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Abstract

The informal sector accounts for 83 per cent of the 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 employment contract. Women and youth are more likely than men to work on multiple jobs in the informal sector. The 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; and 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 the 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.

Abbreviations and Acronyms

ILO	International Labour Organization
ICLS	International Conference of Labour Statisticians
IIA	Independence of Irrelevant Alternative
KNBS	Kenya National Bureau of Statistics
KIHBS	Kenya Integrated Household Budget Survey
SAPs	Structural Adjustment Programmes
SDG	Sustainable Development Goal
LFS	Labour Force Survey
MSEA	Micro and Small Enterprise Authority

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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)[1] report, the informal sector accounted for an average of 65 per cent of the total 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 the heterogeneity nature of the sector, understanding structural heterogeneity[2] of the informal sector and its impact on decent work on economic prosperity of a country and 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[3] work. Therefore, this study sheds light on an important and understudied topic for research and practice alike.

The assessment of structural heterogeneity in the informal sector employment was adopted as an important aspect of labour market in the thirteenth International Conference of Labour 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 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 labour market and absorb most workforce, which is estimated at about 60 per cent to 90 per cent of employment in developing countries and contributing to a third of gross domestic product in developing economies (ILO, 2002; 2009; 2018 and World Bank, 2019). In the same breadth,

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1   ILO and WTO,2019- Globalization and informal jobs in developing countries.

2   The paper uses the terms structural heterogeneity and duality interchangeably.

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

the informal sector in Kenya accounted for 83 per cent of employment and 18 per cent of 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, and provides 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 various KIPPRA discussion papers in 2019, 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 product markets 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 the determinants of the contract-allocation process in productivity, there have been major policy reforms towards decent employment. For instance, the Sustainable Development Goal (SDG) No. 8 aims to attain decent work and economic growth for all workers.[4] The International Labour 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 most 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 labour market segments, differences in access to training and social security, working conditions

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

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[5] doing informal jobs outside the informal sector (Tokman 2001 and La Porta and Shliefer, 2014). In this regard, understanding the structure of the informal sector, particularly simultaneous involvement in two or more sectors by Kenyan workers, is necessary to implement strategies that will facilitate improved access to decent jobs, and 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 were to:

(i)   Analyze the structural heterogeneity in the informal sector employment in Kenya;

(ii)   Determine the factors that influence structural heterogeneity in the informal sector; and

(iii)   Propose policy recommendations for informal sector in Kenya.

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5   Employment in the informal sector comprises of summation of employment in the informal sector and informal employment which is outside the informal sector.

2.   Overview of Informal Sector Employment

According to the International Labour Organization, informal employment covers both self-employed and wage employment remuneration that is not registered, regulated, or protected by existing regulatory frameworks and all non-remunerative work undertaken in an income producing enterprise[6] (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; lack of secure employment contracts for workers, workers' benefits, social protection, or workers' representation; and low skills level and less capital investment. The formal sector is taken to mean wage labour in permanent employment, such as that which is characteristic of industrial enterprises, government offices and other large-scale establishments.

The total employment in Kenya grew by 5.5 per cent to 18.3 million people in 2021 (Figure 2.1) when compared to 17.4 million in 2020, out of which 15.3 million people were in the informal sector, an equivalent of 83 per cent of the total employment (KNBS, 2022).

Figure 2.1: 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 (Various), Economic Surveys

During the same period, the number of new jobs created in the informal sector was 753,800 in 2021 while formal jobs created were only 18 per cent of the total jobs created. In the past 10 years alone, informal sector employment has grown by

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6   https://www.ilo.org/global/topics/wages/minimum-wages/beneficiaries/WCMS_436492/lang--en/index.htm#:~:text=In%201993%2C%20the%2015th%20International,employers%20(typically%20small%20and%20non%2D

approximately 7 million – only one million for the formal sector. The growth rates in the informal sector employment in Kenya have also been significantly higher than in the 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.

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

The working-age population[7] (persons aged 15-64 years) in Kenya was estimated at 28 million persons in 2021, constituting slightly above 70 per cent of the total population (KNBS, 2019). Labour force participation[8] rate was 74.56 per cent in the year 2020, with rural areas accounting for most of the employment. In 2021, most informal employment in rural areas accounted for 9 million persons whereas urban areas employment was 6.2 million (KNBS, 2022).

