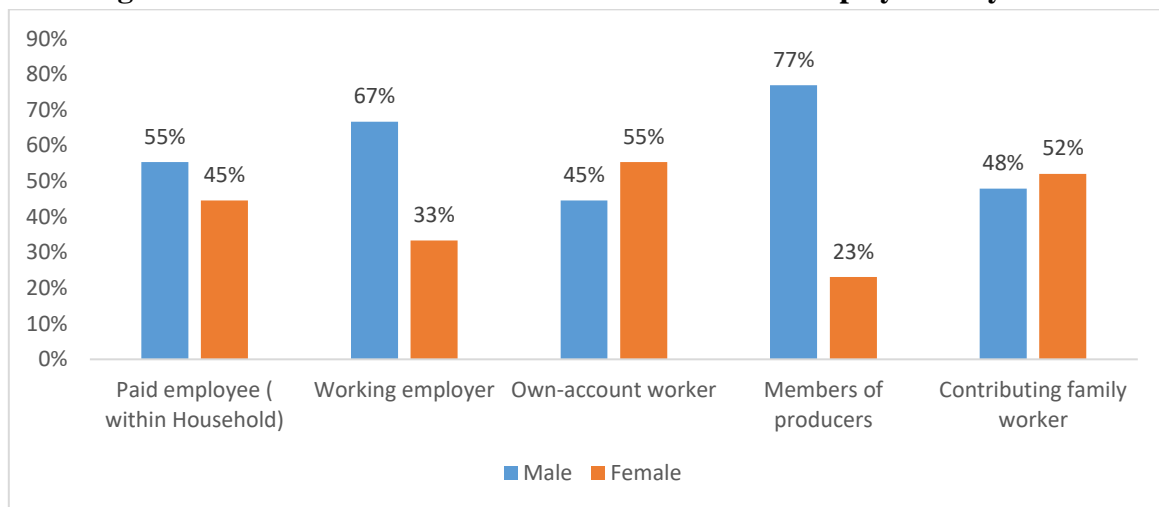
### Gender

Women are more likely than men to work in the informal sector whereas men are more likely than female to work in the formal sector. Analysis show that being a female reduces the likelihood of having dual employment in the formal sector by 5 percent and by 6 percent in the formal and informal sector. However, females are more likely by 0.80 times to engage in duality in the informal employment. This is in line with the finding of Maloney (2004) and Wamuthenya (2010) which draws attention to the majority of women in the labour force are engaged in the informal work compared to men. This is attributed to the number of

working hours since women prefer flexible working hours (Bangasser 2000; ILO 2018).

It is observed that majority of women engage in their own account activities, they also work on casual jobs including domestic workers, home-based workers or contributing family workers than their male counterparts. This is confirmed by job distribution as presented in Figure 6. As seen women in informal employment are over-represented in the most vulnerable employment category of contributing family workers and under-represented among employers and to employees. From the analysis, unpaid household work typically falls disproportionately on women, which affects the type of remunerated jobs they can take on and often leads to participation in informal employment. The consequence of this outcome is that women lack the opportunities to access better jobs and social security coverage.

**Figure 6: Distribution of women and men in informal employment by status**



From the discussions, women are more active in the informal sector and they represent more than half of the total informal economy. However, they are more concentrated in the subsistence activity than they are engaged as working employers. This complements the literature that the high number of women in labour force participation in lower parts of the informal employment hierarchy affects outcomes. This call for policies that will protect women against social risks and vulnerabilities, such as unemployment, maternity, old age and ill health.

### Trade union participation

From the analysis, the current membership stems mainly from the formal sector whereas members of the informal labour force have a low level of participation in trade unions accounting for a mere 1 percent compared to 99 per cent those who are non-unionized. The study found that workers who are not unionized are more likely to engage in dual employment by 85 percent in the informal sector. This implies that the sense of trade unions in providing supportive services to their members including collectively bargaining for better pay and working conditions lowers the likelihood for employees be engaged dual employment. The results corroborate with literature on the employees without affiliation to trade unions having high likelihood of engaging in dual employment (Bangasser 2000). The study shows that workers who have clearly defined employment terms are less likely to be engaged in dual employment in the formal sector by 80 percent. This is in line with the evidence from research which indicates that unions tend to increase wages thus workers have no motivation of seeking other jobs.