In 2021, the economic sectors that accounted for the highest formal employment in the private sector were manufacturing; agriculture, forestry, and fishing; wholesale and retail trade; and repair of motor vehicles at 15.8, 15.1 and 13.5 per cent, respectively. In the informal sector, wholesale and retail trade, hotels and restaurants was the predominant industry within the sector, which accounted for 60 per cent of total informal employment jobs. The manufacturing industry had the second highest number of persons engaged in the informal sector, accounting for 20 per cent followed by community, social and personal services accounting for about 10 per cent as presented in Figure 2.2.

A key outstanding feature in the labour market relates to the division of the labour market into separate segments, distinguished by different characteristics and behavioural 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, and types of workers concerned, among others.

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7   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.

8   The ratio of total labour force to the working-age population.

Figure 2.2: Share of informal employment per the economic sectors
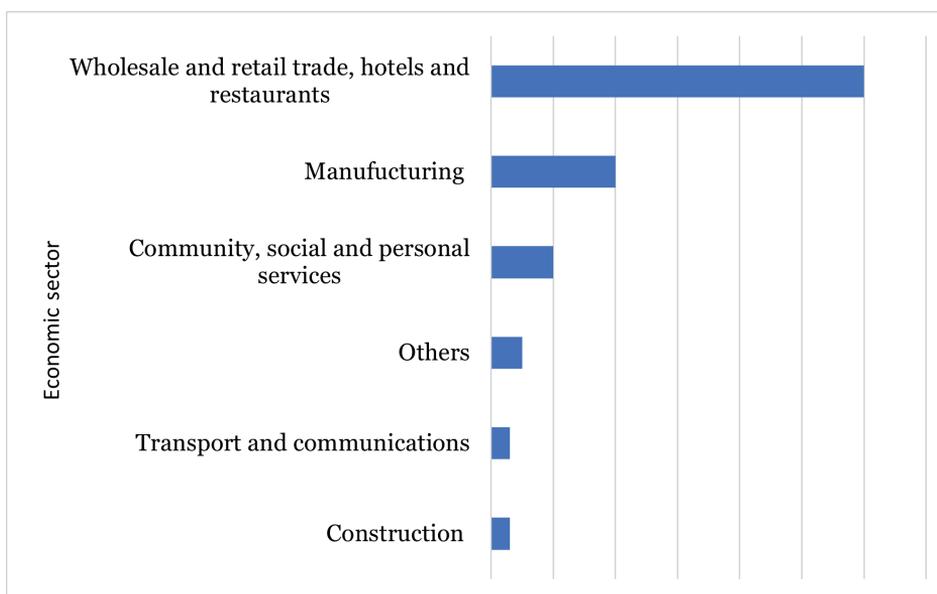
Source: KNBS (2022), Economic Survey

These structural distinctions, in particular the structure of the informal sector, expose employees to a myriad of challenges. For example, as a result of weak regulations, informal sector employees are likely not to be protected by existing labour 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 are the exposure of employees to work-related injuries, arbitrary layoffs, being overworked, and poor access to healthcare. Also, employees are not cushioned for retirement 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 workers' rights and other benefits that come with worker representation. Other possible challenges in the informal employment which are as a result of weak regulations include child labour, sexual abuse and exploitation, and unpaid work.

In this context and as part of promoting decent work, the 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 and 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. 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 argued that 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 informal sector activities such as small or medium size enterprises that use capital and hire labour (Fields, 1990).

Successive theory shows that wages are a key link between structural heterogeneity and income inequality. The efficiency wage theory posits paying workers higher wages than the market wage to stimulate productivity gains. According to Akerlof and Yellen (1986) and Weiss (1990), higher pay motivates workers, thus increasing labour productivity. This implies that there is a direct increasing relation between the wage paid by firms and the effort provided by workers. Thus, labour 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 hard 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 that 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.[9] 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 in 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 and 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 of 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 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 WU is greater than WR. 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 the length of the period the 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 to an increase in the involuntary unemployment in the urban sector. During the wait, 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 as they wait (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 labour 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 in the rural or urban areas). 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

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9   Involuntary unemployment occurs when a person is willing and able to work at the prevailing wage yet he/she is not getting a job.

duality to boost their wages as a means of investment to improve their livelihood. Understanding this heterogeneity that characterizes the informal sector, therefore, has significant implications for any strategy and policy interventions aimed at alleviating poverty and improving productivity.