Trade unions represent the interests of workers and can help push for better pay and benefits as well as provide coordination between firms and employers. Participation in trade unions allows workers to have collective bargaining power which enables them to negotiate for more favorable working conditions and other benefits. Trade unions can also protect workers from exploitation, and push firms to comply with the labour laws such as upholding health and safety legislation, work injury compensation, unfair dismissal, minimum wage, and other employment benefits.

The study found that unionized workers are satisfied with their jobs, they have fair income and security of tenure. However, non-unionized workers miss out on these benefits thus most of them who are in the informal sector engage in dual employment. Workers in the formal sector who are unionized have employment contract which hinders them from engaging in two jobs. A study by ILO on future of trade unions revealed that organizing workers to trade unions especially those in the informal sector, will spur their participation due to protection of labour rights. In Kenya, majority of workforce are in the informal sector suggesting they lack access to basic social protection, leaving them vulnerable to occupational health and safety risks but also unprotected in case of unemployment, accident, sickness or old-age.

### **Residence**

Based on the 2015/16 household data, most of the informal-sector activities are in the rural areas which are estimated to have absorbed 71 percent of total informal-sector employment compared to 29 percent informal employment in the urban area. This implies that people living in rural areas are almost twice as likely to be in informal employment as those in urban formal employment. On the other hand, urban area is dominated with formal employment accounting for 55 percent of total formal employment. This can be attributed to the fact that most formal employment opportunities are situated in the urban areas, as opposed to the rural areas. This finding is in line with Potts (2007) study on the state and the informal in sub-Saharan African urban economies: revisiting debates on dualism found that rural sector consists majority of informal workers.

Results show that workers residing in urban areas are less likely to engage in dual employment in both formal and informal sectors or have two jobs in the informal sector by 10 percent respectively. However, workers residing in rural areas increases the likelihood of having dual employment in both formal and informal sectors. This is attributed to the fact that informal employment is a great source of employment for the rural population. Further, employees in rural areas are more likely to engage in two jobs in the informal sector and less likely to engage in the formal sector. The findings are in line with other studies reviewed in the literature section above indicating employment in rural population is mainly in the informal sector Potts, (2007); ILO (2008) and Bangasser (2000). Informal employment opportunities in rural areas largely relate to the natural resource base on which local people rely for their living. In Kenya, Agriculture is the main employer for the rural economy. Evidence points out that the informal sector has placed itself as a potential source of income by providing after the agricultural sector the greatest number of jobs.

### **Highest level of education**

Majority of workers employed in the informal sector have no education qualification as opposed to those employed in the formal whose qualifications are above post-secondary education level. This is in line with literature that workers who have completed secondary and tertiary education are less likely to be in informal employment whereas workers who have either no education or completed primary education are

mostly employed in the informal sector (Koto, 2015; Chen, 2012).

There is high likelihood for workers with primary education to have dual employment in the informal sector by 0.90 times whereas there is a very high likelihood for workers with no education for having two jobs in the informal sector by 0.19 times. At post-secondary level, there is less odds of employees having two jobs in the informal sector by 0.30 and slightly increases the odds of being employed in the formal sector by 70 percent.

The majority of highly educated workers hold formal jobs while the majority of workers with little or no education hold informal jobs. In many cases, informal work is the only option they have for earning a living. The informal economy thus secures livelihoods and a future to those who have no access to formal employment. Moreover, to many teenagers and young adults with no formal educational or vocational qualifications, informal employment is the only opportunity to acquire work experience and skills (Koto 2015).

According to the Kenya Vision 2030, education and training are crucial factors in facilitating the transition from informal to formal employment. A person with the highest level of education is less likely to be employed in the informal sector. The connection between education and formal employment has been documented by studies including Bangasser (2000); Chen (2002); Porta and Shleifer (2014). To boost productivity in the informal businesses, workers require skills including occupational skills. Vocational training can thus help pave the way the modularization of TVET training in Kenya while enhancing skills among informal sector workers.