3.2 Empirical Literature

The growth of informal sector employment is attributed to its potential to absorb the excess labour supply occasioned by the failure of formal wage employment to expand at a pace that would absorb the expanding labour force. The low growth of job creation in the formal sector has been attributed to implementation of Structural Adjustment Programmes (SAPs) in the 1980s and 1990s. During this period, the formal sector restructured and rationalized its labour force. A substantial number of formal sector workers were laid-off or retrenched and a majority joined the informal sector (ILO, 1995).[10] 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 the easy entry and exit into the sector (Chen, 2002; Charnes, 2000; 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 non-wage (self-employment) activities to distinguish the two sectors (ILO, 1972). The divergence between formal and informal structures is prevalent for socio-economic groups that typically enter these labour segment with respect to age, gender, wages, skill level and regional classification (Harris and Todaro, 1970; Stiglitz, 1976, Cunningham and Maloney, 2001; Fields, 1990; 2005a; Emmenegger et al., 2012). The other distinction is in terms of enterprise characteristics and institutional and legislative framework. The formal sector is dominated with large, capital-intensive efficient firms, benefiting from legality and economies of scale, while 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 labour 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; and it is dominated by low or unskilled jobs. In the formal sector, due to effective bargaining and unionization, wages are expected to be above equilibrium level. Consequently, in the informal sector, workers lack

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10 http://www.ilo.int/wcmsp5/groups/public/@ed_emp/documents/publication/wcms_123422.pdf

the protection of trade unions, and there is 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, labour and capital intensive, skills and types of enterprises, among others (Bangasser, 2000; Maloney, 2004; Chen, 2012; La Porta and Shleifer, 2014; 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 for survival, and not necessarily as 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 have 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 labour 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 the 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. If they 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; Aguilar et al., 2020).

Pérez (2020) estimate the effect of the minimum wage on formal wages, informal wages, and employment in Colombia. The study found evidence of wage responses for wages close to the minimum wage. The increases are present in both the informal and formal sectors and are larger in the formal sector. Employers use the minimum wage as a reference for establishment of wages particularly in the formal sector. The results suggest that the minimum wage has a direct impact on the informal labour market, although they may not apply to minimum wage changes in other countries or contexts, or to larger minimum wage increases.

Wamuthenya (2010) applied Multinomial logit to model the determinants of employment in the formal and informal sector of 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 among women as opposed to men 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 to the fact that there is flexibility in the informal employment compared to formal employment. Other attributes, including marital status and household-headship, disadvantaged the position of women in the labour market. This implies that there is a high likelihood for women who are married and have children to seek informal employment as opposed to formal employment (Maloney, 2004). Empirical evidence shows that women are the 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 and Ranis (1961) applied the concept of dualism to investigate how surplus labour 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 labour without capital accumulation. In the same vein, they found that for an economy to grow, a large amount of labour has to be transferred from the informal sector in rural areas to the formal sector mainly in urban areas where the productivity of labour in the formal sector is higher and rising due to capital accumulation in that sector. A study by Marco and 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 China's economic growth due to the rapid labour migration and capital accumulation.

The SDG number eight 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 and social protection, freedom for people to express their concerns, fair income, and human dignity. The empirical literature on decent work is not 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 (for example family, friends) or on society in general.

Workers in the formal employment have jobs with good pay and job security, and 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 job security and benefits for employees. However, workers in the informal sector 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 engage in two or more sectors simultaneously. 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 and Todaro, 1970; Stiglitz, 1976; Fields, 2005a; Koto, 2015). These studies factored the choice element (voluntary vs involuntary exits) for engaging in the informal sector. However, recent studies assume 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 contributes to the line of research that investigates the nature and structure of informal employment. Understanding why a worker chooses to engage in 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

To achieve 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 study adopted multinomial logit model. The methodology is as discussed below.

Figure 4.1: Conceptual framework
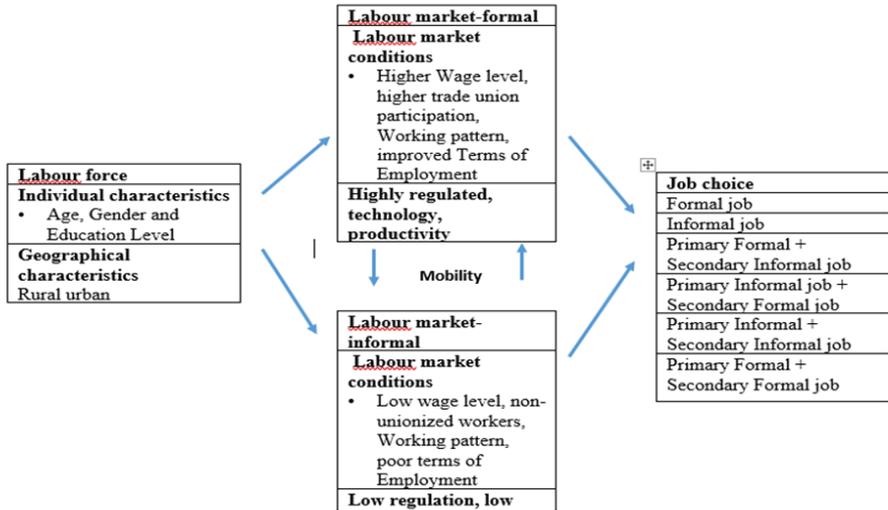
Source: Author's conceptualization based on literature review

From the literature review, there are two sectors of employment in the economy - 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 the 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 labour 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 as shown in Table 4.1. 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 labour legislation, income taxation, social protection or entitlement to certain employment benefits (ILO, 2003). The main difference between the two sectors is that workers in the informal sector do not pay labour income taxes on their earnings, and firms do not have clear regulations. The nature of employment, which is the informal versus the formal, is defined based on 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, and the drivers of duality, the conceptual framework in Table 4.1 is based on a series of probabilities on the extent 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 4.1: Conceptual framework

Employment units	Formal jobs	Informal jobs
Informal sector enterprises	1	2
Other units of production (formal sector enterprises and 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)

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: One (1), for the probability of a worker being employed with a job in the formal and informal sectors; two (2), for the probability of a worker being employed in two jobs in the informal sector; and

three (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:

$$\Pr(i) = \frac{\exp(Vi)}{\sum_{j=1}^{j} \exp(Vj)} \qquad\qquad (4.1)$$

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 appertaining 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:

$$\Pr(i) = f(X_1, X_2 \text{-------------} X_n) \qquad\qquad (4.2)$$

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), level of education, membership to trade union, pattern of working (fulltime, 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 a trade union and pattern of working shows the characteristics of employment sectors.

Thus, the model is specified as below:

$$Pr(i) = X_i\beta' + \varepsilon i \tag{4.3}$$

Where, $Pr(i)$ is the unobserved variable, X_i is a vector of the individuals' characteristics, β is the vector of coefficients to be estimated and ε_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:

$$Pr(i) = \beta_0 + \beta_1 G + \beta_2 A + \beta_5 E + \beta_3 R + \beta_4 T + \beta_6 P + \beta_7 Z + \beta_8 I + \varepsilon \tag{4.4}$$

Where: ε is normally independently distributed with mean, zero, and variance δ^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 0 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.

The employment sector characteristics that were included were: residence (R), which is dummy variable that takes the value of one if urban and zero if rural; (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, it 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:

(i)   The dependent variable is measured at nominal value,

(ii) The independent variables are either continuous or categorical,

(iii) The estimator is that the outcome categories of the model have the property of independence of irrelevant alternative (IIA),

(iv) There is no multicollinearity, and

(v) 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 used 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 was stratified into 92 strata into urban and rural areas within each of the 47 counties and consisted of 2,373 clusters. Following the framework proposed by Adams (2008) for the study of skills development in the informal sector of Sub-Sahara Africa, the working-age population was defined as those between 15 and 65 years old. The sample analyzed excluded full-time students.

The data sets contained information on individual socio-economic characteristics, including employment status and information on members operating their own businesses (informal sector operators), the business ownership and registration status. The main variables for the study included participation to a trade union, working pattern, sector one was working in, highest level of education qualification, age, gender, income, and area of residence (rural or urban).