### **Age**

Population distribution by formal and informal employment also varies by age. Statistics show that the youngest workers (15–24 years old) are informal workers employees (about 80%). The average age of formal sector workers (39 years) is higher than that of informal sector workers (20 years) in 2015/16. This might reflect the fact that many of the new jobs in Kenya are in the informal sector and that many of the younger people are joining the informal sector. These are the jobs many young job market entrants take up.

Using marginal effects, the study found that youth participating in employment have a high likelihood of engaging in two informal jobs compared to the older population. This difference holds in the literature reviewed that the informal sector draws women (Wamuthenya, 2010), youth (Proctor & Lucchesi 2012), and rural communities that rely on natural resources and land for their livelihoods (Potts 2007). The older persons have high chance of being employed in the formal and informal sectors. Youth who make up majority of the total population in Kenya are more likely to engage in duality 0.90 times in the informal employment. This therefore calls for policy and investment intervention that focuses explicitly on the youth employment opportunities.

### **Income**

Information on earnings was obtained in two ways that is earnings for workers in the formal sector and informal sector workers using the 2015/16 data. It is discernable that the income differentials are distinct between the two sectors of employment. The findings reflect work by Chen (2001) who argues that fresh graduates and workers earning low income, easily join the informal sector.

There is less likelihood by 0.05 times for workers with high income to be employed in both the formal and informal sectors concurrently. In the same vein, workers with high earnings are less likely by 0.01

percentage times to be employed both in the formal sector. On the other hand, workers with less income are likely by 0.25 times to have two jobs informal sector. Workers who earn low levels of income are mainly in the informal sector this implies there is income inequalities. A study by Ariza and Rojas (2016) found that the informal sector has a positive and statistically significant effect on labour income inequality, which implies that an increase by one percentage point in the informal sector increases the Gini coefficient of labour income by about 0.07.

It is postulated that amount of income affects the decision of workers to engage to duality employment. The main findings are that workers with high income are less likely to engage in duality whereas those with low income are more likely to engage in two jobs particularly in the informal sector. Further evidence shows that income levels in the formal sector are higher because entry is restricted and earnings are protected by minimum wage laws, labor unions, or other institutional arrangements (Chen, 2012; Chen et al., 2005). A study conducted by Women in Informal Employment: Globalizing and Organizing (2018) on the interactions between type of informal work, level of earnings and risk of poverty finds a hierarchy of earnings and gender segmentation across employment types.

Low levels of income, either because workers cannot work enough hours or because wages are low, is among the major factors determining the persistence of duality (ILO, 2003). In Kenya, in 2010, all workers engaged by formal sector enterprises earned a salary that was, on average, above both the national and international poverty lines. Informal-sector workers earn, on average, less per month than the established international and national poverty lines when the number of individuals supported by the wage earner is taken into consideration.

### **Working pattern**

Ability or availability to find full-time work is another measure of workers engaging in more than one job. The study found that full time employees are less likely to engage in multiple jobs in both formal and informal sector by 0.75 times whereas part time, seasonal and casual laborers are highly likely to engage in two jobs in either formal or informal sector. Part time workers are the individuals who work fewer hours than full time workers who are guaranteed a certain number of hours per week<sup>11</sup>. Based on data the 35 hours per week cut-off was applied. Consistently with these findings, ILO (2018) and Bangasser (2000) find that workers opt to work on a part time basis to boost their income level.

Results on work pattern distribution per employment sector reveal that workers in informal employment are more likely than workers in formal employment to work very short or excessive hours. From the foregoing, women were found to dominate the informal sector. Evidence shows that women especially those with family responsibilities are more likely than men to work part time and for very limited hours (ILO 2018). Further, empirical studies associate part-time employment with working in the informal economy, and so its quality is closely bound up with measures directed at improving working conditions and social protection in the informal economy.

### **Employment terms**

Along with the low pay and part time working basis, employment terms is also a major factor of duality. Unlike the formal economy, over three quarters of workers of the informal economy are employed without any contractual obligation. Workers in the formal employment have a mutual agreement/contract. On the

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<sup>11</sup> Definition is based on the International Labour Organization (ILO) Part-Time Work Convention, 1994 (No. 175).

other hand, employees who have no contract are highly likely to engage in two jobs in the informal sector by 64 percent as opposed to those with contractual obligation.