4.3   Descriptive Statistics

The informal sector in 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. This study used the Labour Force Survey (LFS) datasets 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, 71 per cent of entrepreneurs who have created their own businesses because of the lack of jobs in the formal sector operated without license and very few (0.84%) were in firms registered with Registrar of Companies. Definition three in Table 4.2 indicates that incorporating this information on registration, 61 per cent of the individuals are in the informal sector and 39 per cent 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 per cent work in businesses with less than 10 workers. The findings are in line with other studies reviewed in the literature section, indicating that 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 4.2: Formal and informal sector employment, 2005/06

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

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

In 2015/16, majority of the labour force was in the informal sector (79%) compared to 21 per cent in the formal sector. Women are more likely than men to work in the informal sector whereas men are more likely than women to work in the formal sector. The proportion of males (34%) was higher than females (30%) in the formal sector with a reverse scenario being observed in the informal sector where

women accounted for 70 per cent employment in the informal sector compared to 66 per cent for men.

The survey data was weighted before analysis. Based on the data, this study categorized informal employment in line with the ILO definition of those forms of unregulated and sub-contract work to include Jua Kali (employed), faith-based organizations (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 per cent of workers were employed in the informal sector compared to 21 per cent in the formal sector as their main primary job. Similarly, majority (83%) of workers with a secondary job were in the informal sector whereas 17 per cent 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 4.3) show that 14 per cent 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 at 11 per cent, respectively. The possible reason for this situation is supervision aspect for workers in the rural areas and low wages for public sector.

Table 4.3: 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 4.4: Descriptive statistics summary

Variable	Observation	Mean	Std. Dev.
Duality (engaging in two jobs)			
At least two jobs in both Formal and Informal sector	4,035	0.426	0.495
Two jobs in the informal sector	4,035	0.56	0.496
Two jobs in the formal sector	4,035	0.014	0.118
Primary Employment			
Informal Sector	39,123	0.791	0.407
	39,123	0.209	0.407
Secondary Employment			
Informal Sector Formal Sector	4,035	0.826	0.38
Formal Sector	4,035	0.174	0.38
Gender observation			
Male	39,123	0.515	0.5
Female	39,123	0.485	0.5
Trade union Membership			
Unionized	39,123	0.049	0.216
Non-unionized	39,123	0.951	0.216
Residence			
Rural	39,123	0.786	0.41
Urban	39,123	0.214	0.41
Terms of employment			
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	0.76	0.427
Level of education			
None	39,123	0.365	0.481
Primary	39,123	0.339	0.473
Secondary	39,123	0.18	0.384
Post-Secondary	39,123	0.117	0.322
Income	39,123	6.205	4.015
Working pattern			
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	0.1	0.3
Others	39,123	0.01	0.101

Table 4.4 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 labour market. Out of those employed, 11 per cent hold multiple jobs (about two million workers).

Figure 4.2 shows the proportion of employed workers who hold more than one job. Having 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 had both primary and secondary job in the formal sector.

Figure 4.2: Multiple job holding share
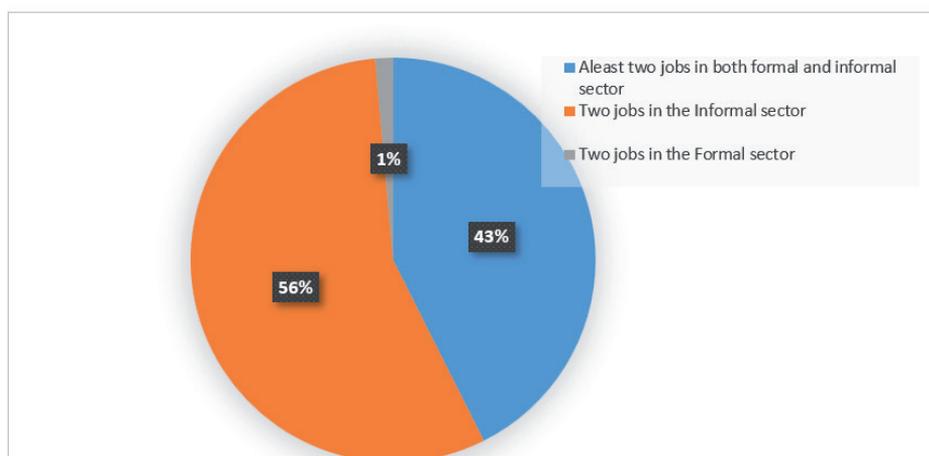
The proportion of young people participating in the labour force is high with the mean age of 38 years. Kenya's population structure is comprised of a youth[11] burgeoning, where the youth represent more than 37 per cent of the population (KNBS, 2020). Majority of the employed population in Kenya are between ages 18 to 60 years, accounting for 80.69 per cent of the labour force participation. However, descriptive statistics show that child labour is still prevalent in Kenya,

11 The Government of Kenya defines youth as the population between the ages of 18 and 35 years.

accounting for 11 per cent of the labour force participation for children 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 female in the formal sector. Employment for male (52%) is greater than for female (48%). Over half of the workers in the formal sector comprise of male, accounting for 65 per cent of the total employment in the formal sector. However, majority of women are employed in the informal employment (52%) 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 per cent) of workers in the labour force are employed without any contractual obligation compared to 12 per cent of workers who are engaged based on a written agreement. Based on the descriptive statistics, majority of workers were not unionized, accounting for 95 per cent, which is a key characteristic of workers in the informal sector. Non-participation in organized trade unions weakens the collective bargaining of employees, exposing them to exploitation. This includes low wages, denial of workers' rights and other benefits that come with worker representation.

Out of those employees with multiple jobs, about 55 per cent were on full time working pattern basis, 15 per cent on part time, 14 per cent are seasonal employees and 16 per cent are casual workers. Further descriptive analysis indicated that 36 per cent of workers in employment have no education qualifications; 34 per cent have primary education; 18 per cent have secondary education and 12 per cent have post-secondary education, as presented in Figure 4.3.

Figure 4.3: Education attainment by level of workers in the labour force 2015/16
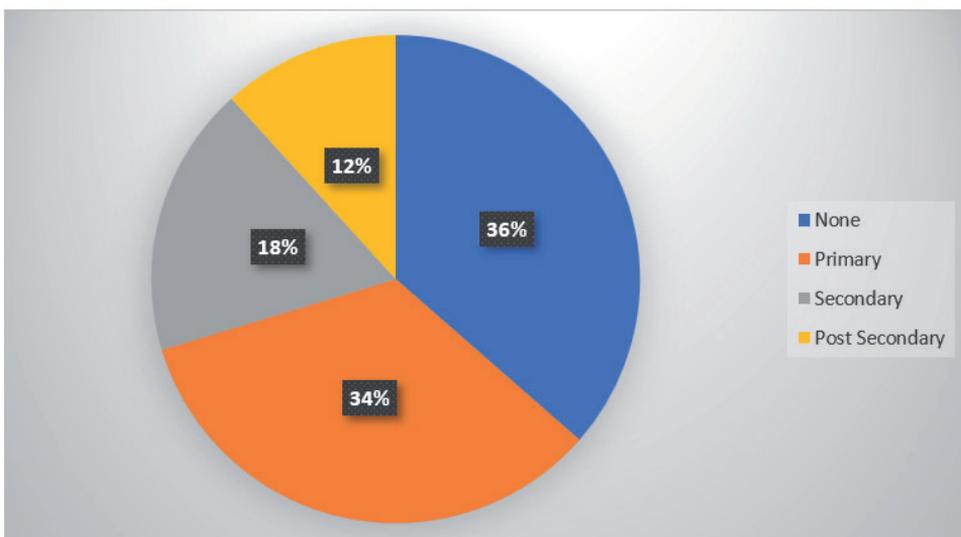
4.4 Correlations Between Independent Variables

The correlation between variables was examined, and is presented in Table 4.5. From the results, the correlation between independent variables is low, suggesting there are no problems of high colinearity. The negative correlation was found between residence and age and between terms of employment and education qualification level. There is a positive strong linear relationship between terms of employment and trade union. We expected that if a worker is unionized, then they have better terms of employment. This is consistent with the literature reviewed in section two.

The study used the Hausman specification test (Hausman and McFadden, 1984), and established no evidence that the independence of irrelevant alternative (IIA) assumption had been violated and proceeded to estimate equation (4.4) 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 4.5: Correlation analysis

Duality	Gender	Educa-tion level	Age squared	Resi-dence	Income	Terms of employ-ment	Trade union member-ship	Work pattern	
Duality	1.000								
Gender	0.067	1.000							
Education level	-0.110	-0.065	1.000						
Age squared	-0.001	0.022	-0.066	1.000					
Residence	-0.015	-0.033	0.251	-0.086	1.000				
Income	-0.082	-0.143	0.330	-0.017	0.260	1.000			
Terms of employment	0.044	0.137	-0.396	0.114	-0.260	-0.380	1.000		
Trade union membership	0.226	0.064	-0.295	-0.009	-0.112	-0.209	0.404	1.000	
Work pattern	-0.060	-0.006	-0.245	-0.086	-0.064	-0.165	0.228	0.127	1.000

5.   Study Results and Discussions

This section discusses and presents the results of the study. Foremost, the 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 Table 4.5. 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:

(i)   Option one: Predict a worker has two jobs, one in the formal and the other in the informal sector.