## 6 CONCLUSION AND POLICY IMPLICATIONS

### 6.1 Conclusion

This paper deepens the understanding of heterogeneity in the informal employment in Kenya. The informal economy is huge and expanding rapidly in Kenya. The paper sought to understand linkage between the employment sectors as well as the factors that influence workers in the informal sector to take up two or more jobs. The informal sector accounts for majority of employment in Kenya and comprises workers who are outside of regulated economic activities, low skills level, easy entry and exit regulations, less labour and capital intensive, and low productivity compared to the formal sector. The growth of the informal sector employment is attributed to the stagnated growth of formal sector employment.

Using the multinomial logit model, the study established that majority of young people and women are employed in the informal sector with a very high probability of engaging in two jobs. The youth, particularly those who just exited learning institutions and have less working experience are more inclined to join the informal sector which has easy entry as well as less restrictions and are more likely to take-up two jobs or more. Indeed, the study shows that employees with low skills are likely to join the informal sector and have two jobs in the informal sector. Further, employees with less income are likely to have two jobs in the informal sector to complement their low wages.

Due to the uncertainty in the tenure of their jobs and low pay casual and seasonal laborers have a high likelihood to engage in two jobs in either sector of employment. Workers may therefore engage in two jobs as a strategy to narrow the wage gap and attain a sense of job security. The study shows that workers in rural areas are more likely to engage in two jobs in the informal sector and less likely to engage in the formal sector. This can be attributed to the fact that most formal employment opportunities are situated in the urban areas, as opposed to the rural areas.

The study also finds that the informal sector is not regulated, as a result over half of workers of the informal economy are employed without any contractual obligation and are not members of trade unions. As a result, these workers are exposed to disadvantages including lack of security of tenure, health care, collective bargaining power, workplace safety and they may be prone to mistreatment.

### 6.2 Policy implications

The informal sector is characterized by among others; irregular work outside legal sanction, lack of secure employment contracts, workers' benefits, social protection, or workers' representation and low income. The implication of this suggests that workers in the informal sector are likely to have limited access to basic social protection, leaving them vulnerable to occupational health and safety risks but also unprotected in case of unemployment, accident, sickness or old age. A large proportion of Kenyan labour force (83%) is in the informal sector. Therefore, the probability of taking on a second job in the informal sector is very high. There is close to over 80 percent chance that one becomes a multiple jobholder in the informal sector. There is need to implement regulations that will ensure the informal sector challenges are tackled. Programmes and awareness strategies of the informal sector on employer obligations and workers' rights to be put in place. Further, effective policies for informal workers require better statistics, particularly in those in dual employment categories that are usually unaccounted for, such as domestic and home-based workers.



Given the important role the informal sector plays in employment, there is need to address the issue of productivity. It is important for policymakers to recognize the important role of the informal economy and that steps should be taken to improve productivity and conditions in this sector while encouraging formalization. From the analysis, highly educated workers hold formal jobs while the majority of workers with little or no education hold informal jobs. Further, based on efficiency wage theory, workers with high skills are better remunerated compared to workers with low skills who are paid low income. Consequently, there is need for the national government to improve the productivity of the informal sector with a well-balanced mix of economic and social policies that will make a remarkable contribution to improve the labor and living conditions for majority of Kenyans. Stakeholders to recognize the significance of this sector to the national economy and welfare.

Women represent the majority in the informal sector, yet they are more concentrated in the subsistence activity than they are engaged as working employers. This calls for policies that will protect women against social risks and vulnerabilities, such as unemployment, maternity, old age and ill health.

While the formal sector consists majority of the educated workers, education institutions in particular the TVET should provide training in skills consistent with emerging technologies. This will equip the informal sector with the technical capability required to transform into small- and medium-enterprises, thus enabling them to integrate into the modern economy. The need for upskilling, recognition of skills or learning acquired by experience or informal training is key. This study recommends modularization of TVET training in Kenya to help informal sector workers to upskill.