(ii) Option two: Predict a worker has two jobs, both in the informal sector.

(iii) Option three: Predict a worker has two jobs, both in the formal sector.

The significance of the results was determined at the one per cent, five per cent and ten per cent 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 value of pseudo R^2 is between 0.2 and 0.4, then the model represents excellent fit. From the results of this study, the pseudo R^2 was 0.28, suggesting that the model is an excellent fit.

From the results (see Annex 1), 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 comparison to nested models. Further, the p-value < 0.0000 implies that the model fits 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.

As stated earlier, out of those employed, 11 per cent hold multiple jobs (translating to about two million Kenyan population in the labour force) who had more than one job in sectors of employment accounting for structural heterogeneity. 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 per cent; 43 per cent 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 women to work in the formal sector. Analysis showed that being a female reduces the likelihood of having dual employment in the formal sector by five per cent and by six per cent 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 findings of Maloney (2004) and Wamuthenya (2010) which draw attention to the majority of women in the labour force being engaged in the informal sector compared to men. This is attributed to the number of working hours since women prefer flexible working hours (Bangasser, 2000; ILO, 2018).

It was 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 as family workers than their male counterparts. This is confirmed by job distribution as presented in Figure 5.1. As observed, women in informal employment are over-represented in the most vulnerable employment category of contributing as family workers and under-represented among employers and employees. From the analysis, unpaid household work typically falls disproportionally 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 5.1: Distribution of women and men in informal employment by status
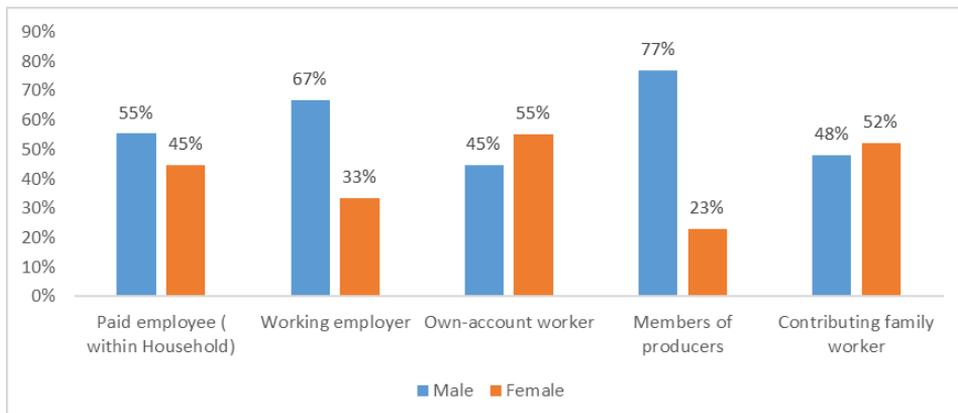
From the discussions, women are more active in the informal sector, and they represent more than half of the total informal economy. However, they are more concentrated in the subsistence activity than they are engaged as working employers. This complements the literature that the high number of women 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 one per cent compared to 99 per cent of those who are non-unionized. The study found that workers who are not unionized are more likely to engage in dual employment by 85 per cent 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 to be engaged in dual employment. The results corroborate with literature on 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 per cent. This is in line with the evidence from research, which indicates that unions tend to increase wages, thus workers tend not to seek other jobs.

Trade unions represent the interests of workers and can help push for better pay and benefits and provide coordination between firms and employers. Participation in trade unions allows workers to have a collective bargaining power, which enables them to negotiate for more favourable 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 contracts, 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 per cent of total informal sector employment compared to 29 per cent informal employment in urban areas. 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 areas are dominated with formal employment, accounting for 55 per cent of total formal employment. This can be attributed to the fact that most formal employment opportunities are available in urban areas, as opposed to 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', which found that rural sector consists majority of informal workers.

The 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 per cent. However, workers residing in rural areas increase 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 are less likely to engage in the formal sector. The findings are in line with other studies reviewed in the literature section indicating that employment in rural population is mainly in the informal sector (Potts, 2007; ILO, 2008; Bangasser, 2000). Informal employment opportunities in rural areas largely relate to the natural resource base on which local people rely on 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 the greatest number of jobs in rural areas after the agricultural sector.