The persistently low employment rates among youth in Kenya are driven primarily by a slowdown in job creation especially in the formal sector, as opposed to growth in the working-age population. Kenya needs to create about one million jobs annually to absorb the new labour force entrants. The study recommends need for the government with support from stakeholders to create more innovative opportunities and give incentives to private providers of employment services while improving the quality of jobs in the informal sector.

Annex: Tabular presentation of results

**Table 6: Multinomial Logistic Regression Results**

	dy/dx	Std.Err.	P>z
<b>Gender</b>			
Duality_both informal and formal sector	-0.054	0.016	0.002
Duality_informal sector	0.800	0.016	0.000
Duality_formal sector	-0.058	0.005	0.041
<b>Trade union</b>			
Duality_both informal and formal sector	-0.175	0.057	0.002
Duality_informal sector	0.850	0.058	0.001
Duality_formal sector	-0.800	0.006	0.109
<b>Residence</b>			
Duality_both informal and formal sector	-0.104	0.029	0.640
Duality_informal sector	-0.090	0.029	0.606
Duality_formal sector	0.120	0.009	0.015
<b>Terms of employment- written contract (base Outcome)</b>			
<b>Terms of employment- Verbal_Agreement</b>			

Duality_both informal and formal sector	-0.450	0.031	0.000
Duality_informal sector	0.454	0.028	0.000
Duality_formal sector	-0.004	0.017	0.794
<b>Terms of employment- Implied_Contract</b>			
Duality_both informal and formal sector	-0.030	0.080	0.705
Duality_informal sector	0.071	0.079	0.068
Duality_formal sector	-0.041	0.014	0.005
<b>Terms of employment- No_Contract</b>			
Duality_both informal and formal sector	-0.601	0.022	0.000
Duality_informal sector	0.638	0.017	0.000
Duality_formal sector	-0.037	0.015	0.011
<b>No education level</b>	(base outcome)		
<b>Education level _ Primary</b>			
Duality_both informal and formal sector	-0.189	0.019	0.188
Duality_informal sector	0.901	0.019	0.267
Duality_formal sector	-0.000	0.006	0.454
<b>Education level _ Secondary</b>			
Duality_both informal and formal sector	-0.500	0.024	0.038
Duality_informal sector	0.540	0.024	0.024
Duality_formal sector	-0.040	0.006	0.059
	dy/dx	Std.Err.	P>z
<b>Education level _ Post-secondary</b>			
Duality_both informal and formal sector	-0.000	0.032	0.989
Duality_informal sector	-0.002	0.032	0.941
Duality_formal sector	0.230	0.007	0.696
<b>LOGINCOME</b>			
Duality_both informal and formal sector	-0.050	0.003	0.091
Duality_informal sector	0.060	0.002	0.022
Duality_formal sector	-0.001	0.001	0.121
<b>Work pattern_ Full time</b>	(base outcome)		
<b>Work pattern _Part time</b>			
Duality_both informal and formal sector	-0.010	0.023	0.660
Duality_informal sector	-0.080	0.021	0.784
Duality_formal sector	0.016	0.010	0.115
<b>work pattern_ Seasonal</b>			
Duality_both informal and formal sector	0.035	0.023	0.136
Duality_informal sector	-0.035	0.022	0.125
Duality_formal sector	-0.000	0.007	0.992
<b>work pattern_ Causal</b>			
Duality_both informal and formal sector	0.386	0.181	0.033

Duality_informal sector	-0.374	0.181	0.039
Duality_formal sector	-0.012	0.002	0.000
<b>AGE</b>			
Duality_both informal and formal sector	-0.056	0.003	0.126
Duality_informal sector	0.904	0.003	0.162
Duality_formal sector	0.019	0.001	0.609
<b>AGE_SQUARED</b>			
Duality_both informal and formal sector	0.000	0.000	0.143
Duality_informal sector	-0.000	0.000	0.191
Duality_formal sector	-0.000	0.000	0.580

Note:  $dy/dx$  for factor levels is the discrete change from the base level. *Coefficient different from zero at 1(\*), 5(\*\*), 10(\*\*\*) per cent significance levels significantly.*

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