Level of education

Majority of workers employed in the informal sector have no education qualification as opposed to those employed in the formal sector whose qualifications are above post-secondary education level. This is in line with the reviewed literature that suggests 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 a high likelihood for workers with primary education to have dual employment in the informal sector by 0.90 times whereas there is a higher likelihood for workers with no education to have 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 per cent.

Most highly educated workers hold formal jobs while many 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 a higher 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 for 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 showed that the youngest workers (15-24 years old) are informal employees (about 80%). The average age of formal sector workers (39 years) was 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 youths 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 and Lucchesi, 2012), and rural communities that rely on natural resources and land for their livelihoods (Potts, 2007). The older people have a high chance of being employed in the formal and informal sectors. Youths 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 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 discernible that the income differentials are distinct between the two sectors of employment. The findings reflected 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 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 in the informal sector. Workers who earn low levels of income are mainly in the informal sector, this implies there are 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 in duality employment. The main findings were 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 showed that income levels in the formal sector are higher because entry is restricted and earnings are protected by minimum wage laws, labour unions, or other institutional arrangement (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 level of income is among the major factors determining the persistence of duality either because workers cannot work enough hours or because wages are low (ILO, 2003). In Kenya, in 2010, all workers engaged in the 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

The 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 sectors by 0.75 times whereas part time, seasonal and causal labourers are highly likely to engage in two jobs in either formal or informal sector. Part time workers are the individuals who work for fewer hours than full time workers who are guaranteed a certain number of hours per week.[12] Based on data, the 35 hours per week cut off was applied. Consistent with this finding, ILO (2018) and Bangasser (2000) found that workers opt to work on a part time basis to boost their income level.

Results on work pattern distribution per employment sector revealed that workers in informal employment are more likely than workers in formal employment to work for 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 on part time basis and for very limited hours (ILO, 2018). Further, empirical studies associate part time employment with working in the informal economy, and 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 are also a major factor of duality. Unlike the formal economy, over three quarters of workers in the informal economy are employed without any contractual obligation. Workers in the formal employment have a mutual agreement/contract. On the other hand, employees who have no contract are highly likely to engage in two jobs in the informal sector by 64 per cent as opposed to those with contractual obligation.

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12   Definition is based on the International Labour Organization (ILO) Part-Time Work Convention, 1994 (No. 175).

6.   Conclusion and Policy Implications

6.1   Conclusion

The informal economy is huge and expanding rapidly in Kenya. This paper deepens the understanding of heterogeneity in the informal employment in Kenya by giving insight on the linkage between the employment sectors and 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 of 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 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 and 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 labourers 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 are less likely to engage in the formal sector. This can be attributed to the fact that most formal employment opportunities are available in urban areas, as opposed to rural areas.

The study also found that the informal sector is not regulated and, as a result, over half of the workers in 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 irregular work outside legal sanction, lacks secure employment contracts, workers' benefits, social protection, or workers' representation, and low income, among others. 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 per cent chance that one becomes a multiple jobholder in the informal sector. There is, therefore, 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 should be put in place. Further, effective policies for informal workers require better statistics, particularly 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 policy makers 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 most of the 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 labour and living conditions for majority of Kenyans. Stakeholders should 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 TVETs, should provide training 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. The government needs to create about one million jobs annually to absorb the new labour force entrants. The study recommends that the government, with the support from stakeholders, could endeavour to create more innovative opportunities and give incentives to private providers of employment services while improving the quality of jobs in the informal sector.

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Annex: Tabular presentation of results

Annex 1: Multinomial logistic regression results

	dy/dx	Std.Err.	P>z
Gender			
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
Trade union			
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
Residence			
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
Terms of employment- written contract (base outcome)			
Terms of employment- verbalagreement			
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
Terms of employment- implied contract			
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
Terms of employment- no_contract			
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
No education level	(base outcome		
Education level –primary			
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
Education level – secondary			
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
Education level – post-secondary			
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
Log income			
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
Work pattern– full time	(base outcome)		
Work pattern – part time			

	dy/dx	Std.Err.	P>z
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
Work pattern– seasonal			
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
Work pattern– casual			
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
Age			
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
Age – squared			
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.